



**FACSIMILE EQUIPMENT  
SERVICE MANUAL**

**MODEL: FAX4750  
MFC8300/8600**

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## **PREFACE**

This publication is a Service Manual covering the specifications, construction, theory of operation, and maintenance of the Brother facsimile equipment. It includes information required for field troubleshooting and repair--disassembly, reassembly, and lubrication--so that service personnel will be able to understand equipment function, to rapidly repair the equipment and order any necessary spare parts.

To perform appropriate maintenance so that the facsimile equipment is always in best condition for the customer, the service personnel must adequately understand and apply this manual.

This manual is made up of six chapters and appendices.

<b>CHAPTER I.</b>	<b>GENERAL DESCRIPTION</b>
<b>CHAPTER II.</b>	<b>INSTALLATION</b>
<b>CHAPTER III.</b>	<b>THEORY OF OPERATION</b>
<b>CHAPTER IV.</b>	<b>DISASSEMBLY/REASSEMBLY AND LUBRICATION</b>
<b>CHAPTER V.</b>	<b>MAINTENANCE MODE</b>
<b>CHAPTER VI.</b>	<b>ERROR INDICATION AND TROUBLESHOOTING</b>
<b>Appendix 1.</b>	<b>EEPROM Customizing Codes</b>
<b>Appendix 2.</b>	<b>Circuit Diagrams</b>

This manual describes the models and their versions to be destined for major countries. The specifications and functions are subject to change depending upon each destination.

## SAFETY INFORMATION

### Laser Safety (110-120V Model only)

This printer is certified as a Class 1 laser product under the US Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. This means that the printer does not produce hazardous laser radiation.

Since radiation emitted inside the printer is completely confined within the protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.

### CDRH Regulations (110-120V Model only)

The Center for Device and Radiological Health (CDRH) of the US Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States. The label shown below indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

The label for Chinese products

MANUFACTURED:      JULY                      1999              C
BROTHER CORP. (ASIA) LTD.
BROTHER BUJI NAN LING FACTORY
Gold Garden Industry, Nan Ling Village, Buji,
Rong Gang, Shenzhen, China.
This product complies with FDA radiation
performance standards, 21 CFR Subchapter J.

# **CHAPTER I.**

## **GENERAL DESCRIPTION**

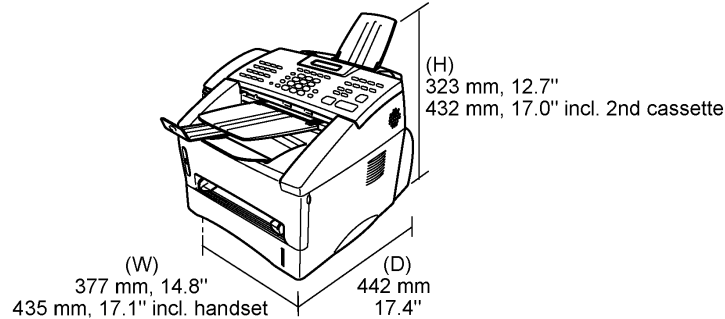
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# 1. EQUIPMENT OUTLINE

## 1.1 External Appearance and Weight

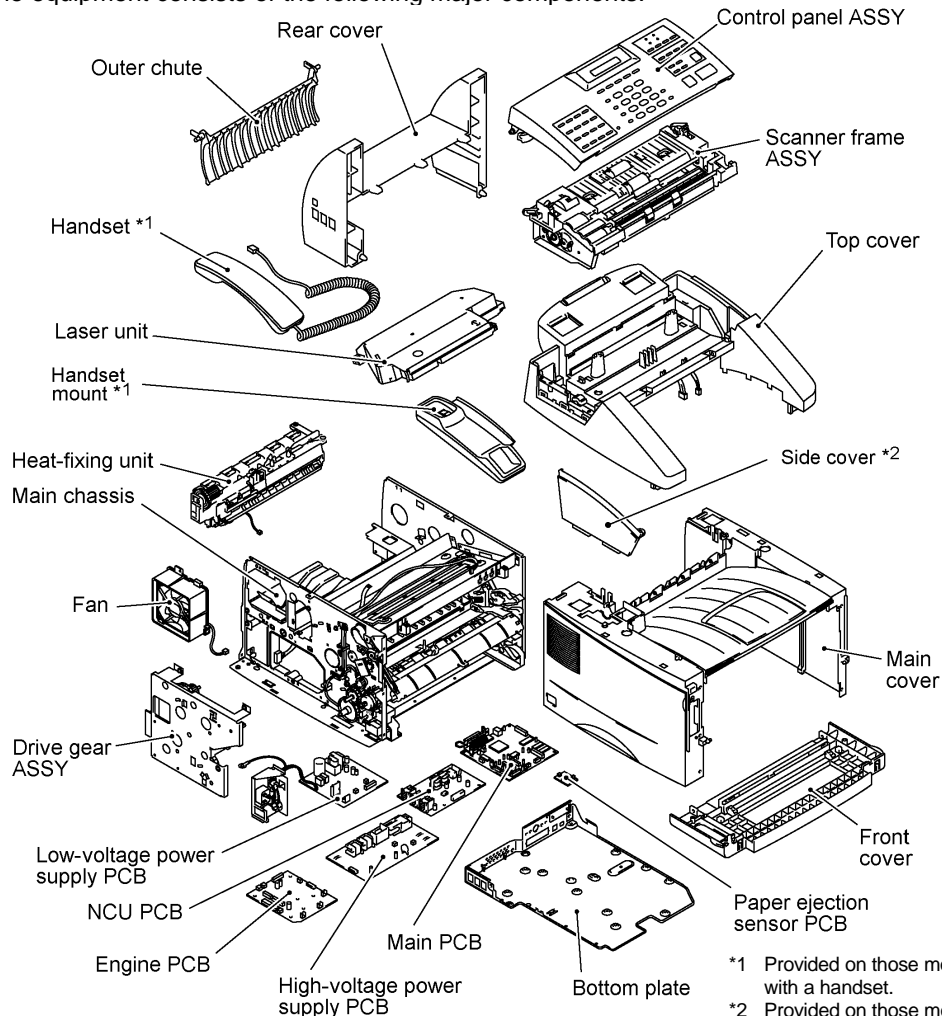
The figure below shows the equipment appearance and approximate dimensions.



Weight:	Machine proper	w/o 2nd cassette	w/ 2nd cassette
	Machine (incl. drum unit & toner cartridge)	10.5 kg	14.0 kg
	In package	12.0 kg	15.5 kg
		16.5 kg	22.0 kg

## 1.2 Components

The equipment consists of the following major components:



\*1 Provided on those models equipped with a handset.

\*2 Provided on those models without handset.

## 2. SPECIFICATIONS

(1/4)

Model	FAX4750	MFC8300
<b>GENERAL</b>		
Print Engine	Laser (ZL)	Laser (ZL)
Modem Speed (bps)	14,400 (Fax)	14,400 (Fax)
Transmission Speed (sec.)	6	6
ITU-T Group	G3	G3
Coding Method	MH/MR/MMR	MH/MR/MMR
Input/Output Width	5.8" to 8.5" x 2.75" to 8.5"	5.8" to 8.5" x 2.75" to 8.5"
ADF (pages)	30 (50* <sup>1</sup> )	30
LCD Size	16 chars x 2 lines	16 chars x 2 lines
On-Screen Programming	Yes	Yes
Backup Clock	Yes (1 hour)	Yes (1 hour)
Memory Capacity (MB)	4	2
Backup Memory	No	No
Optional Memory	Yes (8 & 16 MB)	Yes (8 & 16 MB)
Color	Gray 1495	Gray 1495
Standby Mode	Yes	Yes
PC-Fax Protocol Compliance	Class 2	Class 2
Simultaneous Operation	Yes	Yes
Data Modem	No	No
Energy Star Compliance (for U.S.A.)	Yes	Yes
LCD Backlight	No	No
Operating Environment	Temperature Humidity	5 to 35°C 60 ±25%
Power Source	120 VAC, 50/60Hz	120 VAC, 50/60Hz
Power Consumption (Sleep/Peak)	Less than 9W/850W	Less than 9W/850W
<b>TELEPHONE</b>		
Automatic Redial	Yes	Yes
Handset	Yes	Yes
One-Touch Dial	32 (16 x 2)	32 (16 x 2)
Speed Dial	100	100
Telephone Index	Yes	Yes
Speaker Phone	No	No
Chain Dialing	Yes	Yes
Caller ID	Yes	Yes
Call Waiting Caller ID	Yes	Yes
Distinctive Ringing	Yes	Yes
Hold/Mute Key	Yes	Yes
Power Failure Dialing	No	No
Speaker Volume	Yes (3 levels + OFF)	Yes (3 levels + OFF)
Ring Volume	Yes (3 levels + OFF)	Yes (3 levels + OFF)
Handset Volume	Yes (2 levels + Hearing amplify level)	Yes (2 levels + Hearing amplify level)
PBX Feature	No	No
Transfer Method	Flash	Flash
Digits of One-Touch & Speed Dial	20 digits	20 digits
Registrable Number of Characters	15 chars	15 chars

\*<sup>1</sup> Xerox 4200 (20 lb/LTR) in normal business environments



<b>Model</b>	<b>MFC8600</b>
<b>GENERAL</b>	
Print Engine	Laser (ZL)
Modem Speed (bps)	14,400 (Fax)
Transmission Speed (sec.)	6
ITU-T Group	G3
Coding Method	MH/MR/MMR
Input/Output Width	5.8" to 8.5" x 2.75"to 8.5"
ADF (pages)	30
LCD Size	16 chars x 2 lines
On-Screen Programming	Yes
Backup Clock	Yes (1 hour)
Memory Capacity (MB)	4
Backup Memory	No
Optional Memory	Yes (8 & 16 MB)
Color	Gray 1495
Standby Mode	Yes
PC-Fax Protocol Compliance	Class 2
Simultaneous Operation	Yes
Data Modem	No
Energy Star Compliance (for U.S.A.)	Yes
LCD Backlight	No
Operating Environment	Temperature Humidity
	5 to 35 °C 60 ±25%
Power Source	120 VAC, 50/60Hz
Power Consumption (Sleep/Peak)	Less than 9W/850W
<b>TELEPHONE</b>	
Automatic Redial	Yes
Handset	Yes
One-Touch Dial	32 (16 x 2)
Speed Dial	100
Telephone Index	Yes
Speaker Phone	No
Chain Dialing	Yes
Caller ID	Yes
Call Waiting Caller ID	Yes
Distinctive Ringing	Yes
Hold/Mute Key	Yes
Power Failure Dialing	No
Speaker Volume	Yes (3 levels + OFF)
Ring Volume	Yes (3 levels + OFF)
Handset Volume	Yes (2 levels + Hearing amplify level)
PBX Feature	No
Transfer Method	Flash
Digits of One-Touch & Speed Dial	20 digits
Registrable Number Of Characters	15 chars

Model	FAX4750	MFC8300
<b>FAX</b>		
Internet FAX	N/A	N/A
Easy Receive/Fax Detect	Yes	Yes
Fax/Tel Switch	Yes	Yes
Super Fine	Yes (TX & RX)	Yes (TX & RX)
300 dpi Transmission	No	No
Gray Scale	64	64
Contrast	Yes (Auto/S.Light/S.Dark)	Yes (Auto/S.Light/S.Dark)
Smoothing	Yes	Yes
Call Reservation Over Auto TX	Yes	Yes
Password Check	No	No
Enhanced Remote Activation	Yes	Yes
Multi Resolution Transmission	Yes	Yes
Multi Transmission	No	No
Next-Fax Reservation	Yes (Dual access)	Yes (Dual access)
Delayed Timer	Yes (Up to 50 timers or 50 jobs)	Yes (Up to 50 timers or 50 jobs)
Polling	Yes (Std/Seq)	Yes (Std/Seq)
Quick Scan (Memory Transmission)	Approx. 2 sec/page (A4, std. resolution)	Approx. 2 sec/page (A4, std. resolution)
Broadcasting	Yes (182 locations)	Yes (182 locations)
Batch Transmission	Yes	Yes
Auto Reduction	Yes	Yes
Out-of-Paper Reception (Brother #1 Chart) (ITU-T Chart)	Up to 270 pages Up to 210 pages	Up to 90 pages Up to 70 pages
Dual Access	Yes	Yes
ECM (Error Correction Mode)	Yes	Yes
ITU SUB Addressing	No	No
Group Dial	Yes (6)	Yes (6)
Re-send After Receive Error Signal	No	No
Confidential	No	No
Station ID	1 (20 digits/20 characters)	1 (20 digits/20 characters)
Off-Hook Alarm	No	No
Remote Maintenance	Yes	Yes
Call Reservation Over Manual TX	Yes	Yes
RX Mode Indication	LED	LED
Resolution Indication	LED	LED
<b>LIST REPORT</b>		
Activity Report/Journal Report	Yes (up to 50)	Yes (up to 50)
Transmission Verification Report	Yes	Yes
Coverpage	Yes (Super)	Yes (Super)
Help List	Yes	Yes
Callback Message	Yes	Yes
Caller ID List	Yes	Yes
<b>INTERFACE</b>		
External TAD Interface	Yes	Yes
Missing Link/PC Interface	No	No
Host Interface	Yes (Parallel)	Yes (Auto switching : Parallel/USB* <sup>2</sup> )
LAN Interface	No	No

\*<sup>2</sup> USB for Windows98 only

Model	MFC8600
<b>FAX</b>	
Internet FAX	N/A
Easy Receive/Fax Detect	Yes
Fax/Tel Switch	Yes
Super Fine	Yes (TX & RX)
300 dpi Transmission	No
Gray Scale	64
Contrast	Yes (Auto/S.Light/S.Dark)
Smoothing	Yes
Call Reservation Over Auto TX	Yes
Password Check	No
Enhanced Remote Activation	Yes
Multi Resolution Transmission	Yes
Multi Transmission	No
Next-Fax Reservation	Yes (Dual access)
Delayed Timer	Yes (Up to 50 timers or 50 jobs)
Polling	Yes (Std/Seq)
Quick Scan (Memory Transmission)	Approx. 2 sec/page (A4, std. resolution)
Broadcasting	Yes (182 locations)
Batch Transmission	Yes
Auto Reduction	Yes
Out-of-Paper Reception (Brother #1 Chart) (ITU-T Chart)	Up to 270 pages Up to 210 pages
Dual Access	Yes
ECM (Error Correction Mode)	Yes
ITU SUB Addressing	No
Group Dial	Yes (6)
Re-send After Receive Error Signal	No
Confidential	No
Station ID	1 (20 digits/20 characters)
Off-Hook Alarm	No
Remote Maintenance	Yes
Call Reservation Over Manual TX	Yes
RX Mode Indication	LED
Resolution Indication	LED
<b>LIST REPORT</b>	
Activity Report/Journal Report	Yes (up to 50)
Transmission Verification Report	Yes
Coverpage	Yes (Super)
Help List	Yes
Call Back Message	Yes
Caller ID List	Yes
<b>INTERFACE</b>	
External TAD Interface	Yes
Missing Link/PC Interface	No
Host Interface	Yes (Auto switching : Parallel/USB* <sup>2</sup> )
LAN Interface	No

\*<sup>2</sup> USB for Windows98 only

Model	FAX4750	MFC8300
<b>PRINTER</b>	Available with option or download from web site	Yes
Color/Mono	Mono	Mono
Engine Type	Laser (ZL)	Laser (ZL)
Resolution (dpi)	600 x 600	600 x 600
Speed (ppm)	12	12
Paper Capacity (sheets)	250	250
Additional Paper Capacity (sheets)	250 (User option)	N/A
Output Paper Capacity (sheets)	150	150
Standard Print Language	Windows GDI (600 x 600)	Windows GDI (600 x 600)
Emulation	No	PCL4
Resident Fonts	No	24 bitmap (PCL4 Comp.)
Fonts Disk Based	No	Yes (35 True type)
Paper Handling Size	LTR, LGL, A4, B5, A5, EXE	LTR, LGL, A4, B5, A5, EXE
Manual Feed Slot	Custom size (2.75 x 5 to 8.5 x 14) Envelop (DL/C5/CM10/Mona)	Custom size (2.75 x 5 to 8.5 x 14) Envelop (DL/C5/CM10/Mona)
Other Paper Type	OHP, envelopes, labels, organizer	OHP, envelopes, labels, organizer
Sheet Weight (Paper Cassette) (Manual Slot)	64 to 105 g/m <sup>2</sup> (17 to 28 lb) 64 to 157 g/m <sup>2</sup> (17 to 43 lb)	64 to 105 g/m <sup>2</sup> (17 to 28 lb) 64 to 157 g/m <sup>2</sup> (17 to 43 lb)
Printer Driver	Windows3.1x, 95/98 and NT4.0 Driver with Auto Installer Program	Windows3.1x, 95/98 and NT4.0 Driver with Auto Installer Program
Utility Software	No	Yes (Remote printer console for PCL4)
Toner Life (High Yield : TN-430) (Standard Yield : TN-460)	6,000 pages (A4, @5%) 3,000 pages (A4, @5%)	6,000 pages (A4, @5%) 3,000 pages (A4, @5%)
Drum Life (DR400)	Up to 20,000 pages (1 page/job)	Up to 20,000 pages (1 page/job)
Interface Type	Parallel	Parallel & USB <sup>*2</sup>
Bundled Cable	No	Yes (Parallel)
<b>COPY</b>		
Color	No	No
Speed (ppm)	Up to 12	Up to 12
Multi Copy (Stack)	Up to 99	Up to 99
Multi Copy (Sort)	Yes	Yes
Reduction/Enlargement	50 to 200% in 1% increments	50 to 200% in 1% increments
Resolution (dpi)	300 x 600	300 x 600
<b>SCANNER</b>	Available with Option	Available with Option
Color/Mono	Mono	Mono
Resolution (dpi)	1,200 x 1,200 (Int.), 300 x 600 (Opt.)	1,200 x 1,200 (Int.), 300 x 600 (Opt.)
Gray Scale	256	256
TWAIN Compliant	Yes	Yes
Formats (Import)	TIFF/BMP/PCX/DCX/BTF/BTX/MAX/PDF	TIFF/BMP/PCX/DCX/BTF/BTX/MAX/PDF
Formats (Export)	TIFF/BMP/MAX/PDF	TIFF/BMP/MAX/PDF
OCR	Yes (ScanSoft TextBridge)	Yes (ScanSoft TextBridge)
<b>MESSAGE CENTER/MESSAGE MANAGER</b>	No	No
ICM Recording Time	N/A	N/A
Page Memory	N/A	N/A
OGM (MC/MC Pro/Paging)	N/A	N/A
TAD Type	N/A	N/A
Memo/Recording Conversation	N/A	N/A
Toll Saver	N/A	N/A

\*2 USB for Windows98 only

<b>Model</b>	<b>MFC8600</b>
<b>PRINTER</b>	Yes
Color/Mono	Mono
Engine Type	Laser (ZL)
Resolution (dpi)	600 x 600
Speed (ppm)	12
Paper Capacity (sheets)	250
Additional Paper Capacity (sheets)	250 (User option)
Output Paper Capacity (sheets)	150
Standard Print Language	Windows GDI (600 x 600)
Emulation	PCL4
Resident Fonts	24 bitmap (PCL4 Comp.)
Fonts Disk Based	Yes (35 TrueType)
Paper Handling Size	LTR, LGL, A4, B5, A5, EXE
Manual Feed Slot	Custom Size (2.75x5 to 8.5x14) Envelop (DL/C5/CM10/Mona)
Other Paper Type	OHP, envelopes, labels, organizer
Sheet Weight (Paper Cassette) (Manual Slot)	64 to 105 g/m2 (17 to 28 lb) 64 to 157 g/m2 (17 to 43 lb)
Printer Driver	Windows3.1x, 95/98 and NT4.0 Driver with Auto Installer Program
Utility Software	Yes (Remote printer console for PCL4)
Toner Life (High Yield : TN-430) (Standard Yield : TN-460)	6,000 pages (A4, @5%) 3,000 pages (A4, @5%)
Drum Life (DR400)	Up to 20,000 pages (1 page/job)
Interface Type	Parallel & USB <sup>*2</sup>
Bundled Cable	Yes (Parallel)
<b>COPY</b>	
Color	No
Speed (ppm)	Up to 12
Multi Copy (Stack)	Up to 99
Multi Copy (Sort)	Yes
Reduction/Enlargement	50 to 200% in 1% increments
Resolution (dpi)	300 x 600
<b>SCANNER</b>	Yes
Color/Mono	Mono
Resolution (dpi)	1,200 x 1,200 (Int.)/300 x 600 (Opt.)
Gray Scale	256
TWAIN Compliant	Yes
Formats (Import)	TIFF/BMP/PCX/DCX/BTF/BTX/MAX/PDF
Formats (Export)	TIFF/BMP/MAX/PDF
OCR	Yes (ScanSoft TextBridge)
<b>MESSAGE CENTER/MESSAGE MANAGER</b>	No
ICM Recording Time	N/A
Page Memory	N/A
OGM (MC/MC Pro/Paging)	N/A
TAD Type	N/A
Memo/Recording Conversation	N/A
Toll Saver	N/A

\*2 USB for Windows98 only

<b>Model</b>	<b>FAX4750</b>	<b>MFC8300</b>
Fax Forwarding	Yes	Yes
Fax Retrieval	Yes	Yes
Paging	Yes	Yes
Remote Access	Yes	Yes
<b>MESSAGE CENTER Pro/MESSAGE MANAGER Pro</b>	No	No
Fax & Voice Mail Box	N/A	N/A
Fax- & Voice-on-Demand	N/A	N/A
<b>MESSAGE CENTER (PC MC)</b>	No	No
Fax Forwarding	N/A	N/A
Paging	N/A	N/A
ICM Recording Time	N/A	N/A
OGM MC/MC Pro/Paging	N/A	N/A
Fax & Voice Mail Box	N/A	N/A
Fax- & Voice-on-Demand	N/A	N/A
<b>VIDEO CAPTURE</b>	No	No
Video Capture	N/A	N/A
Video Print	N/A	N/A
Video Format	N/A	N/A
<b>BUNDLED SOFTWARE</b>		
For Windows		
Printer Driver (Brother)	Available with option	Yes
Viewer (ScanSoft)	Available with option	Available with option
TWAIN (Brother)	Available with option	Available with option
PC Fax (SMSI)* <sup>3</sup>	Available with option	Available with option
For iMAC		
Printer Driver (InfoWAVE)	N/A	Yes
Viewer (InfoWAVE)	N/A	N/A
TWAIN (InfoWAVE)	N/A	N/A
PC Fax (SMSI or InfoWAVE)	N/A	N/A

\*<sup>3</sup> The parallel interface only works.

<b>Model</b>	<b>MFC8600</b>
Fax Forwarding	Yes
Fax Retrieval	Yes
Paging	Yes
Remote Access	Yes
<b>MESSAGE CENTER Pro/MESSAGE MANAGER Pro</b>	No
Fax & Voice Mail Box	N/A
Fax- & Voice-on-Demand	N/A
<b>MESSAGE CENTER (PC MC)</b>	No
Fax Forwarding	N/A
Paging	N/A
ICM Recording Time	N/A
OGM MC/MC Pro/Paging	N/A
Fax & Voice Mail Box	N/A
Fax- & Voice-on-Demand	N/A
<b>VIDEO CAPTURE</b>	Yes
Video Capture	Yes (Color)
Video Print	Yes (Mono)
Video Format	NTSC
<b>BUNDLED SOFTWARE</b>	
For Windows	
Printer Driver (Brother)	Yes
Viewer (ScanSoft)	Yes
TWAIN (Brother)	Yes
PC Fax (SMSI)* <sup>3</sup>	Yes
For iMAC	
Printer Driver (InfoWAVE)	Yes
Viewer (InfoWAVE)	Yes
TWAIN (InfoWAVE)	Yes
PC Fax (SMSI or InfoWAVE)	Yes

\*<sup>3</sup> The parallel interface only works.

# **CHAPTER II.**

## **INSTALLATION**



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1. INSTALLING THE UPDATE DATA TO THE FACSIMILE EQUIPMENT..... II-1

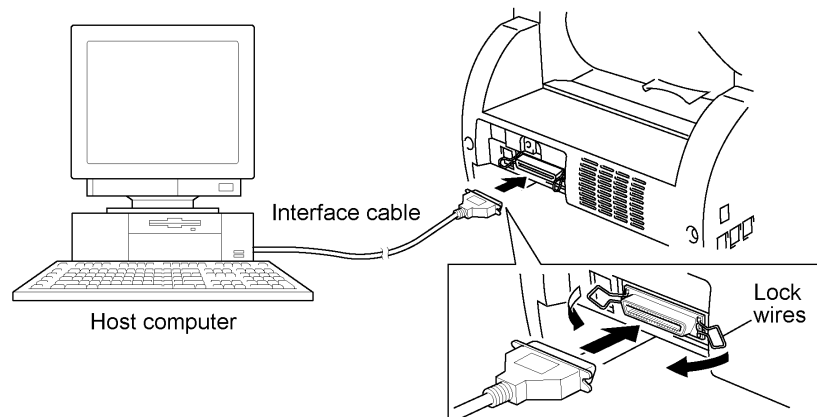
# 1. INSTALLING THE UPDATE DATA TO THE FACSIMILE EQUIPMENT

If the program version is updated or the main PCB is replaced, install the update program onto the flash ROM of the main PCB.

The program installation requires a PC/AT-compatible computer (which is capable of running MS-DOS or its compatible OS).

## Connecting the facsimile equipment to your computer

- (1) Make sure that the equipment's power cord is unplugged from a wall socket.
- (2) Make sure that your computer is powered off.
- (3) Connect the interface cable to the parallel interface port on the back of the equipment and secure it with the lock wires.
- (4) Connect the other end of the interface cable to the printer port of your computer and secure it with the two screws.
- (5) Power on your computer.
- (6) Plug the equipment's power cord into a wall socket.



## Installing the update data onto the flash ROM of the facsimile equipment

**NOTE:** The following is an installation procedure example on a PC that is running Windows 95/98.

- (1) Copy the update data and transfer utility onto the desired directory of the hard disk.  
e.g., C:\UPDATE
- (2) Click the Start button, point to Programs, and then click MS-DOS Prompt to open an MS-DOS window.
- (3) Type the drive letter where the update data and transfer utility are located. In the above example, type C:\ from the command line and press the **ENTER** key.

Then type CD UPDATE and press the **ENTER** key.

- (4) Check that your computer is connected with the facsimile equipment correctly.
- (5) To start the transfer utility transmitting the update data to the flash ROM of the facsimile equipment, type the following:

```
ICEN filename /b
```

Then press the **ENTER** key.

The equipment beeps and shows the "CONNECTING" on the LCD for one second.

Then, the equipment shows the "DOWNLOADING" on the LCD and starts receiving data downloaded from the host computer.

During downloading, the equipment beeps *intermittently*.

Upon completion of the downloading, the equipment beeps *continuously*.

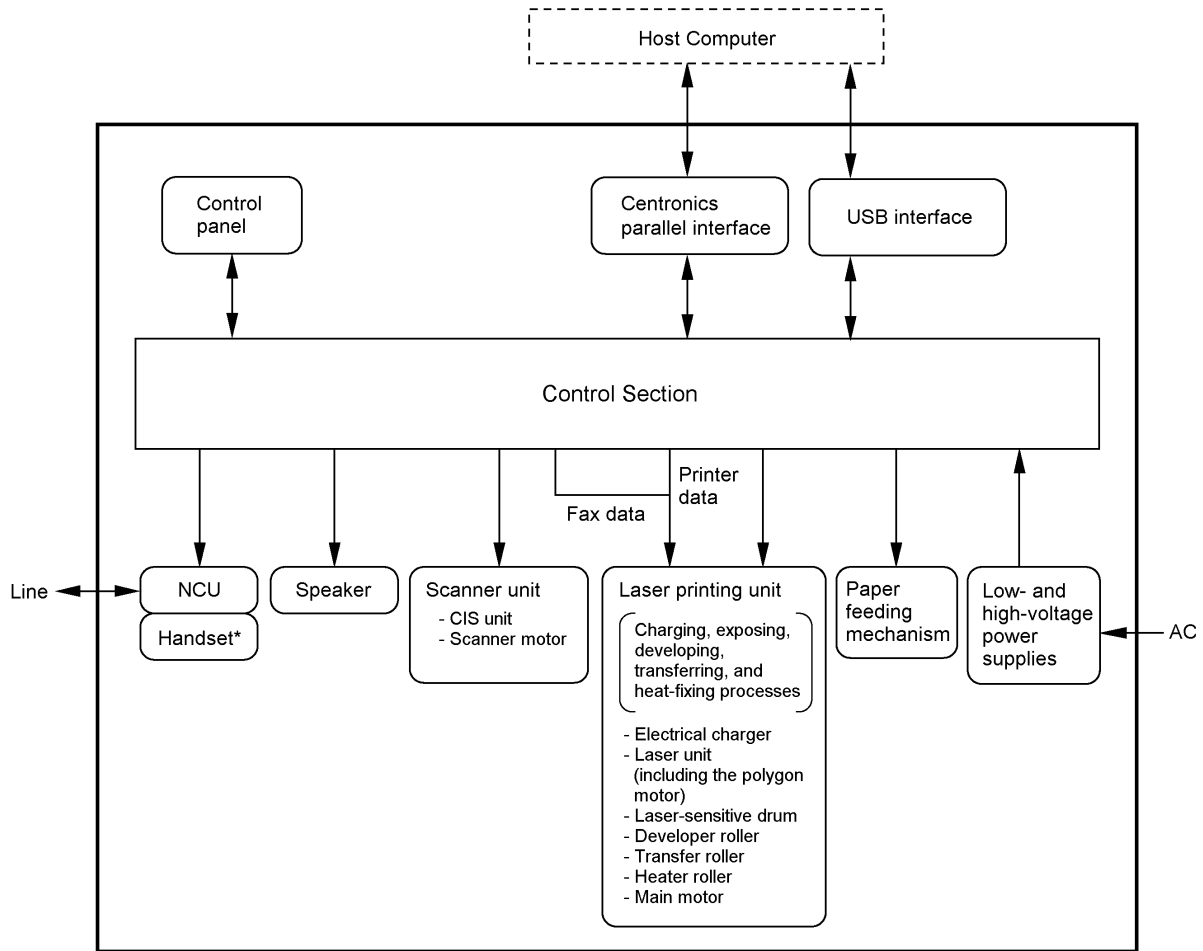
# **CHAPTER III.**

## **THEORY OF OPERATION**

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# 1. OVERVIEW



\*Not provided on those models without handset.

## 2. MECHANISMS

The facsimile equipment is classified into the following mechanisms:

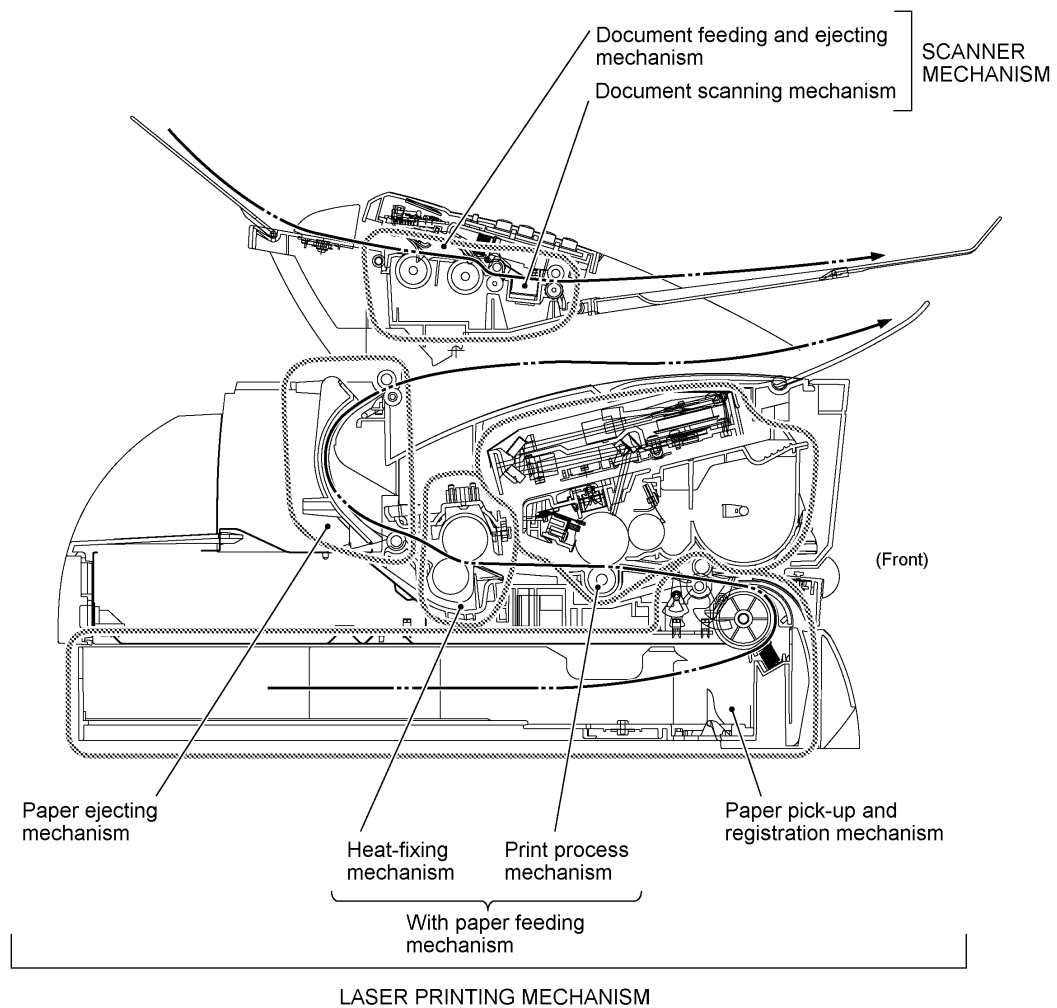
### SCANNER MECHANISM

- Document feeding and ejecting mechanism
- Document scanning mechanism

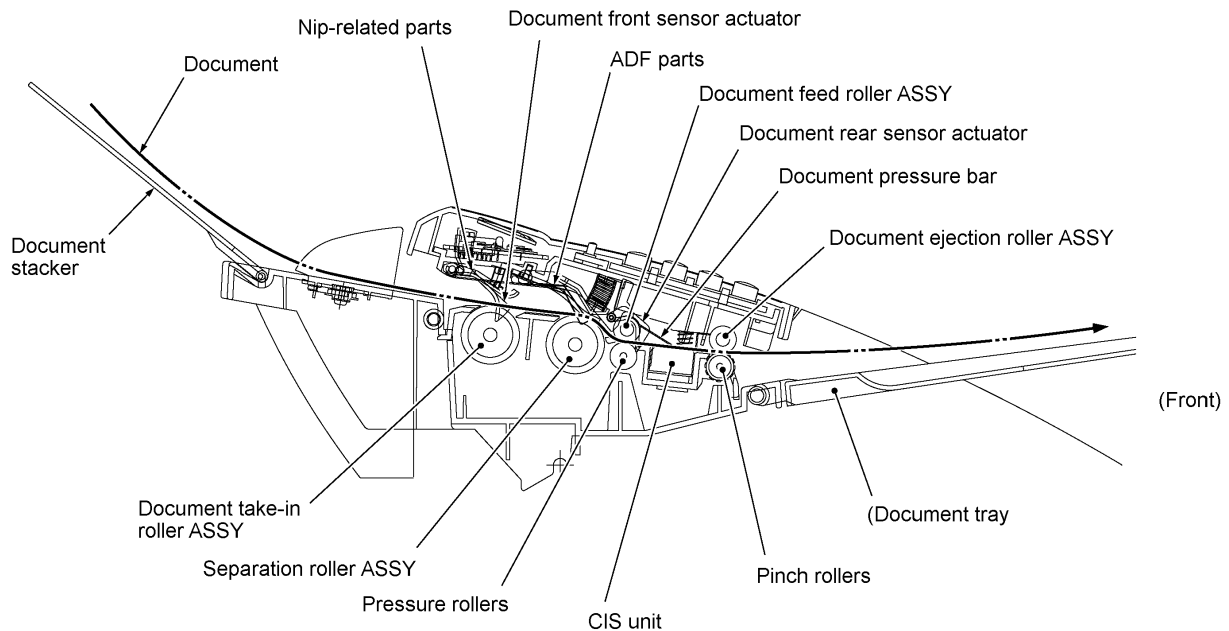
### LASER PRINTING MECHANISM

- Paper pick-up and registration mechanism
- Print process mechanism (consisting of charging, exposing, developing, and transferring processes) with paper feeding mechanism
- Heat-fixing mechanism with paper feeding mechanism
- Paper ejecting mechanism

### SENSORS AND ACTUATORS



## 2.1 Scanner Mechanism



### 2.1.1 Document feeding and ejecting mechanism

This mechanism consists of the document stacker, automatic document feeder (ADF), document ejection roller ASSY, and document sensors. (For details about the sensors, refer to Section 2.3.)

If the operator sets documents on the document stacker and starts the scanning operation, the scanner motor rotates so that the ADF (which consists of the document take-in roller ASSY, nip-related parts, separation roller ASSY, and ADF parts) feeds those documents into the equipment, starting from the bottom sheet to the top, page by page. Each document advances with the document feed roller ASSY to the scanner, and then it is fed out of the equipment with the document ejection roller ASSY.

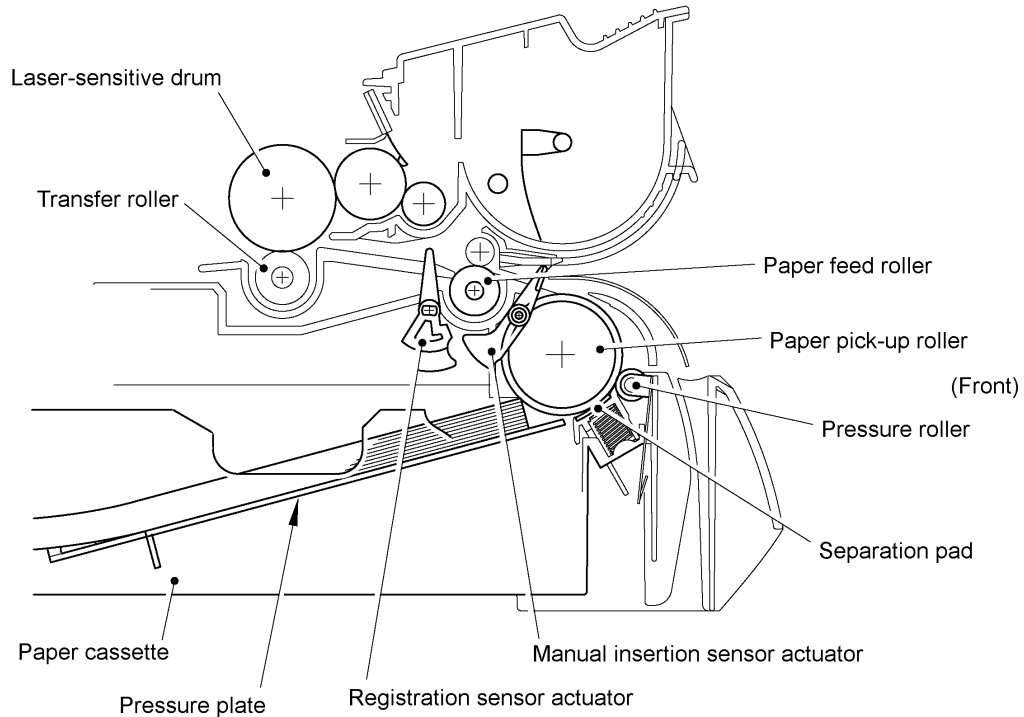
### 2.1.2 Scanner

The scanner uses a contact image sensor (CIS) unit which consists of an LED array illuminating documents, a self-focus lens array collecting the reflected light, a CIS PCB carrying out photoelectric conversion to output picture element data, and a cover glass on which a document advances. When the document passes between the document pressure bar and the cover glass, it is scanned.



## 2.2 Laser Printing Mechanism

### 2.2.1 Paper pick-up and registration mechanism



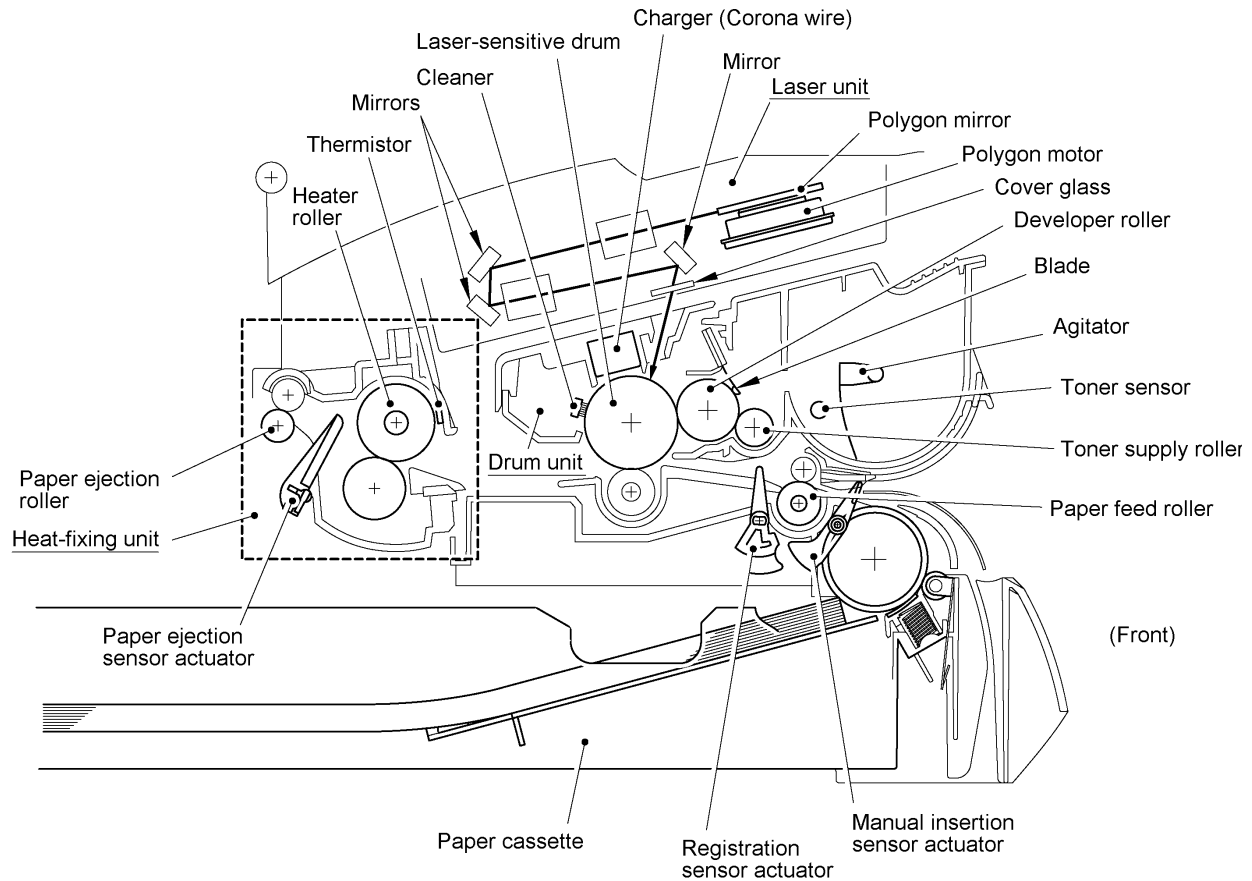
At the 1st stage, the controller drives the main motor without energizing the solenoid so that the paper feed roller simply idles.

At the 2nd stage, the controller energizes the solenoid so that the paper feed roller no longer rotates and the paper pick-up roller starts rotating to pick up paper into the equipment, a sheet at a time. After the leading edge of the pulled-in paper passes through the manual insertion sensor actuator, the paper is further fed for the specified time length. Accordingly, the leading edge will reach the paper feed roller where the paper skew will be eliminated.

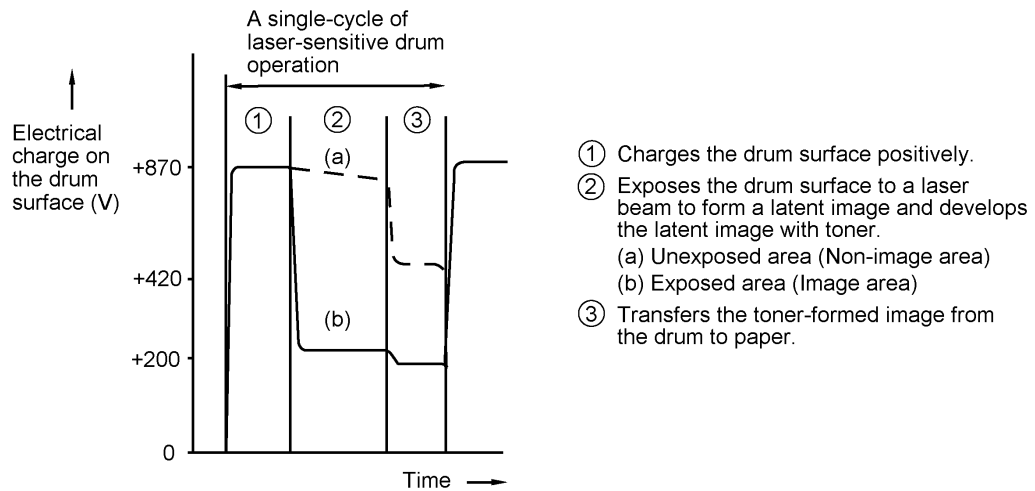
At the 3rd stage, the controller deenergizes the solenoid to rotate the paper feed roller for feeding paper to the transfer block in the drum unit.

When the leading and trailing edges of the paper pass through the registration sensor actuator, the sensor signals them to the controller. According to those signals, the controller may determine the first print position on the paper.

## 2.2.2 Print process mechanism

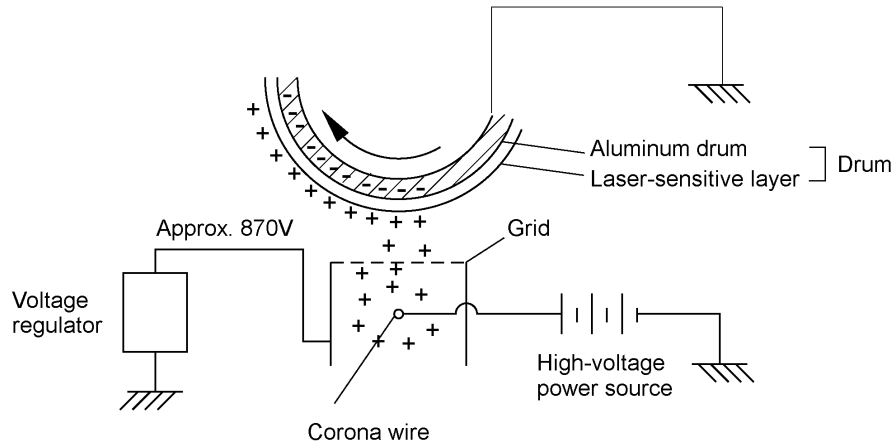


The print process unit works with laser beam, electrical charges, and toner. The graph below shows the transition of electrical charge on the surface of the laser-sensitive drum through the four processes: charging, exposing, and transferring processes.



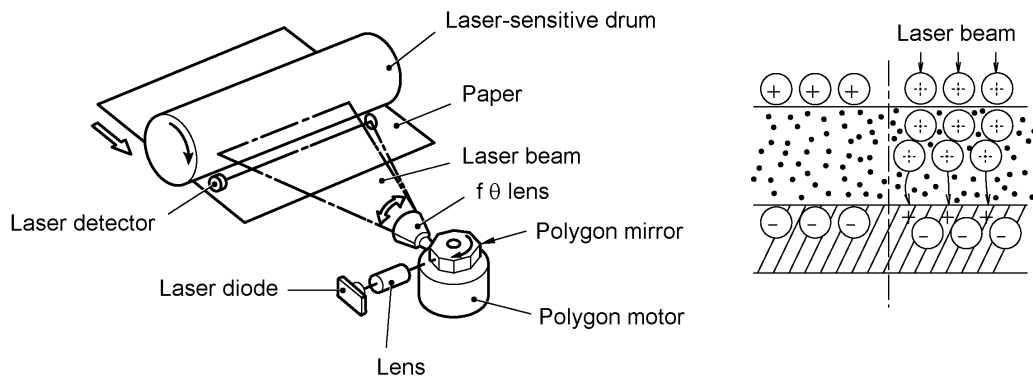
### (1) Charging process

The high-voltage power supply applies DC bias to the corona wire to generate ion on the grid. The ion uniformly charges the surface of the laser-sensitive drum to approx. 870V which is kept by the voltage regulator grounding the grid to the frame.



### (2) Exposing process

When the laser-sensitive drum holds a positive electrical charge, the laser beam issued from the laser unit scans the drum according to the print image to expose the drum surface for neutralizing the spots where black should be, forming an electrostatic latent image.



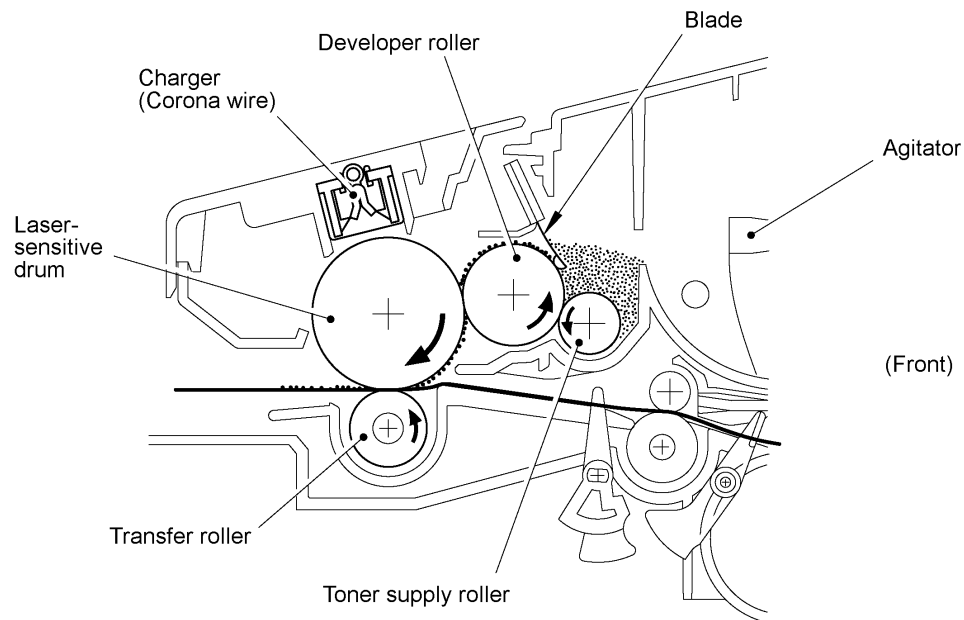
### (3) Developing process

The developing process develops an electrostatic latent image formed on the drum in the exposing process, into a toner image.

The developer roller attracts the toner particles fed from the toner cartridge by the toner supply roller, and then conveys them to the contact section with the laser-sensitive drum

On the contact section between the developer roller and drum, the positive toner particles stick to the neutralized spots on the drum according to the principles of attraction and repulsion, transforming a latent image into a toner image.

The agitator (which agitate toner particles in the chamber) and the blade allow toner particles to be fed onto the developer roller at an even thickness.



### (4) Transferring process

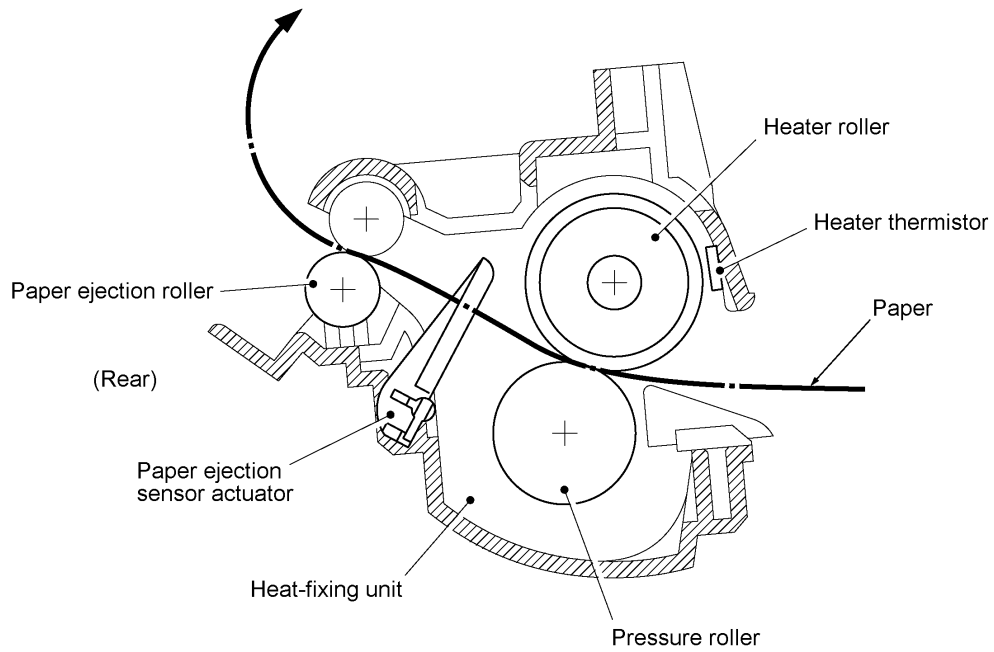
When a paper passes between the drum and the transfer roller, the controller negatively charges the transfer roller. The toner is positive, so the toner image formed on the drum will be transferred onto the paper according to the same principle as for the developing process.

#### Cleaning the transfer roller

In the transferring process, the transfer roller may be contaminated with toner since not all the toner particles on the drum are transferred onto the paper but some toner particles will remain on the drum and will be transferred from the drum to the transfer roller. If paper jam or other errors occur, the toner image fails to stick to the paper and will stick to the transfer roller.

To repulse this toner, the controller positively charges the transfer roller. The toner returns from the transfer roller to the drum. During non-printing rotation of the drum, the toner particles on the drum will be returned to the chamber through the developer roller.

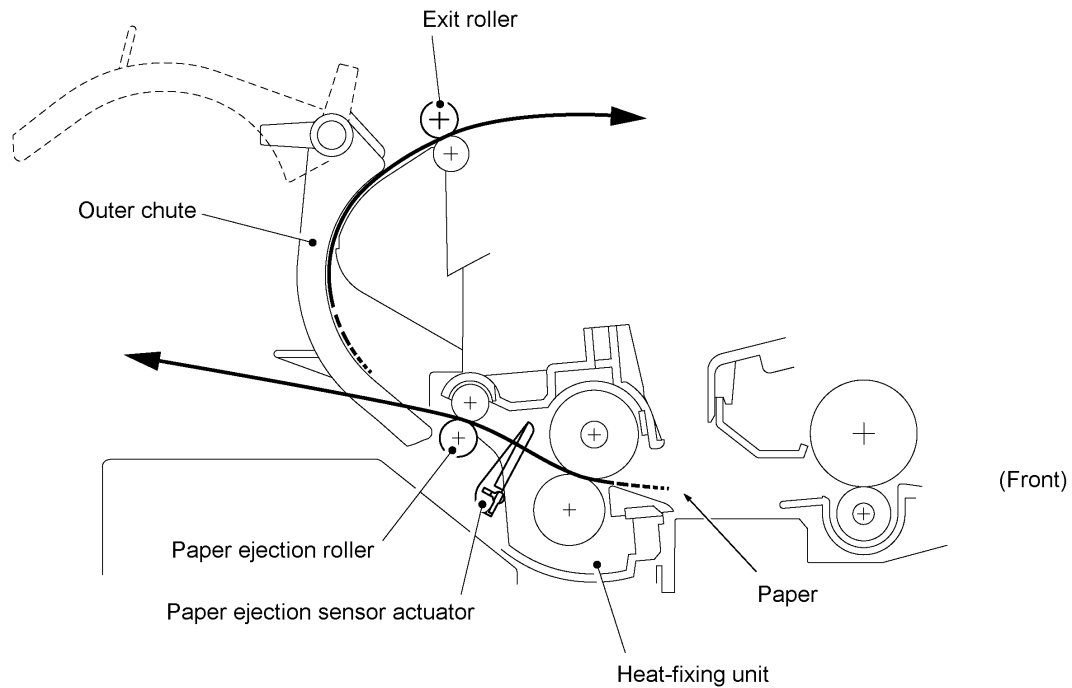
### 2.2.3 Heat-fixing mechanism



As the paper passes between the heater roller and the pressure roller in the heat-fixing unit, the heater roller fuses the toner on the paper.

The controller monitors the internal resistance of the heater thermistor to keep the surface temperature of the heater roller constant by turning the halogen heater lamp on and off.

## 2.2.4 Paper ejecting mechanism



After the paper passes through the heat-fixing process, it will be ejected from the heat-fixing unit by the paper ejection roller.

If the leading edge of the paper pushes up the actuator of the paper ejection sensor, the sensor signals the start of paper ejection. If the trailing edge has passed through the sensor actuator, the sensor signals the completion of paper ejection.

The paper will be turned over along the outer chute and ejected onto the main cover by the exit roller.

## 2.3 Sensors and Actuators

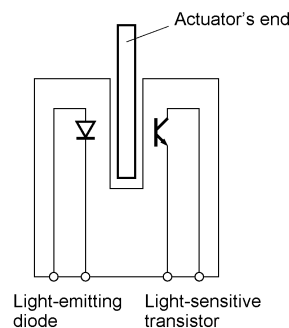
This equipment has eleven sensors: eight photosensors, two thermistors and a mechanical switch as described below.

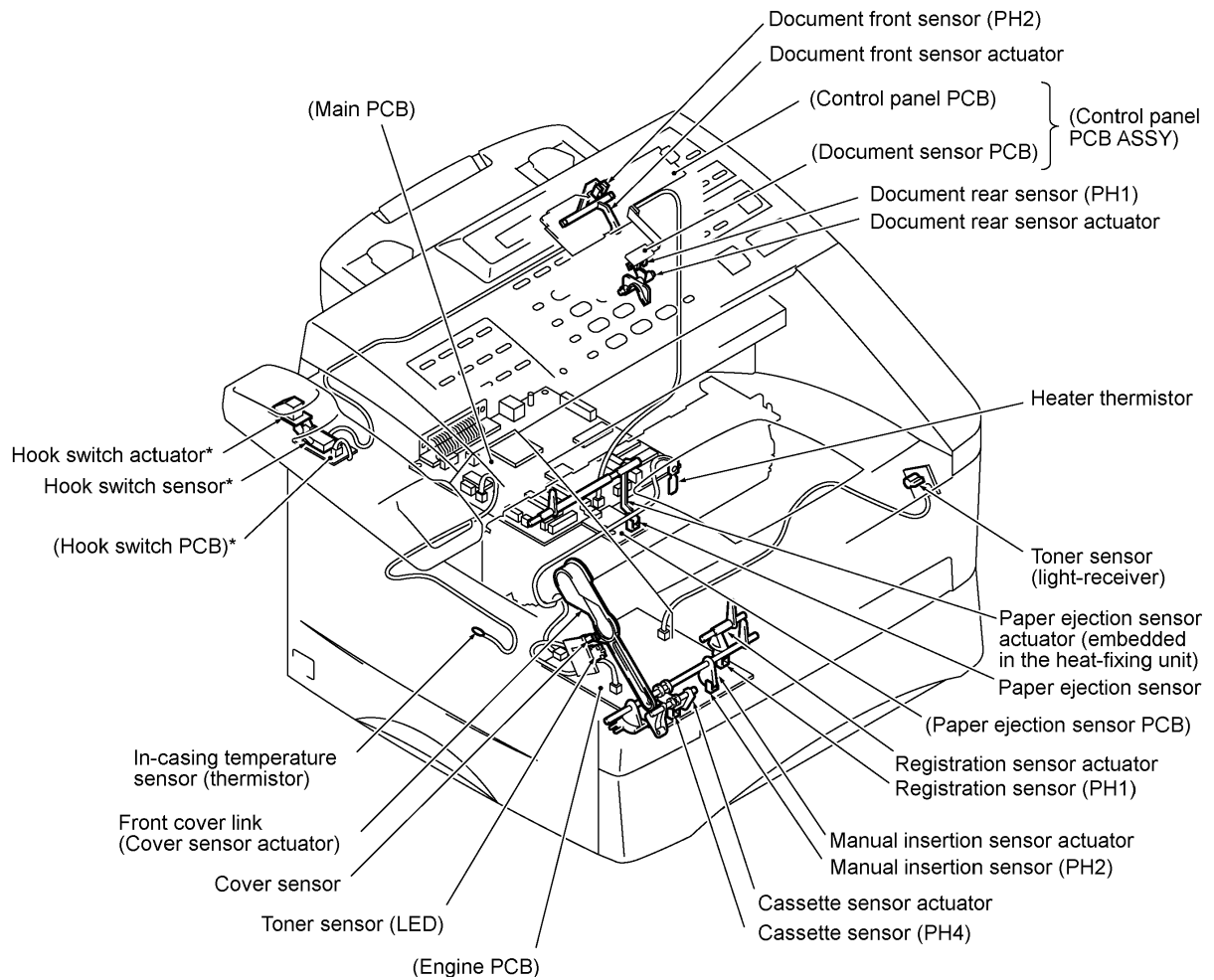
Sensor name	Type	Located on
Document front sensor	Photosensor	Control panel PCB
Document rear sensor	Photosensor	Document sensor PCB
Manual insertion sensor	Photosensor	Engine PCB
Registration sensor	Photosensor	Engine PCB
Cassette sensor	Photosensor	Engine PCB
Paper ejection sensor	Photosensor	Paper ejection sensor PCB
Toner sensor	Photosensor	Toner sensor (LED) PCB and toner sensor (light-receiver) PCB
Cover sensor	Photosensor	Toner sensor (LED) PCB
Heater thermistor	Thermistor	Heat-fixing unit
In-casing temperature sensor	Thermistor	Left-hand plate of the main chassis
Hook switch*	Mechanical switch	Hook switch PCB*

\*For models equipped with a handset

- Document front sensor which detects the presence of documents.
- Document rear sensor which detects the leading and trailing edges of pages to tell the control circuitry when the leading edge of a new page has reached the starting position and when the scan for that page is over.
- Manual insertion sensor which detects whether paper is inserted manually through the paper slot or whether paper fed through the paper cassette has jammed.
- Registration sensor which detects the leading and trailing edges of recording paper, which allows the controller to determine the registration timing and check paper jam.
- Cassette sensor which detects whether the paper cassette is loaded.
- Paper ejection sensor which detects whether the recording paper goes out of the equipment.
- Toner sensor which detects whether there is toner or a toner cartridge is loaded.
- Cover sensor which detects whether the front cover is closed.
- Heater thermistor which allows the controller to monitor the temperature of the heater roller of the fixing unit.
- In-casing temperature sensor which allows the controller to monitor the temperature inside the equipment.
- Hook switch\* which detects whether the handset is placed on the handset mount\*.

The above photosensors are a photo-interrupter consisting of a light-emitting diode and a light-sensitive transistor. Each of them has an actuator separately arranged as shown on the next page.





\* Provided on models equipped with a handset.

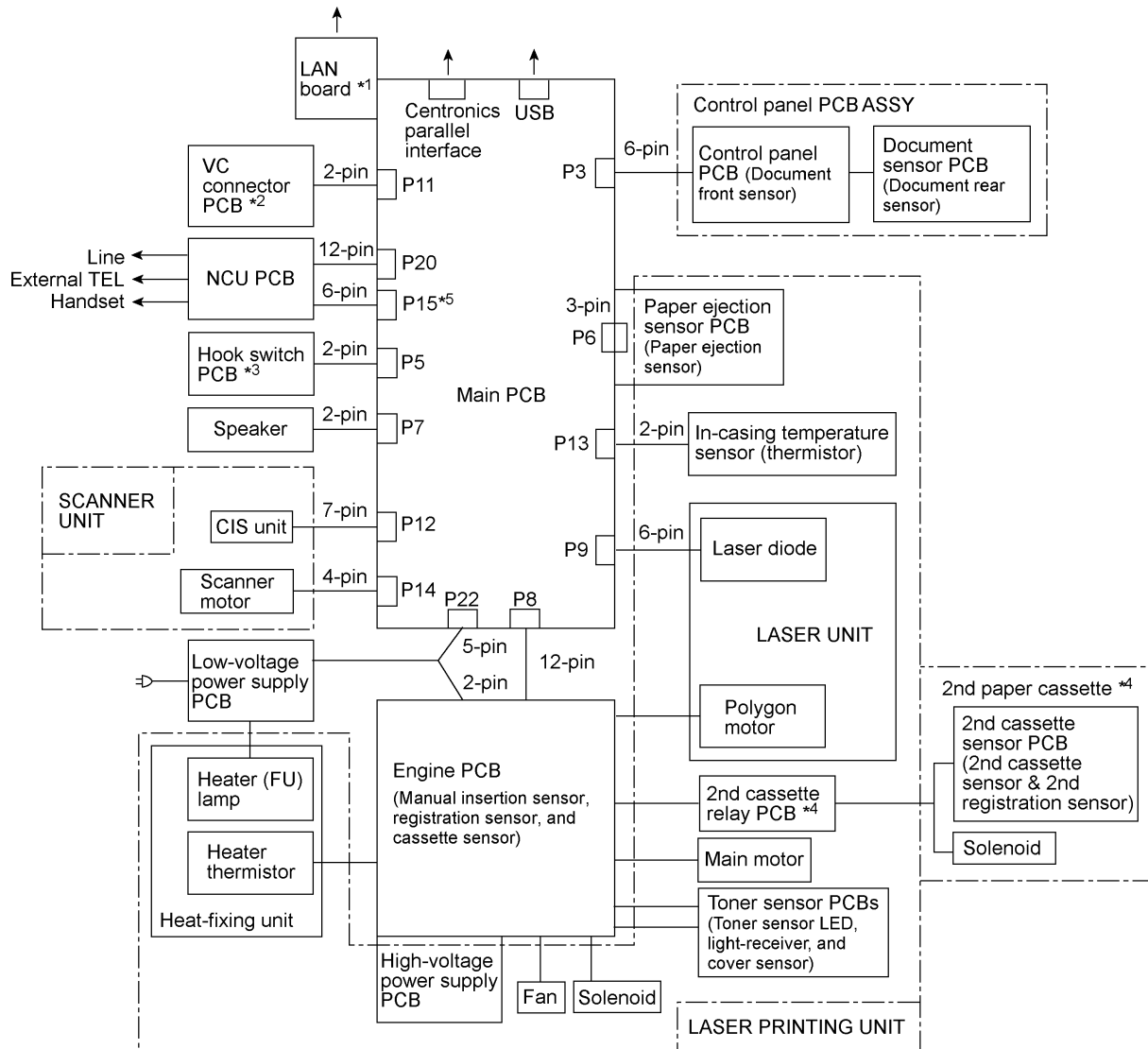
### Location of Sensors and Actuators



# 3. CONTROL ELECTRONICS

## 3.1 Configuration

The hardware configuration of the facsimile equipment is shown below.

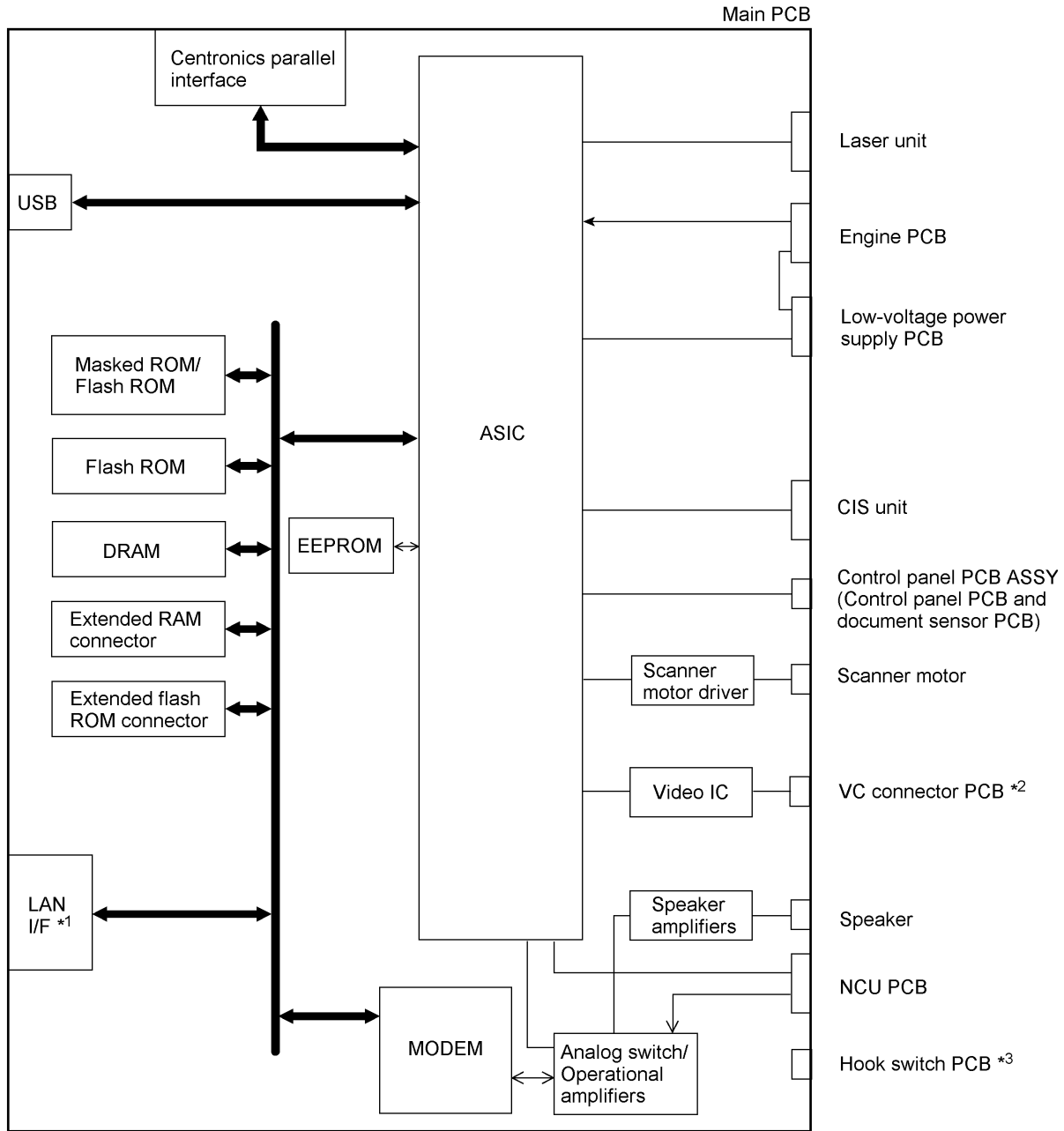


- \*1 Provided on models supporting LAN interface.
- \*2 Provided on models supporting video capture.
- \*3 Provided on models equipped with a handset.
- \*4 Provided on models available with a 2nd paper cassette (as an option or standard).
- \*5 Provided on European models.

**Configuration of Facsimile Equipment**

### 3.2 Main PCB

The main PCB, which is the nucleus controlling the entire operation of the equipment, consists of a FAX engine (ASIC), memories, MODEM, motor drive circuitry, sensor detection circuitry, and analog circuits for scanning, printing, and power transmission shifting.

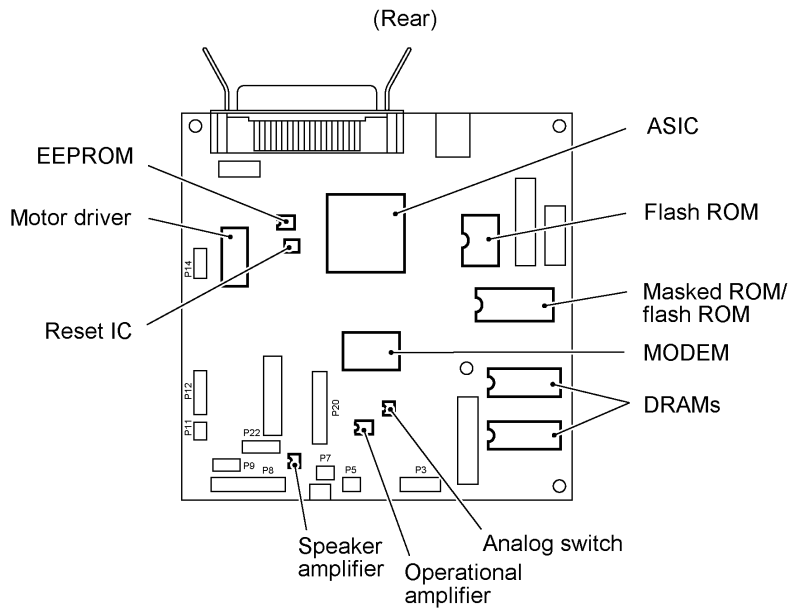


EEPROM: Electrically Erasable Programmable Read-only Memory  
 DRAM: Dynamic Random Access Memory

- \*1 Provided on models supporting LAN interface.
- \*2 Provided on models supporting video capture.
- \*3 Provided on models equipped with a handset.

**Block Diagram of Main PCB**

Main PCB



### 3.3 Engine PCB

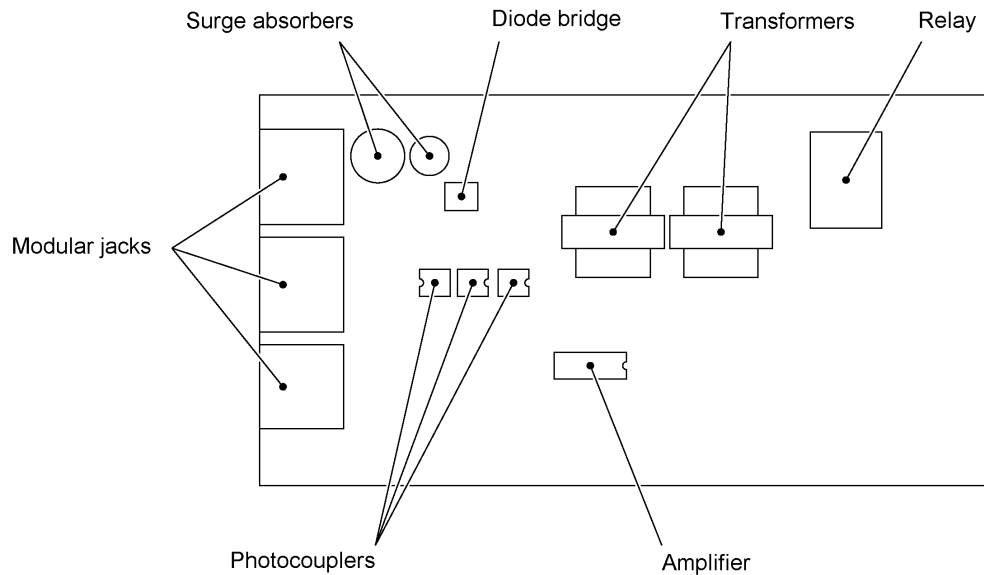
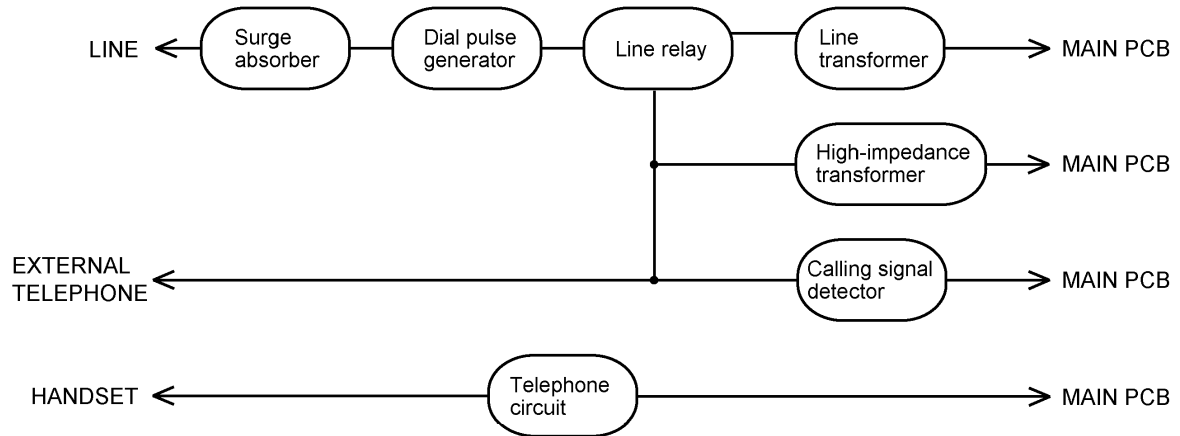
On the engine PCB is a gate array which converts serial signals sent from the main PCB into parallel signals. According to those signals, the engine PCB controls the following:

- Motors--main motor, fan motor, and polygon motor
- High-voltage power supply
- Solenoid(s)
- Heater
- Heater thermistor
- Sensors--cover sensor, toner sensor, manual insertion sensor, registration sensor(s), and cassette sensor(s)

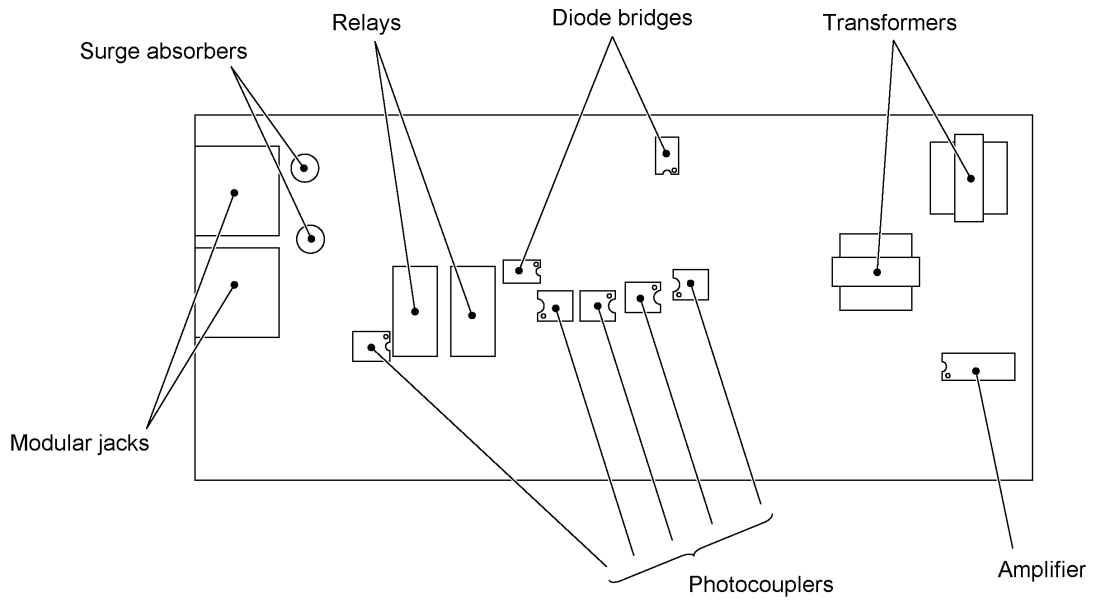
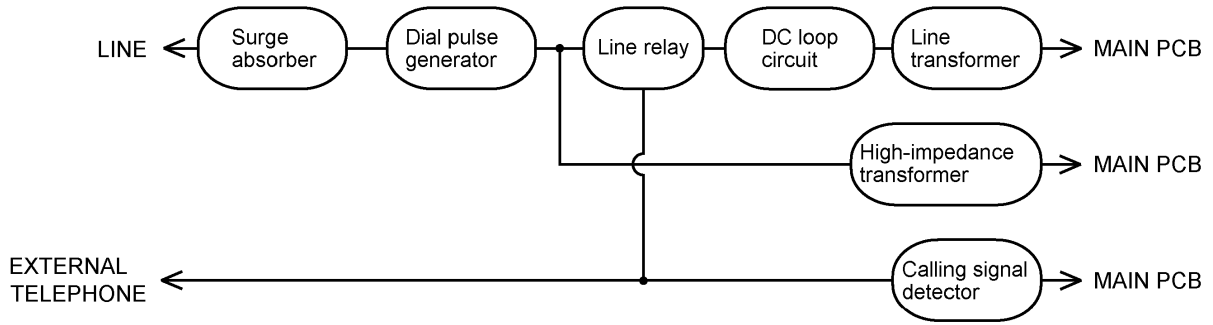
### 3.4 NCU PCB

The NCU PCB switches the communications line to telephone or built-in MODEM, under the control of the main PCB.

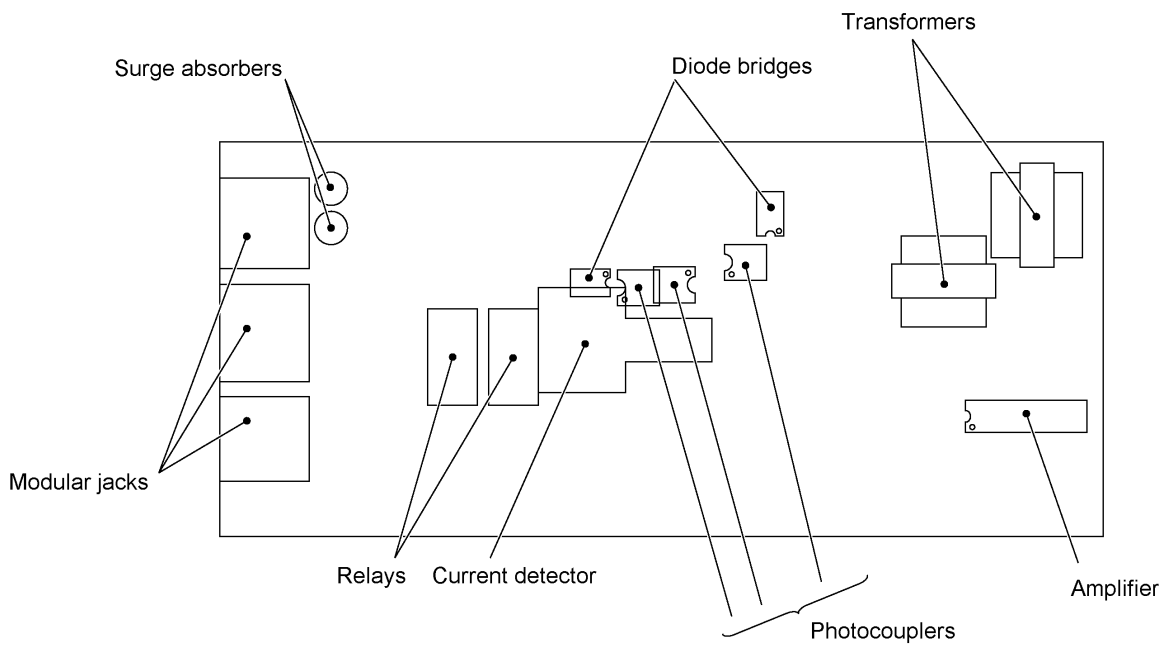
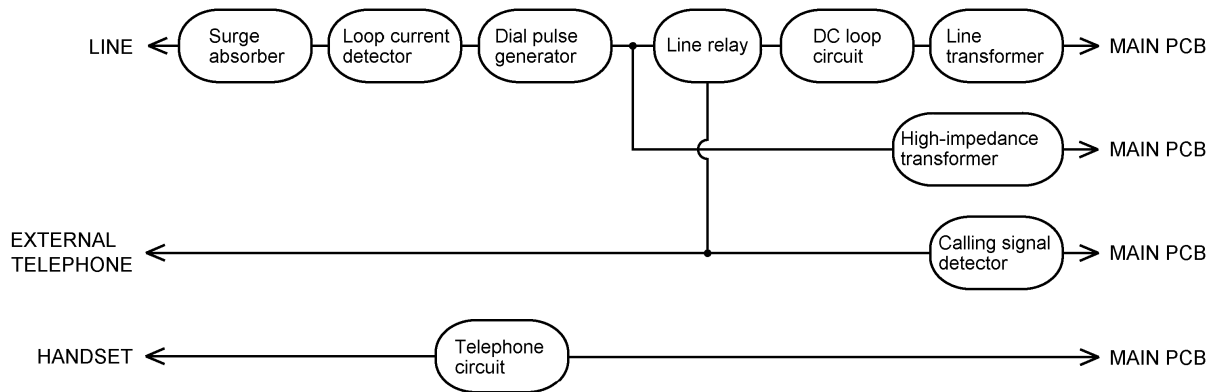
#### US versions



European versions



Asian/Oceanian versions

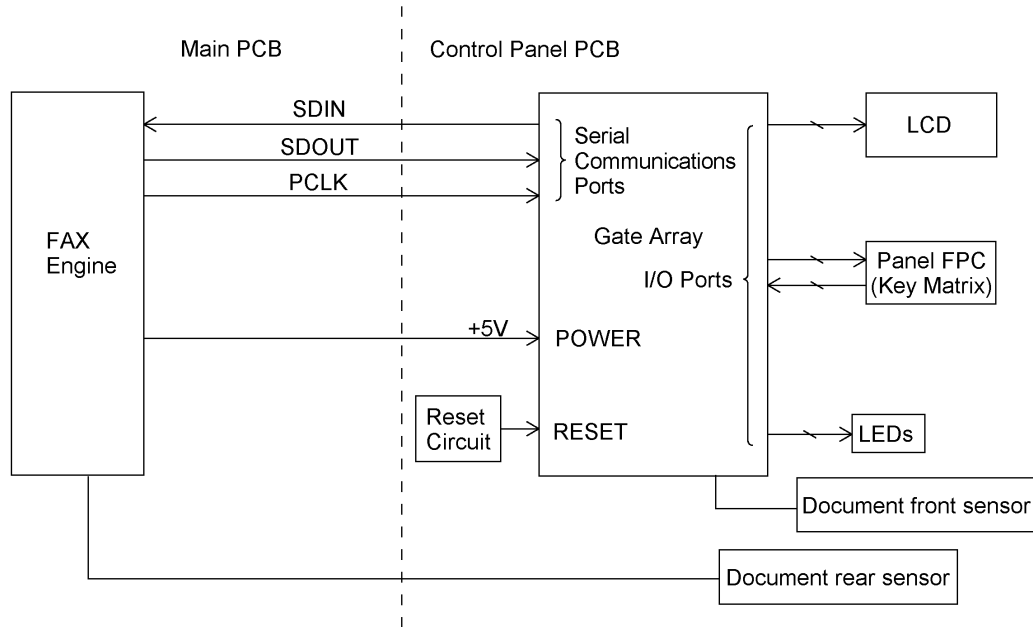


### 3.5 Control Panel PCB

The control panel PCB and the main PCB communicate with each other by serially transmitting commands and data.

The control panel unit consists of a gate array, an LCD and LEDs, which are controlled by the gate array according to commands issued from the FAX engine on the main PCB.

The panel FPC is a flexible keyboard PCB which integrates the key matrix having rubber keytops.



**Control Panel PCB and its Related Circuit**

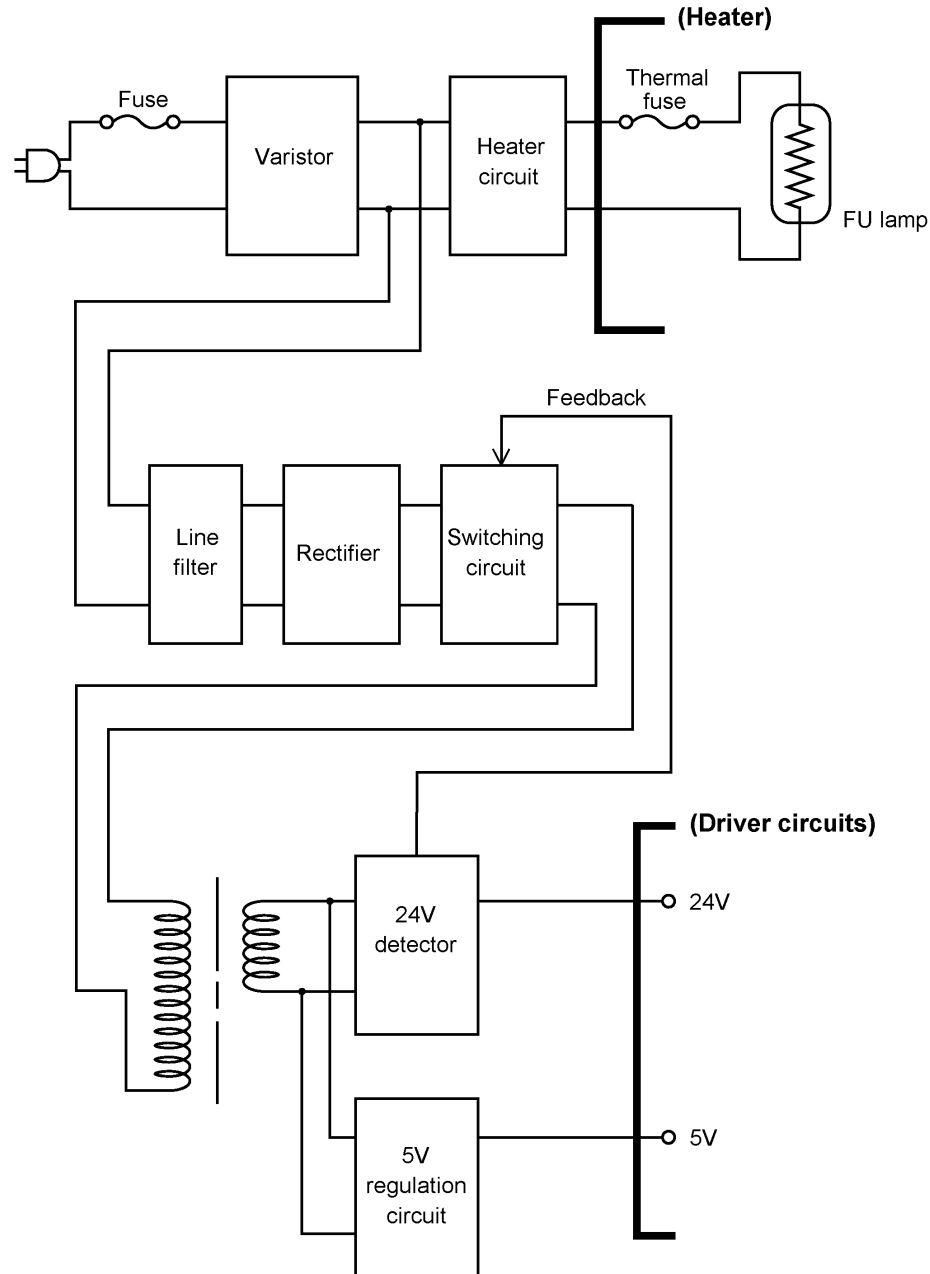


### 3.6 Power Supply PCB

#### [ 1 ] Low-voltage power supply PCB

The low-voltage power supply uses the switching regulation system to generate DC power (+5V and +24V) from a commercial AC power supply for the driver circuits. The +5V source is fed to the logic, control panel, sensors, CIS unit, etc. The 24V source is fed to the motors, solenoid, fan, and high-voltage power supply PCB.

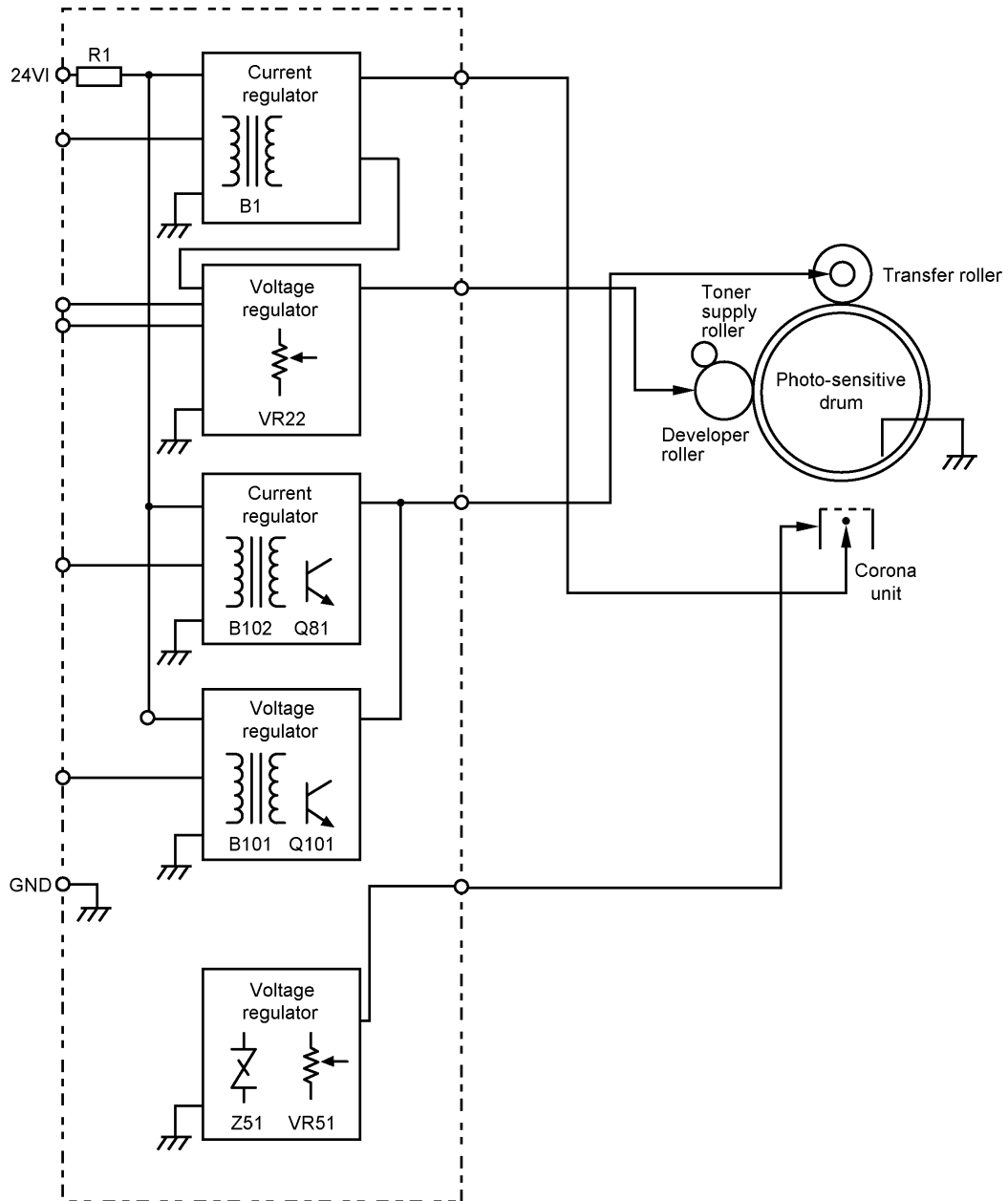
The low-voltage power supply also feeds AC power to the heater of the heat-fixing unit.



Low-voltage Power Supply Circuit

## [ 2 ] High-voltage power supply PCB

This power supply generates high-voltage power sources from the 24V source fed from the low-voltage power supply for charging, developing, and transferring in the laser printing process.



High-voltage Power Supply Circuit

# **CHAPTER IV.**

## **DISASSEMBLY/REASSEMBLY AND LUBRICATION**

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# 1. DISASSEMBLY/REASSEMBLY

## Safety Precautions

To prevent the creation of secondary problems by mishandling, observe the following precautions during maintenance work.

- (1) Unplug the power cord from the power outlet before accessing parts or units inside the machine. When having access to the power supply, be sure to unplug the power cord from the power outlet.
- (2) When servicing the optical system of the laser printing unit, be careful not to place screwdrivers or other reflective objects in the path of the laser beam. Be sure to take off any personal accessories such as wrist watches and rings before working on the printer. A reflected beam, though invisible, can permanently damage your eyes.
- (3) If the equipment has been printing, allow the heat-fixing unit (inside this unit is a red-colored heater roller) sufficient time to cool down before starting maintenance jobs. It is HOT!
- (4) Be careful not to lose screws, washers, or other parts removed for parts replacement.
- (5) Do not remove gears from the document feed roller ASSY or document ejection roller ASSY if at all possible. Once removed, they will become unusable and new gears will have to be put back in.
- (6) When using soldering irons and other heat-generating tools, take care not to damage the resin parts such as wires, PCBs, and covers.
- (7) Before handling the PCBs, touch a metal portion of the equipment to discharge static electricity; otherwise, the electronic parts may be damaged due to the electricity charged in your body.
- (8) When transporting PCBs, be sure to wrap them in conductive sheets such as aluminum foil.
- (9) Be sure to reinsert self-tapping screws correctly, if removed. Unless otherwise specified, tighten screws to the following torque values:

Taptite, bind B and cup B	M3: 70 N•cm
	M4: 80 N•cm
Taptite, cup S	M3: 80 N•cm
Other screws	M3: 70 N•cm
	M4: 80 N•cm

- (10) When connecting or disconnecting cable connectors, hold the connector bodies not the cables. If the connector has a lock, always slide the connector lock to unlock it.
- (11) Before reassembly, apply the specified lubricant to the specified points. (Refer to Section 2 in this chapter.)
- (12) After repairs, check not only the repaired portion but also that the connectors and other related portions function properly before operation checks.

## Preparation

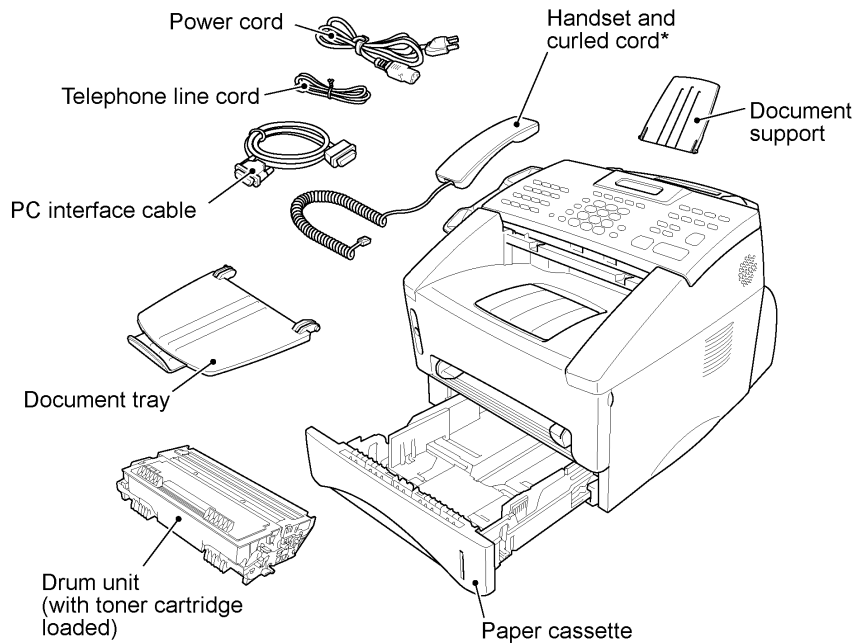
Prior to proceeding to the disassembly procedure,

### (1) Unplug

- the power cord,
- the modular jack of the telephone line,
- the modular jack of the curled cord (and remove the handset)\*,
- the PC interface cable, and
- the modular jack of an external telephone set if connected. (Not shown below.)

### (2) Remove

- the document support,
- the document tray,
- the paper cassette, and
- the drum unit (with toner cartridge loaded)

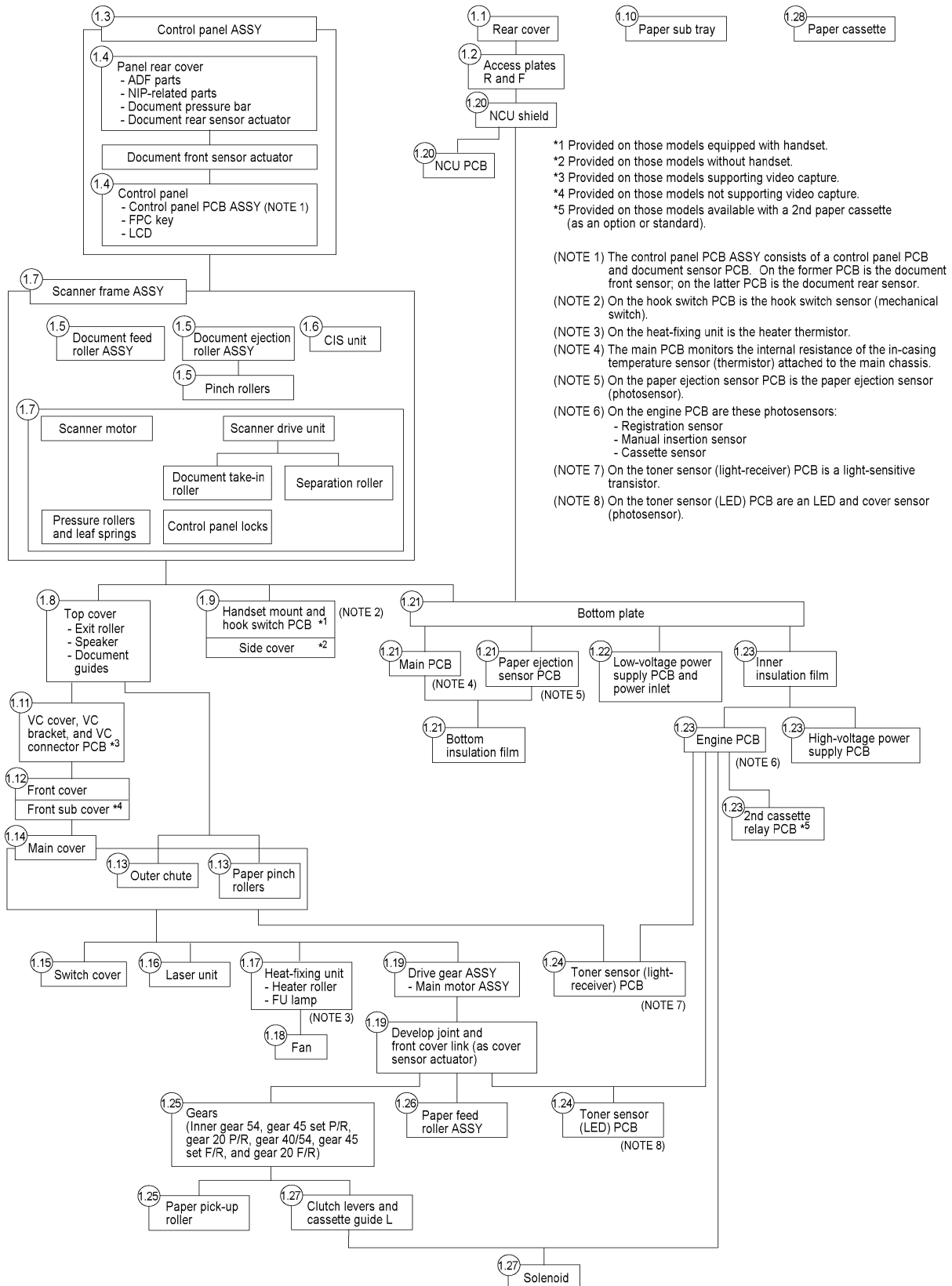


(\*For those models equipped with handset.)

## How to Access the Object Component

- On the next page is a disassembly order flow which helps you access the object components. To remove the heat-fixing unit, for example, first find it on the flow and learn its number (1.17 in this case). You need to remove parts numbered 1.3, 1.7, 1.8, 1.11, 1.12, and 1.14 so as to access the heat-fixing unit.
- Unless otherwise specified, the disassembled parts or components should be reassembled in the reverse order of removal.

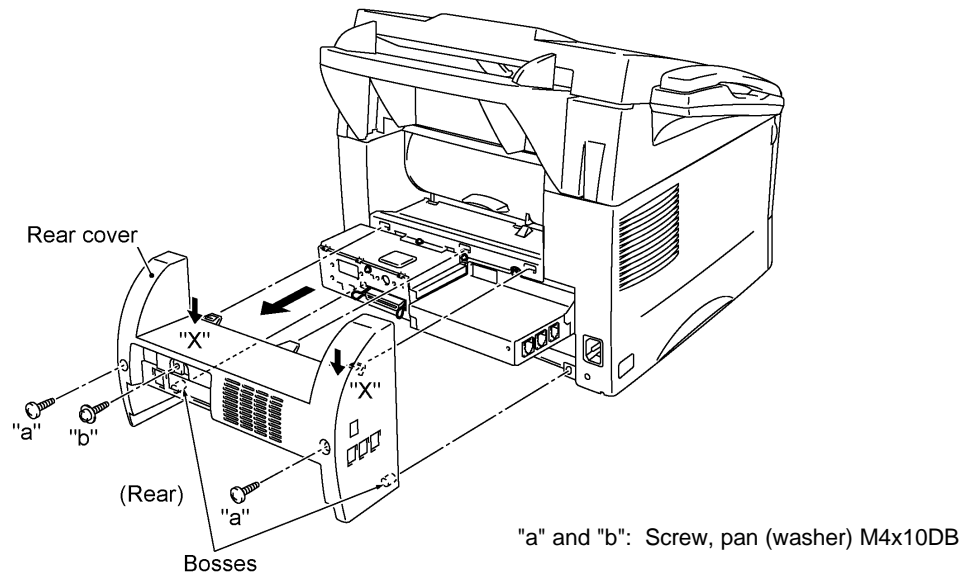
## Disassembly Order Flow





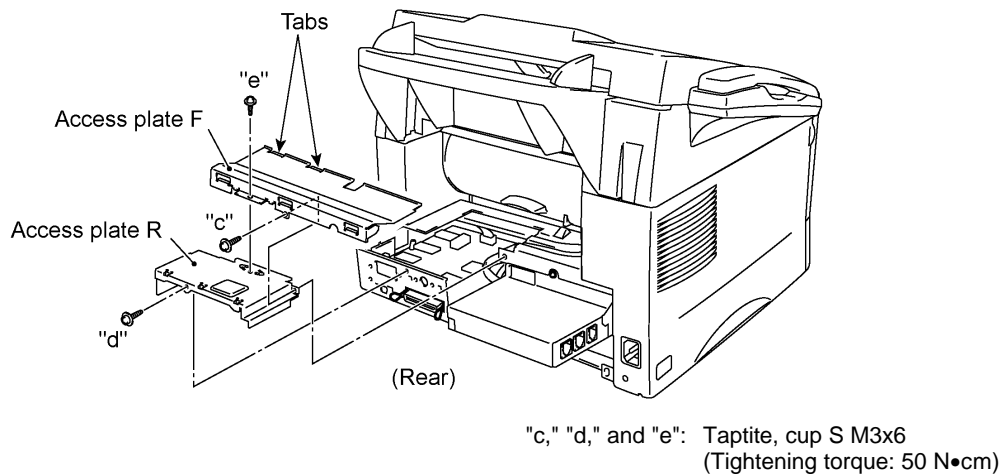
## 1.1 Rear Cover

- (1) Remove the three screws (two "a" and one "b") from the rear cover. Screw "b" is provided on those models available with a 2nd paper cassette (as an option or standard).
- (2) Lightly pressing sections "X," pull out the rear cover.



## 1.2 Access Plates R and F

- (1) Remove screw "c" that secures access plates R and F together to the main chassis.
- (2) Remove screw "d" from access plate R.
- (3) Take out access plates R and F together.
- (4) Remove screw "e" to separate those access plates.

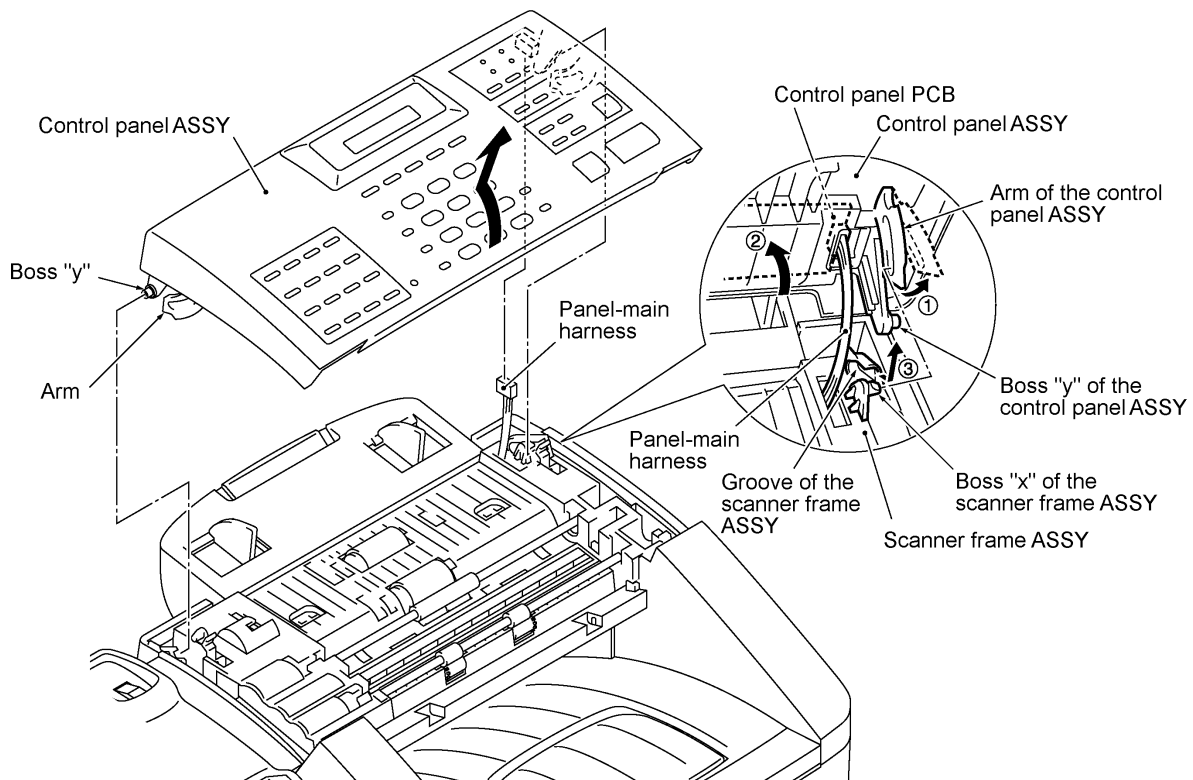


### Reassembling Notes

- When reinstalling access plate F, fit the two tabs provided on the front end underneath the center edge of the main chassis.

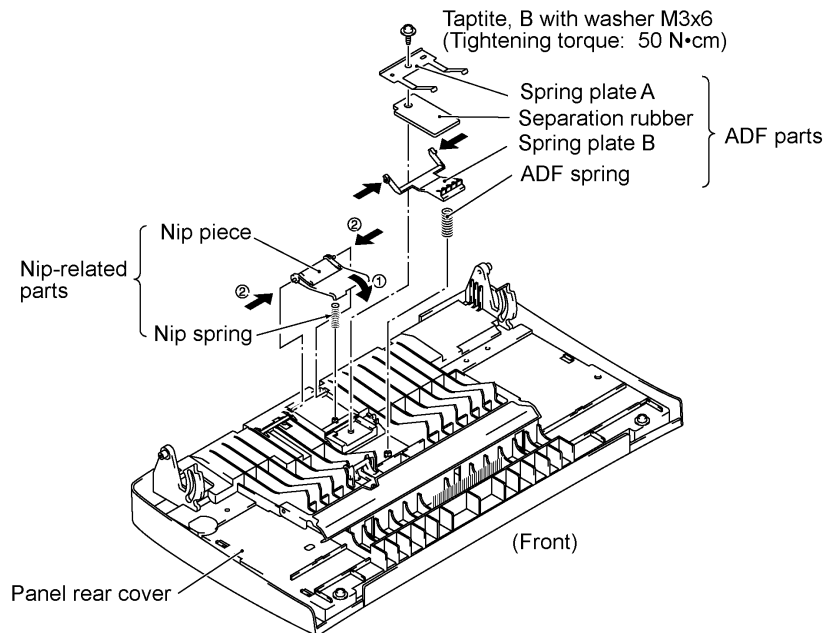
### 1.3 Control Panel ASSY

- (1) Slightly open the control panel ASSY.
- (2) Push the right and left arms of the control panel ASSY outwards (in the direction of arrow ) with your thumbs, then open the control panel ASSY further (arrow to unhook those arms from bosses "x" provided on the scanner frame ASSY) while sliding the control panel ASSY to the front (arrow to release its bosses "y" from the grooves of the scanner frame ASSY).
- (3) Slightly lift up the control panel ASSY and disconnect the panel-main harness from the control panel PCB.



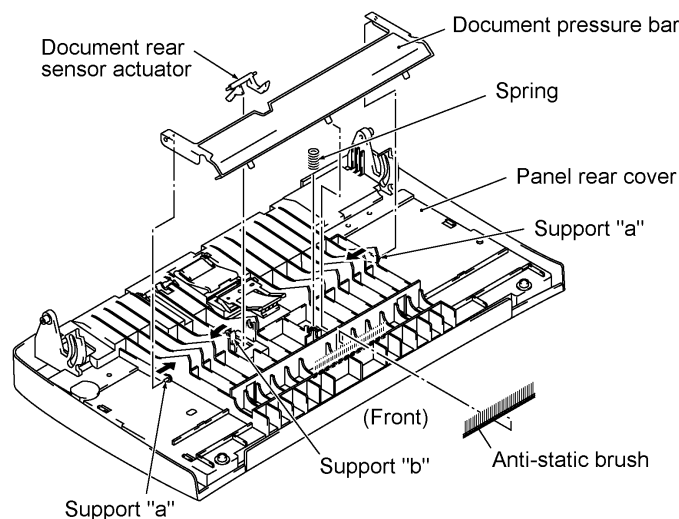
## 1.4 Panel Rear Cover and Control Panel

- (1) Place the control panel ASSY upside down.  
If you do not need to remove the ADF parts, nip-related parts, document pressure bar, or document rear sensor actuator, or anti-static brush, skip to step (7).
- (2) To remove the ADF parts (spring plates, separation rubber and spring), remove the screw.
- (3) To remove the nip-related parts (nip piece and spring), push down the nip piece (arrow ①) and then press either side of the piece inwards (arrow ②).

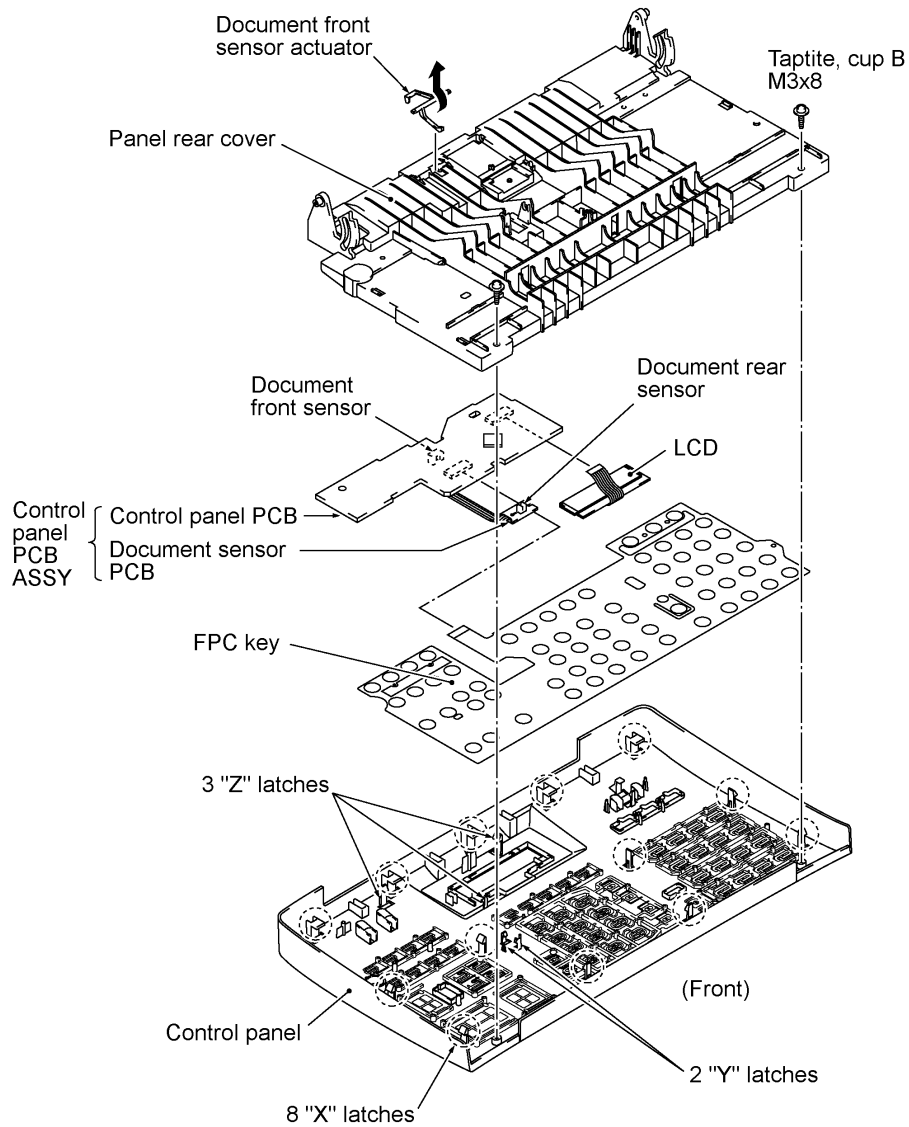


- (4) To remove the document pressure bar, press either of supports "a" provided on the panel rear cover inwards and then lift the pressure bar up and towards the rear to release the three tabs from the cutouts provided in the panel rear cover. The spring also comes off.
- (5) To remove the document rear sensor actuator, pull support "b" on the panel rear cover outwards.
- (6) To replace the anti-static brush, peel it off.

**NOTE:** Once removed, it will become unusable and a new part will have to be put back in.

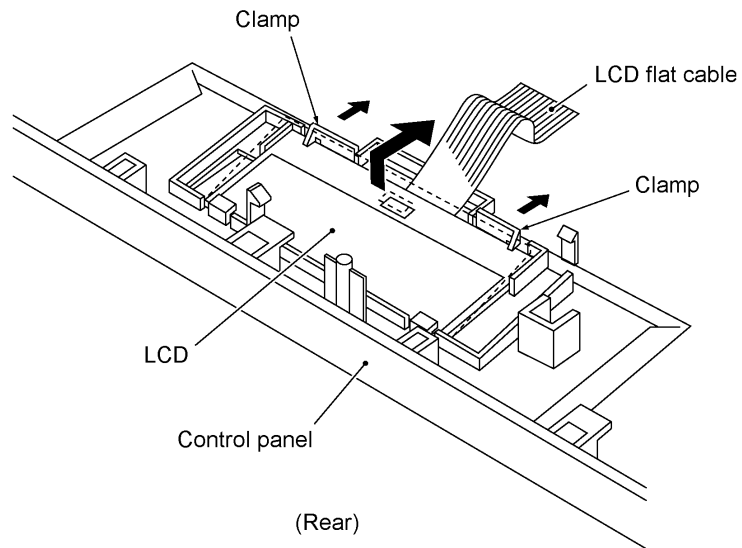


- (7) Remove the two screws from the panel rear cover.
- (8) Unhook the panel rear cover from eight "X" latches provided on the control panel and lift up the panel rear cover.
- (9) Fully turn the document front sensor actuator to the rear and take it out.
- (10) Unhook the document sensor PCB from two "Y" latches.
- (11) Unhook the control panel PCB from three "Z" latches.
- (12) Slightly lift up the control panel PCB, then unlock the LCD cable connector and disconnect the LCD flat cable. Next, unlock the FPC key connector and disconnect the FPC key.



(13) As shown below, slightly pull the clamps to the front and take out the LCD while pulling the LCD flat cable gently.

**NOTE:** Do not take out the LCD except when the LCD is defective and requires replacement.



#### Reassembling Notes

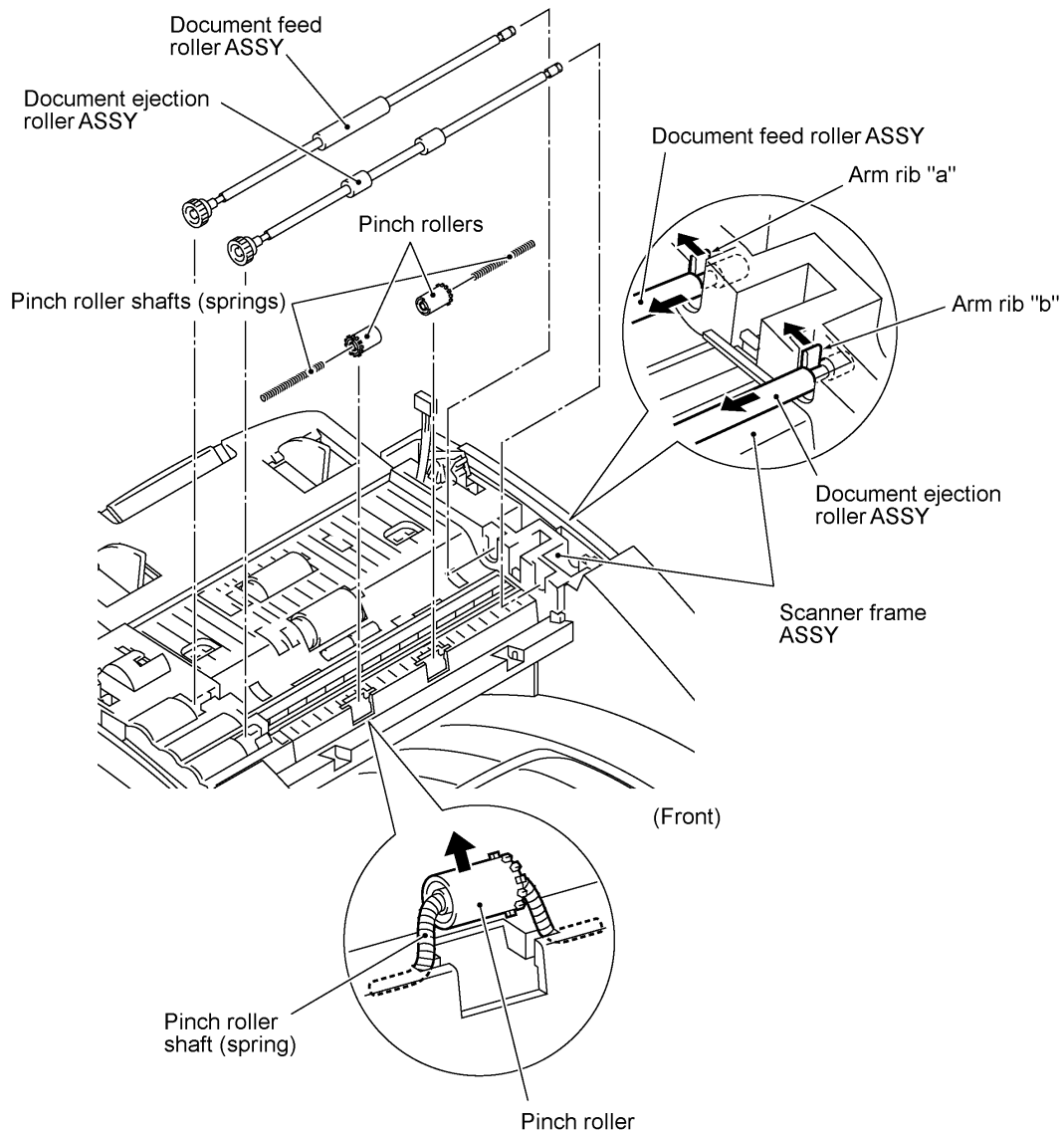
- Before reinstalling the LCD to the control panel, wipe fingerprints or dust off the LCD surface and control panel window with a soft cloth.
- A new LCD is covered with a protection sheet. Before installing it, remove the protection sheet.

## 1.5 Document Feed Roller ASSY, Document Ejection Roller ASSY, and Pinch Rollers

- (1) Lightly push arm rib "a" to the rear, then pull the document feed roller ASSY to the left and upwards.
- (2) Lightly push arm rib "b" to the rear, then pull the document ejection roller ASSY to the left and upwards.

**NOTE:** Take care not to break the arm ribs. They may easily break.

- (3) Pull up the pinch rollers and their shafts (springs).

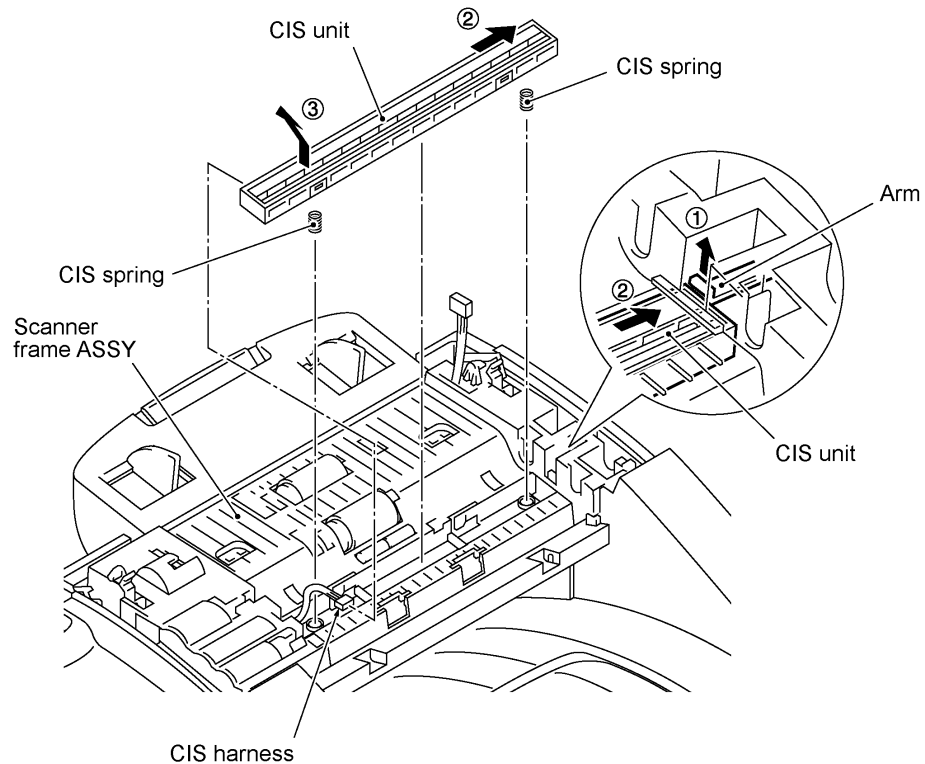


## 1.6 CIS Unit

- (1) Lightly pull up the arm, move the CIS unit to the right, and lift up the left edge of the CIS unit gently.

**NOTE:** Do not lift up the left edge exceeding 30 mm to prevent the CIS harness connector on the CIS unit from getting broken.

- (2) While holding up the CIS unit, disconnect the CIS harness. The CIS springs also come off.



### Reassembling Notes

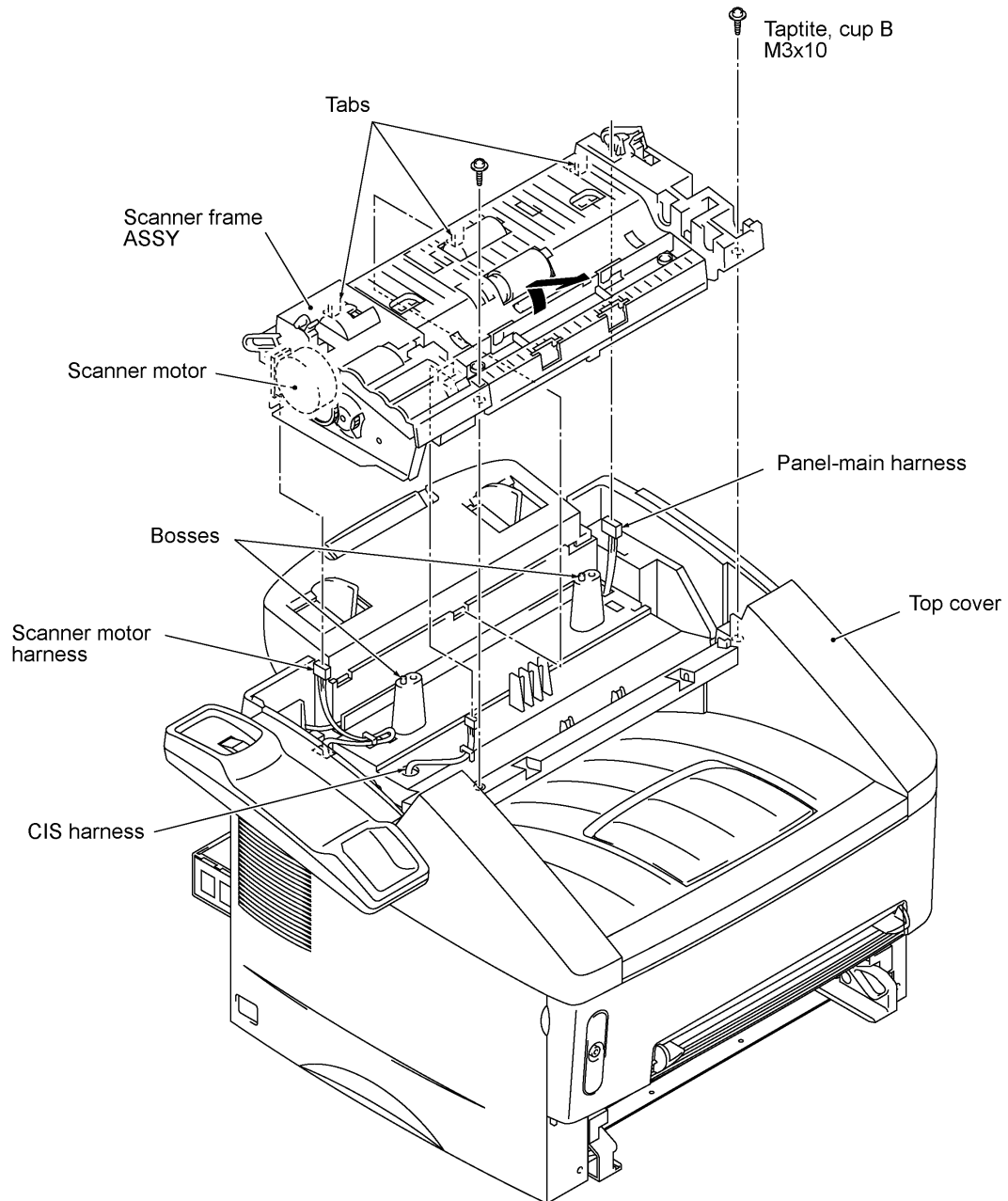
- When reinstalling the CIS unit, first connect the CIS harness, insert the right end under the arm of the scanner frame, put the CIS unit into the scanner frame, and then move it to left.

## 1.7 Scanner Frame ASSY (Scanner Motor, Scanner Drive Unit, Document Take-in Roller, Separation Roller, Pressure Rollers, and Control Panel Locks)

- (1) Remove the two screws from the scanner frame ASSY.
- (2) Lift up the front edge of the scanner frame ASSY and pull the ASSY towards you to release the three tabs provided on the rear end from the top cover.

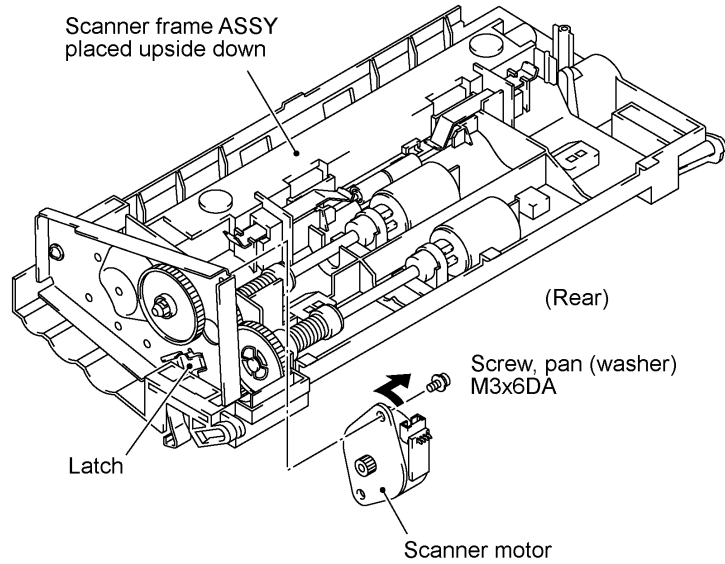
**NOTE:** If the CIS unit is mounted, do not lift up the scanner frame ASSY exceeding 30 mm to prevent the CIS harness connector on the CIS unit from getting broken.

- (3) Hold up the ASSY and disconnect the scanner motor harness (and the CIS harness if the CIS is mounted).

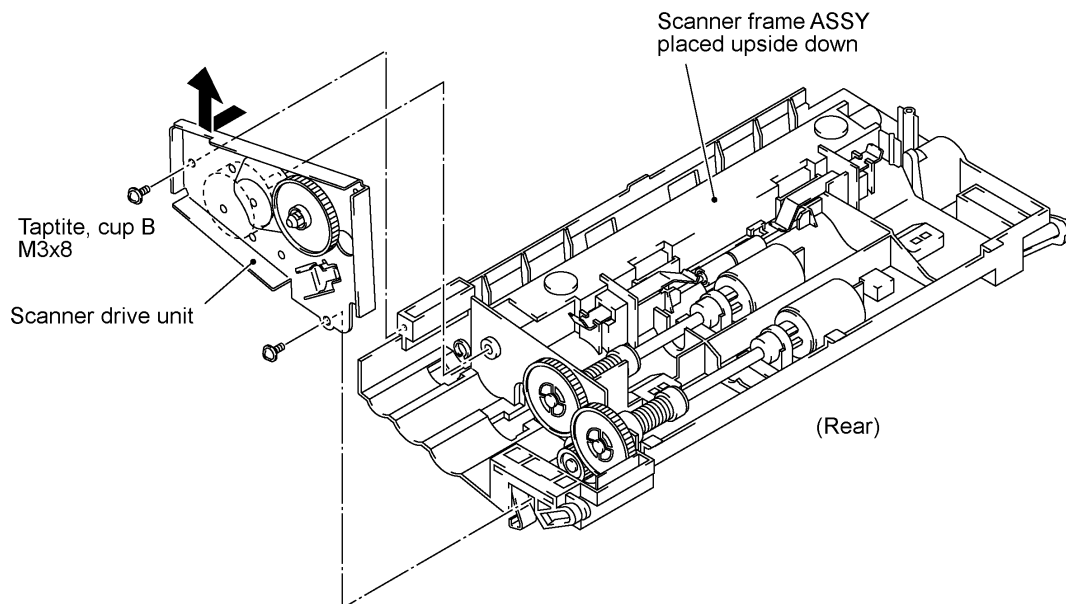




- (4) Turn the scanner frame ASSY upside down.
- (5) Remove the screw from the scanner motor and turn the motor (as shown below) to release it from the latch.



- (6) Remove the two screws and take off the scanner drive unit.

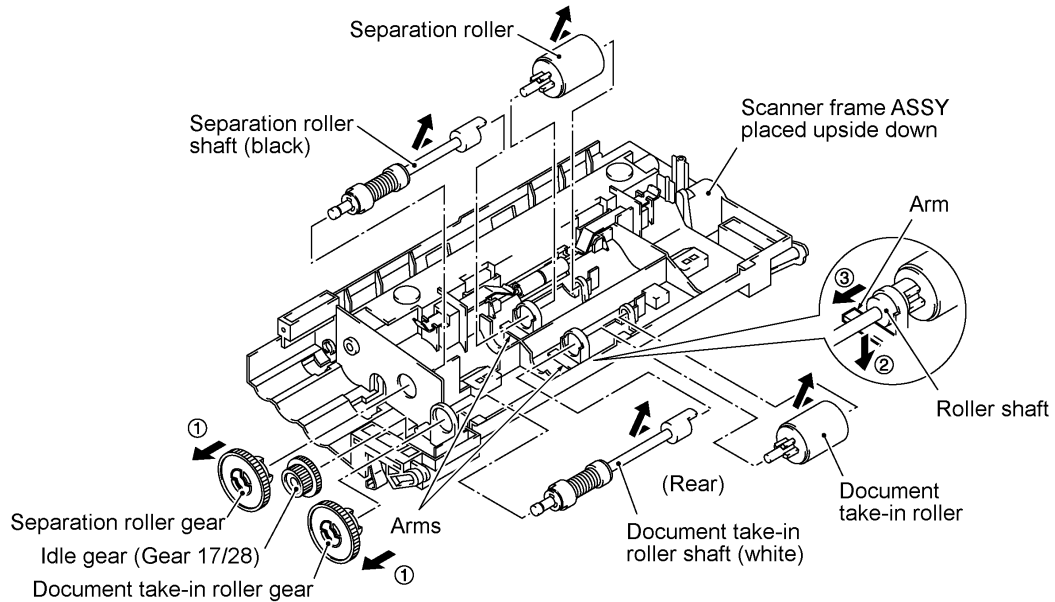


- (7) Remove the document take-in roller gear (in the direction of arrow ) by pulling its pawls outwards. Slightly push down the arm (arrow ) and shift the document take-in roller shaft to the left (arrow ) and take it up.

Then shift the document take-in roller to the left and take it up.

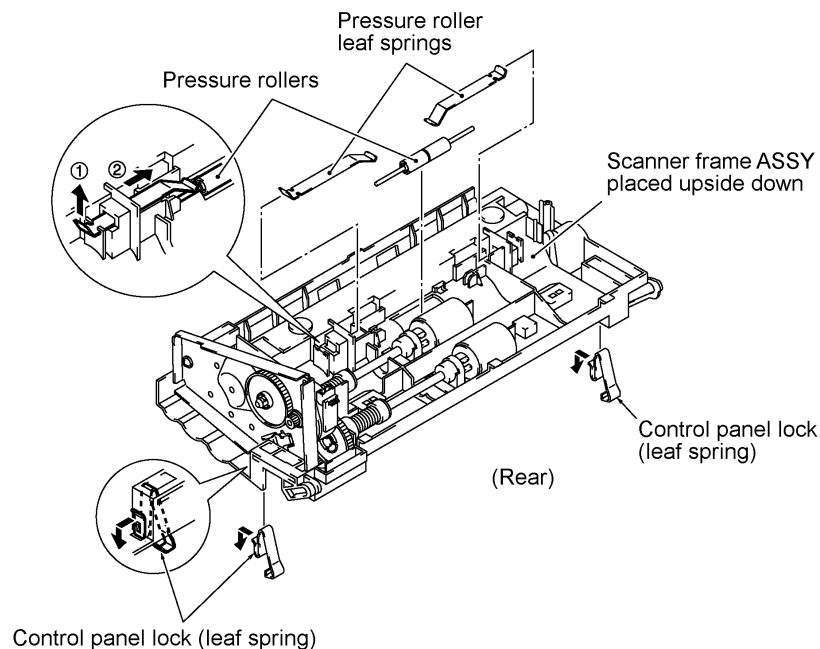
- (8) Remove the separation roller gear (in the direction of arrow ) by pulling its pawls outwards. Slightly push down the arm (arrow ) and shift the separation roller shaft to the left (arrow ) and take it up.

Then shift the separation roller to the left and take it up.



- (9) Remove the two pressure roller leaf springs by pulling them in the direction of arrows and in this order as shown below. Then remove the pressure rollers and shaft.

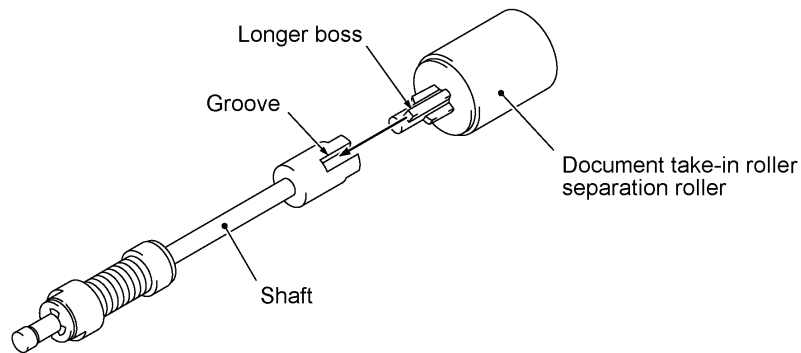
- (10) Remove the two control panel locks (leaf springs) with a flat screwdriver in the direction shown below.



## Reassembling Notes

- The document take-in roller and separation roller are compatible with each other. Their gears are also compatible with each other. However, their shafts are not compatible. The document take-in roller shaft should be a white one; the separation roller shaft should be a black one.

When setting these shaft to their rollers, fit the groove provided in each shaft over the longer boss provided on each roller.

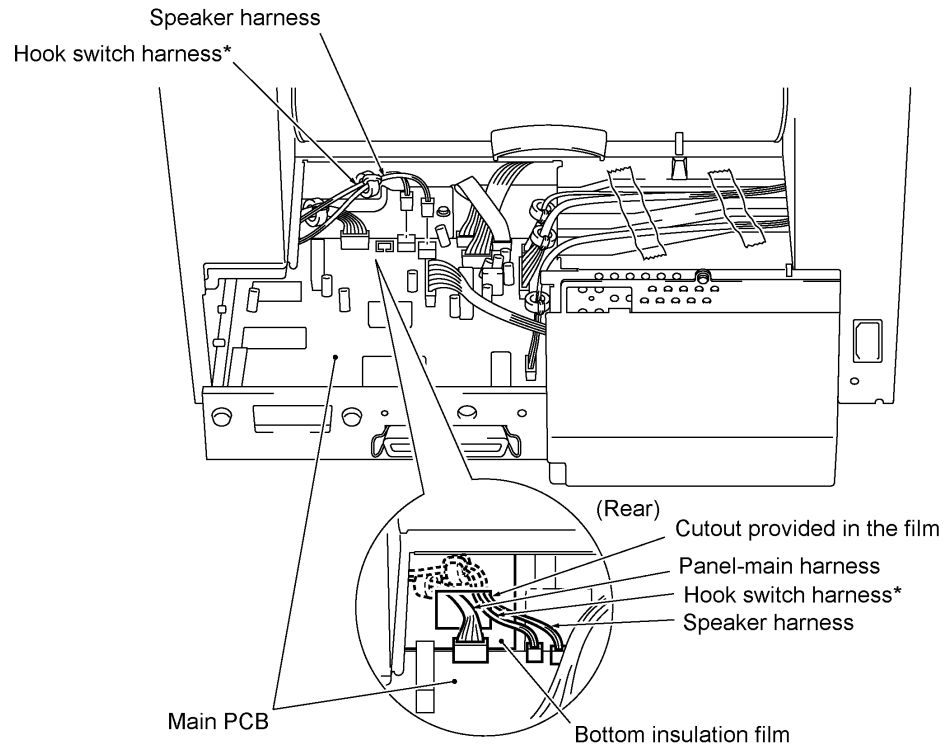


- When reinstalling the scanner motor, fit it in the latch provided on the scanner frame with the connector facing up and then secure it with the screw. (See page IV-12.)
- When setting the scanner frame ASSY back into place, be sure to
  - route the scanner motor harness through the hook on the top cover as shown on page IV-11 and connect it to the scanner motor,
  - route the CIS harness through the hook on the top cover as shown on page IV-11 and connect it to the CIS unit (if the CIS unit is not mounted, route the CIS harness through the left-hand cutout provided in the scanner frame ASSY), and
  - route the panel-main harness through the right-hand cutout provided in the scanner frame ASSY.

## 1.8 Top Cover (Exit Roller, Speaker, and Document Guides)

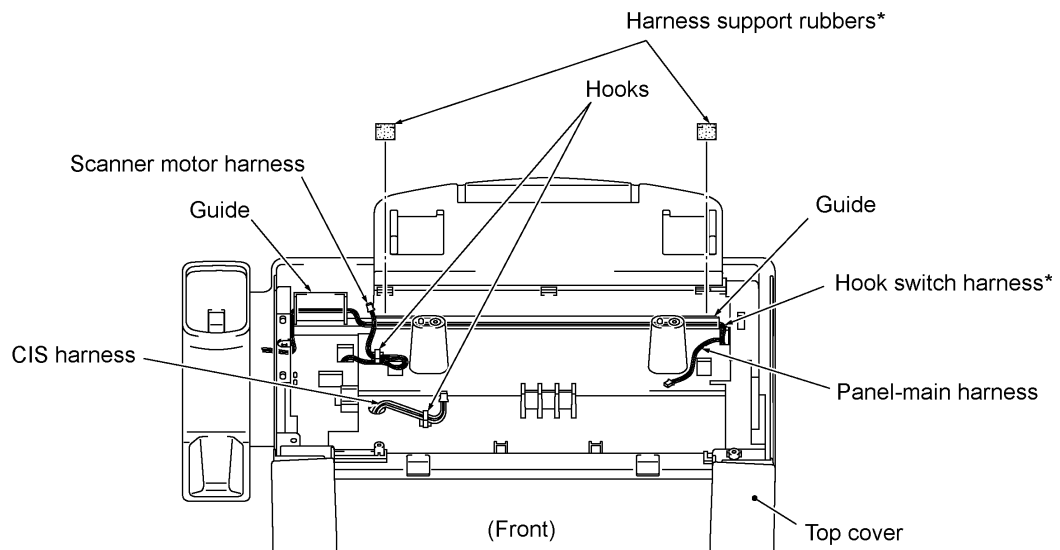
- (1) Disconnect the hook switch harness\* and speaker harness from the main PCB.

\*For models equipped with a handset

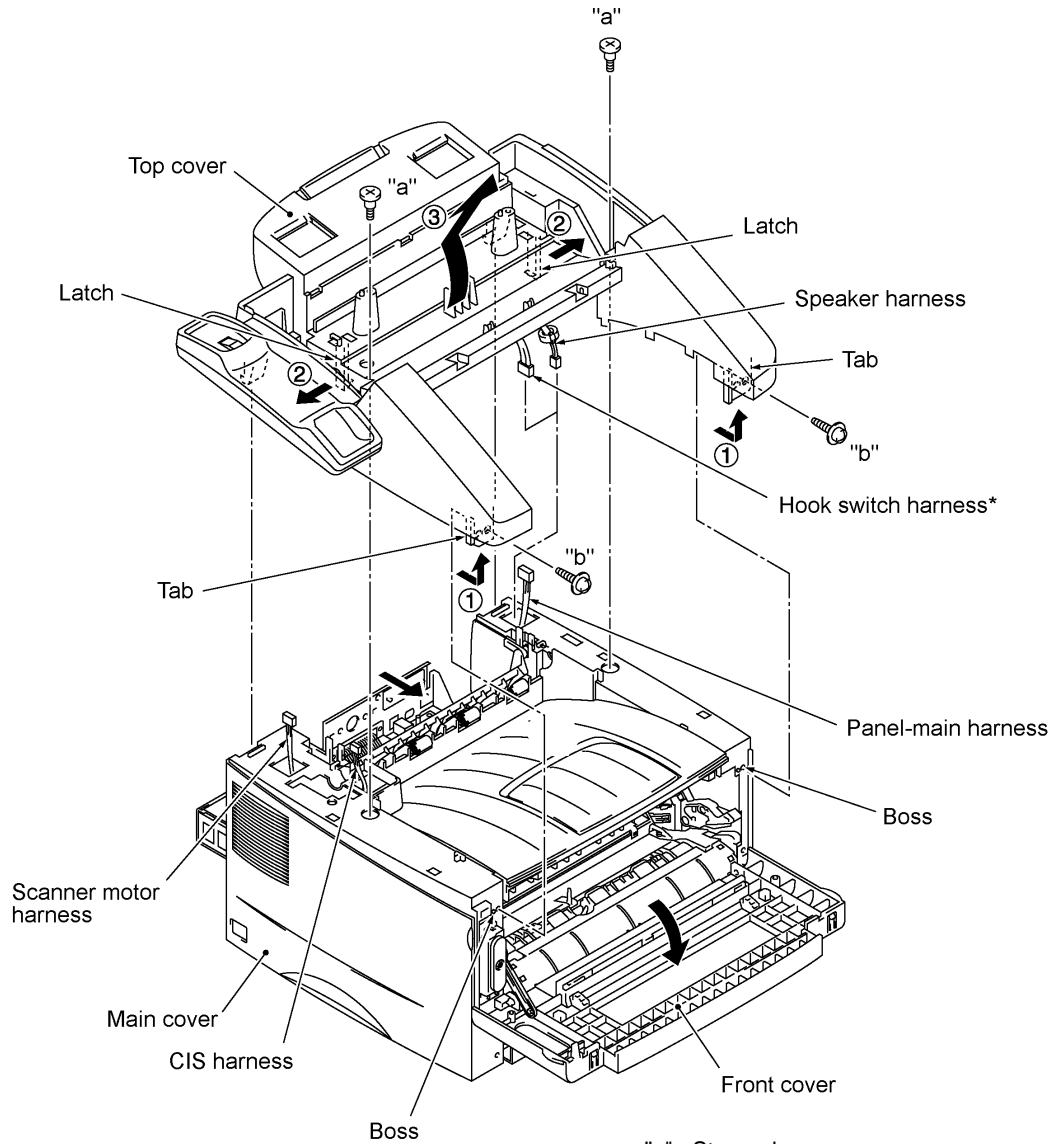


Routing the panel-main harness,  
hook switch harness\* and speaker harness

- (2) Remove the harness support rubbers to release the hook switch harness\*.
- (3) Release the scanner motor harness and CIS harness from the hooks provided on the top cover.



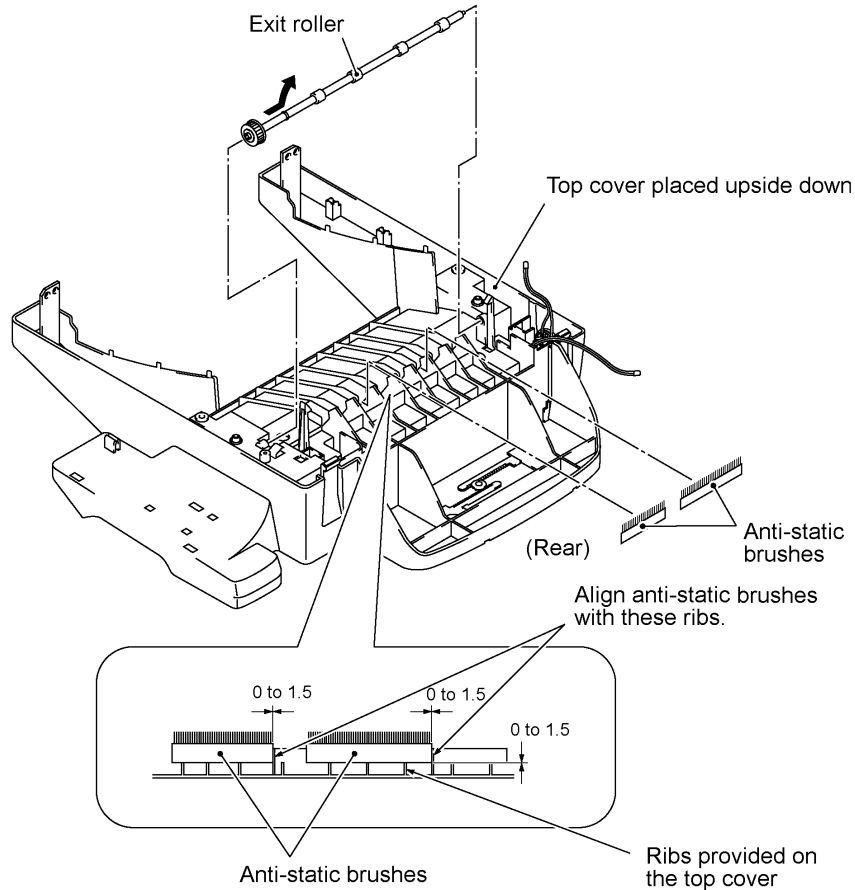
- (4) Remove two screws "a."
- (5) Open the front cover and remove two screws "b."
- (6) Pull the tabs of the top cover to the front and upwards (in the direction of arrows ) to release them from the bosses provided on the main cover.
- (7) Insert the tip of a flat screwdriver and unhook the latches of the top cover (in the direction of arrows ), then lift up the top cover (arrow ).



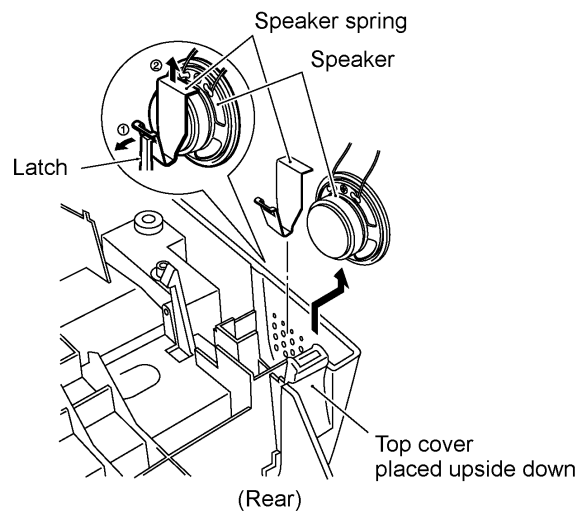
"a": Stepped screw  
 "b": Taptite, cup S M3x10

\*For models equipped with a handset

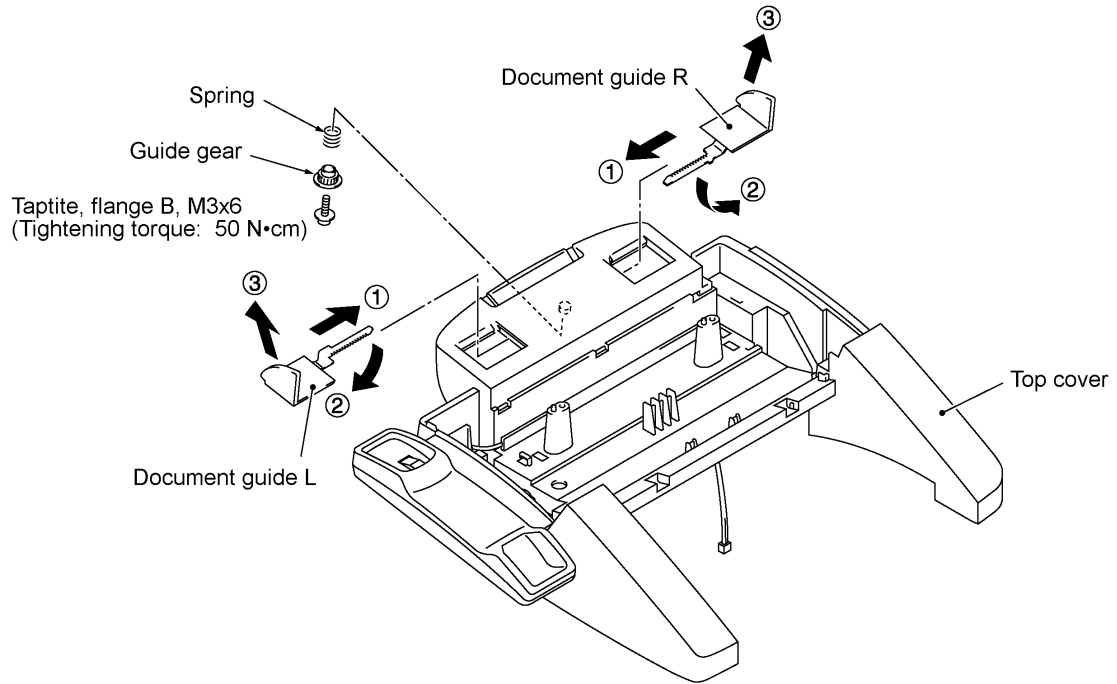
- (8) Turn the top cover upside down.
- (9) Peel off anti-static brushes.
- NOTE:** Once removed, they will become unusable and new parts will have to be put back in.
- (10) As shown below, warp the gear-equipped end of the exit roller and remove it.



- (11) Unhook the latch from the speaker spring and pull it up. (To make this easier, insert the tip of a flat screwdriver from the bottom of the top cover placed upside down.) Lift up the speaker.

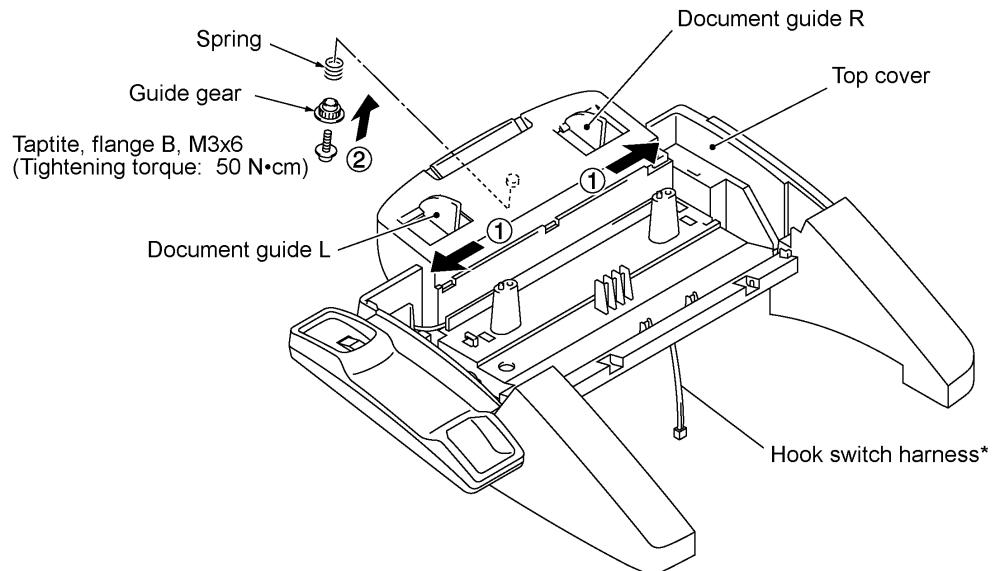


- (12) Remove the screw from the inside of the top cover, then remove the document guides L and R as shown below.



### Reassembling Notes

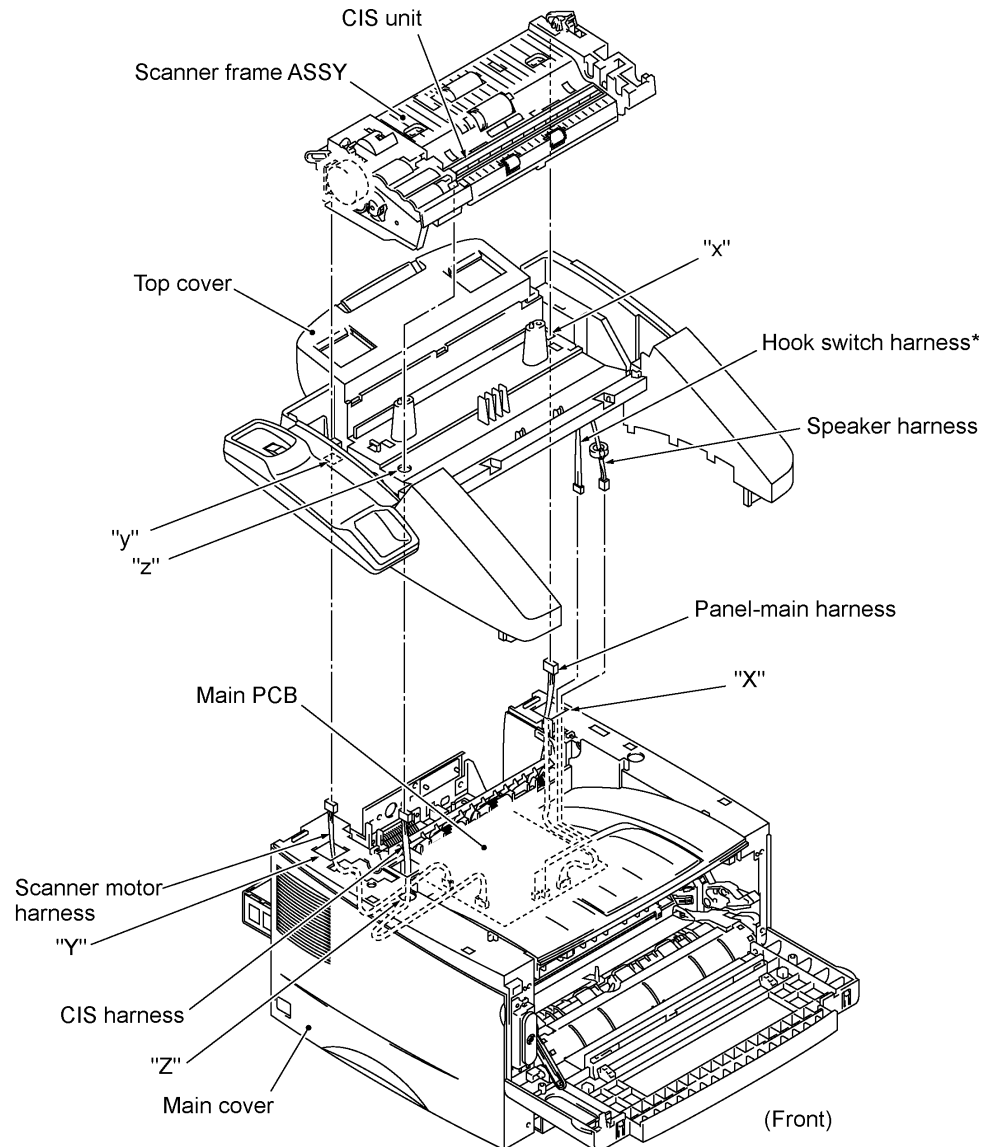
- When reinstalling the paper guides, set them into place, pull them outwards (in the direction of arrows 1), and then secure them with the spring, guide gear, and screw (arrow 2).



\*For models equipped with a handset

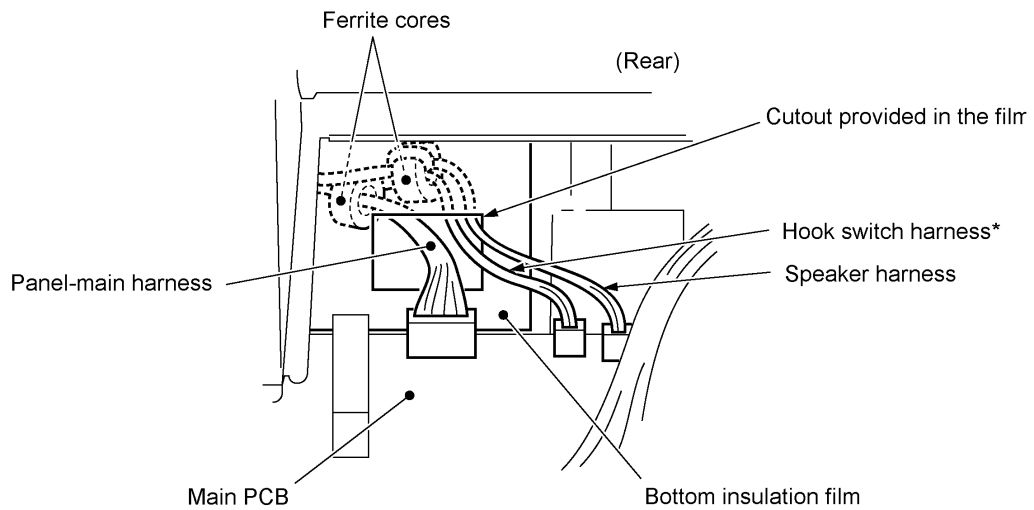
- When setting the top cover back into place:
  - at the right-hand side, put the speaker harness and hook switch harness\* into square cutout "X" provided in the right rear corner of the main cover. Raise the panel-main harness coming through the main cover up and through cutout "x" provided in the top cover (through which the hook switch harness\* passes).
  - If the panel-main harness has been taken out from the machine, first put it into square cutout "X" with the core-equipped end down and then raise its upper end up and through cutout "x" provided in the top cover.
  - at the left-hand side, pull up the scanner motor harness and CIS harness and raise them up and through square and round cutouts ("y" and "z") provided in the top cover, respectively.
  - If the scanner motor harness or CIS harness has been taken out from the machine, first put it into the respective cutout ("Y" or "Z") provided in the left rear corner of the main cover with the core-equipped end down and then raise its upper end up and through the respective cutout "y" or "z."

\*For models equipped with a handset



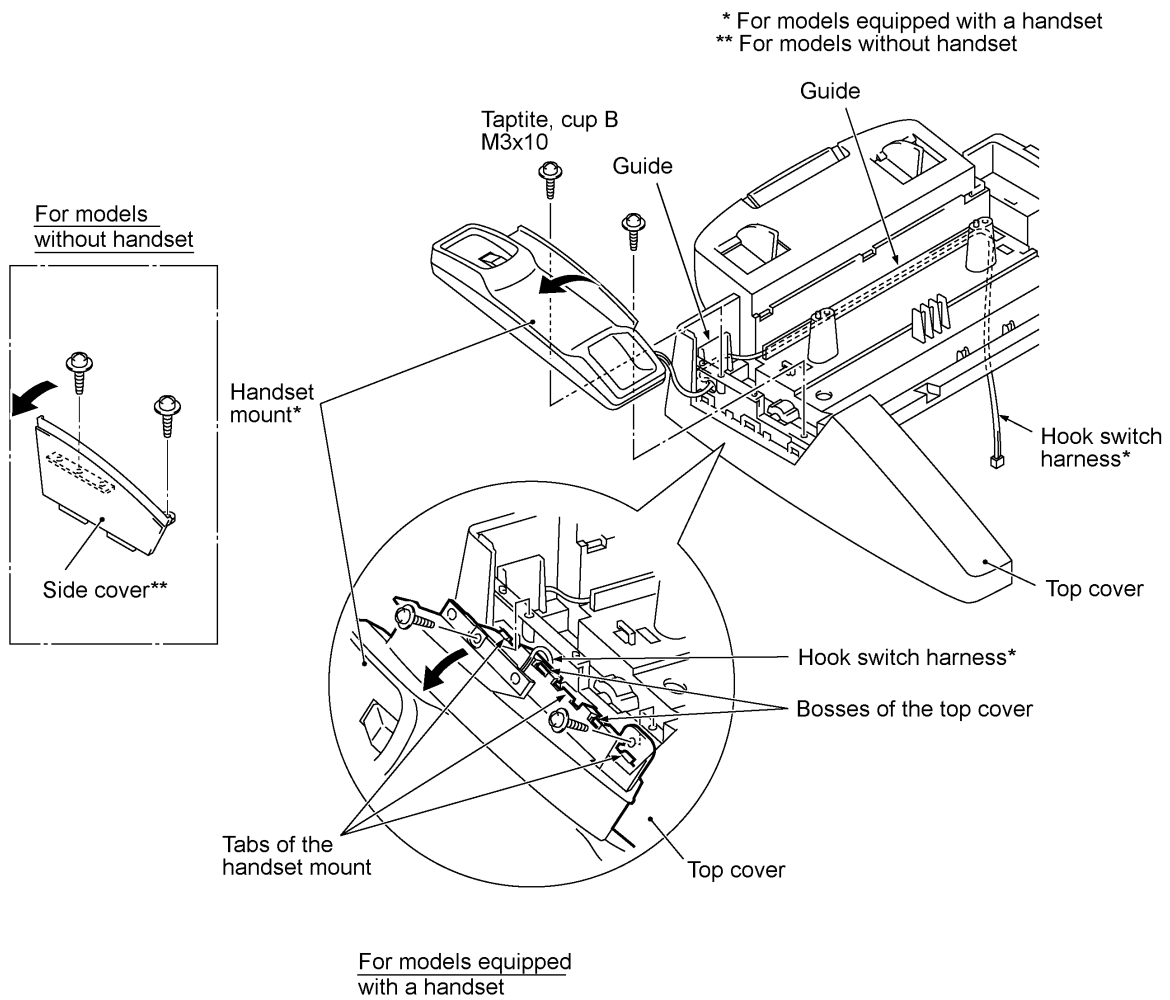


- When connecting the speaker harness and hook switch harness\* to the main PCB:
  - route the hook switch harness\* through the ferrite core of the speaker harness,
  - make sure that the panel-main harness, speaker harness, and hook switch harness\* are routed through the cutout provided in the bottom insulation film, and
  - make sure that the ferrite cores of the pane-main harness and speaker harness lie inside the bottom insulation film.



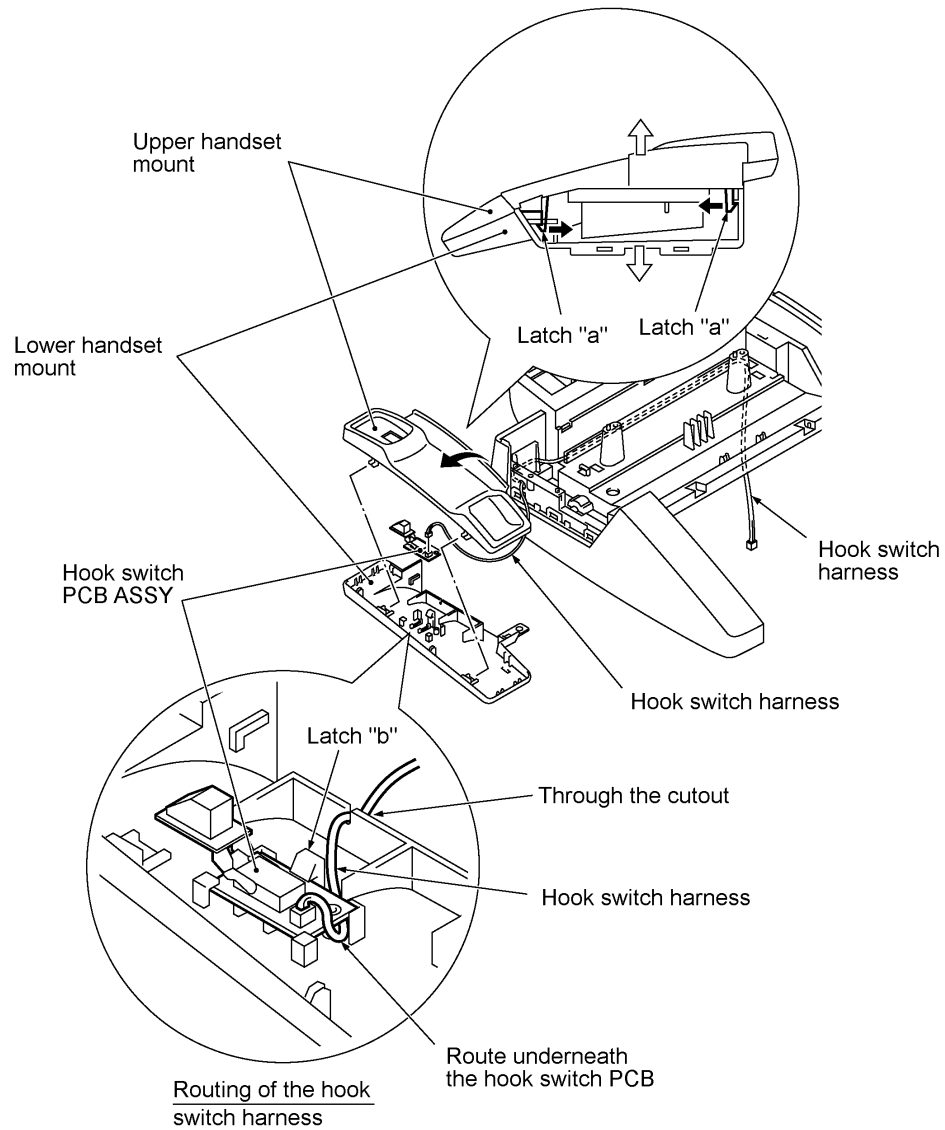
### 1.9 Handset Mount and Hook Switch PCB (for models equipped with a handset) Side Cover (for models without handset)

- (1) Remove the two screws from the handset mount\* or side cover\*\*.
- (2) Twist the handset mount\* or side cover\*\* so that it tilts over to the left and its upper end works out of the bosses provided on the top cover.



The following steps should apply to those models equipped with a handset:

- (3) Disassemble the handset mount by unhooking two latches "a" of the upper handset mount with a flat screwdriver.
- (4) Remove the hook switch PCB ASSY by unhooking latch "b."
- (5) Disconnect the hook switch harness from the hook switch PCB.

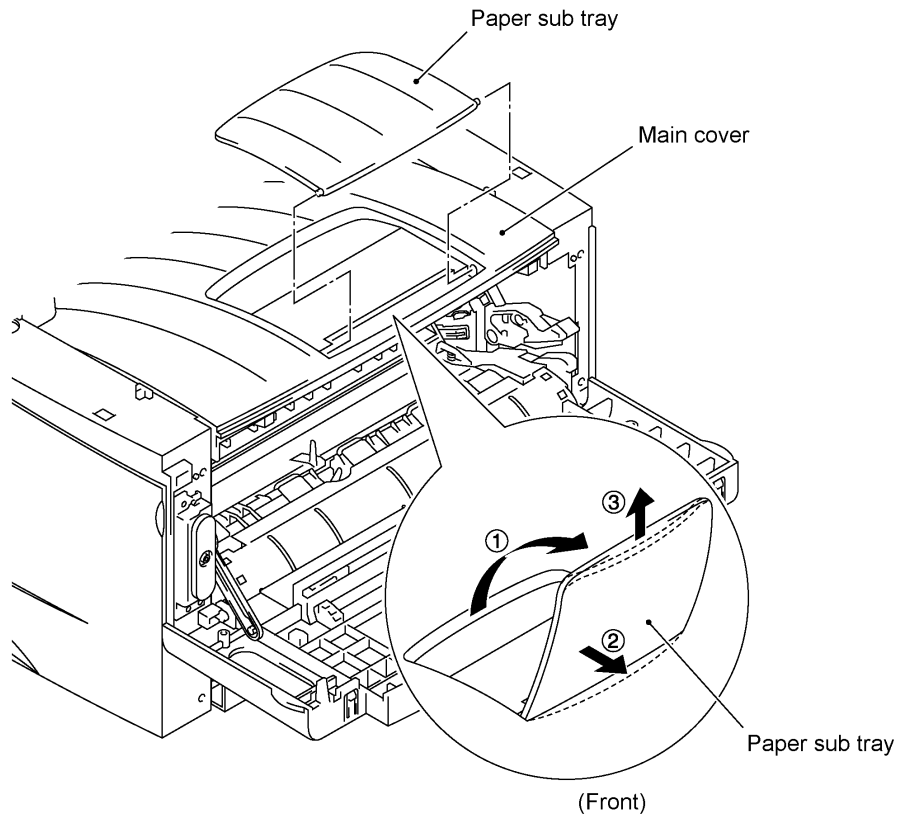


### Reassembling Notes

- When assembling the upper and lower handset mounts, route the hook switch harness underneath the hook switch PCB and through the cutout as shown above. Take care not to pinch the harness between the upper and lower mounts.
- Make sure that the hook switch harness is routed along the guides on the top cover.

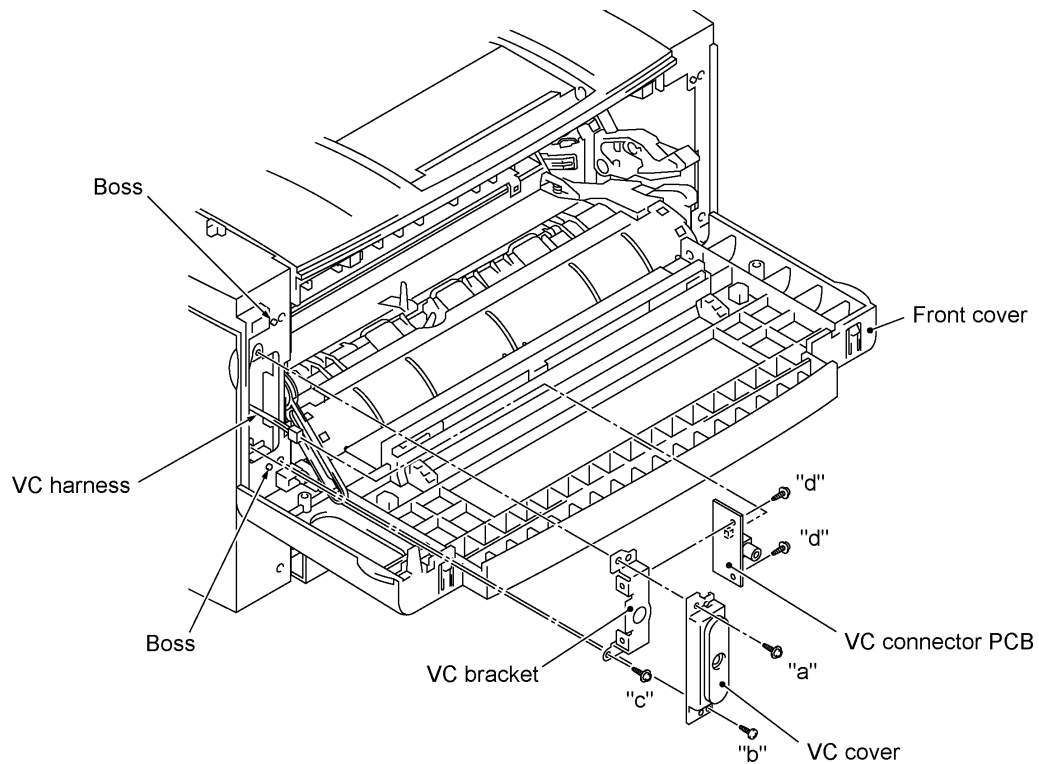
### 1.10 Paper Sub Tray

- (1) Turn the paper sub tray up (in the direction of arrow ).
- (2) Warp the sub tray and lift it up (arrows and ).



### 1.11 VC Cover, VC Bracket, and VC Connector PCB (for models supporting video capture)

- (1) Remove two screws ("a" and "b"), then take off the VC cover.
- (2) Remove screw "c," take out the VC bracket together with the VC connector PCB, and disconnect the VC harness.
- (3) Remove two screws "d," then take off the VC connector PCB.



"a": Taptite, cup S M3x10  
"b": Taptite, blind S M3x8  
"c" and "d": Taptite, cup S M3x6

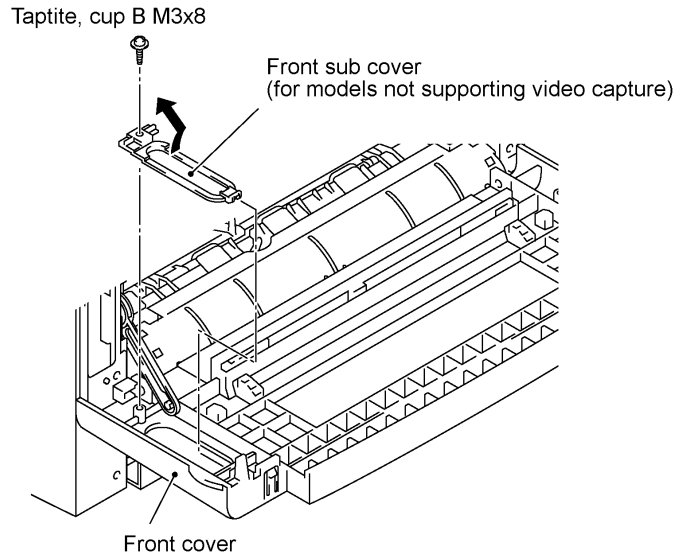
#### Reassembling Notes

- The routing of the VC harness is shown on page IV-27.

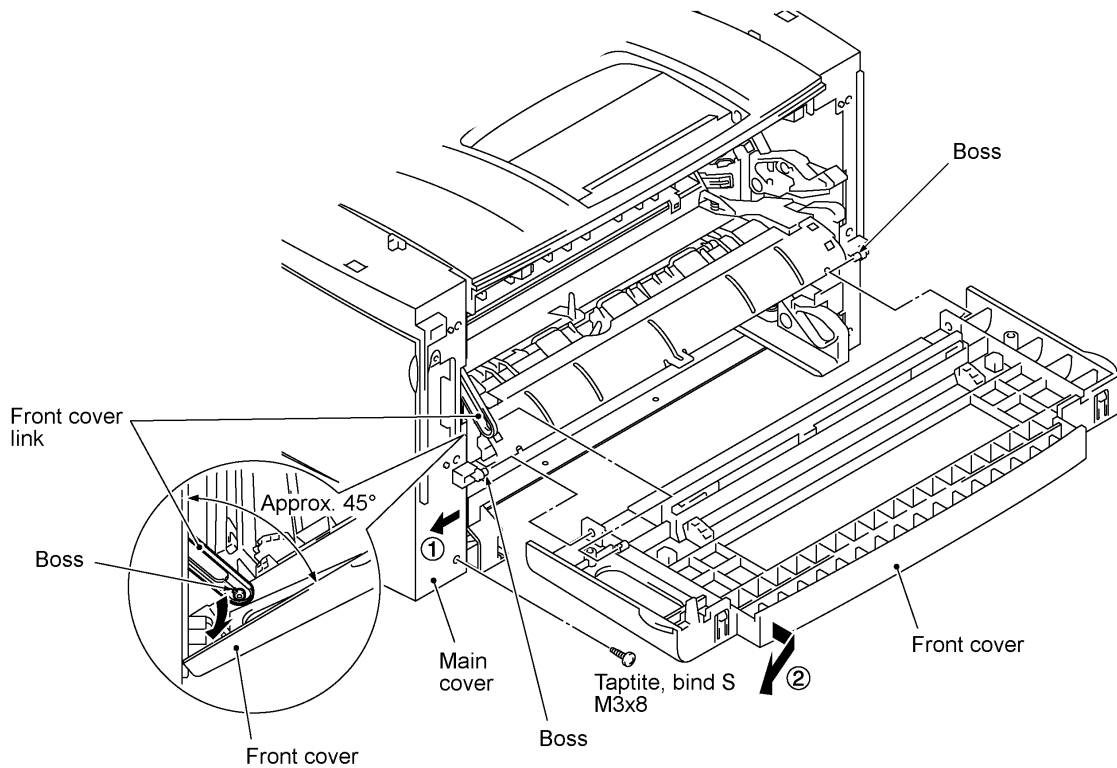
## 1.12 Front Cover

### Front Sub Cover (for models not supporting video capture)

- (1) For models not supporting video capture:  
Remove the screw and take off the front sub cover from the front cover.

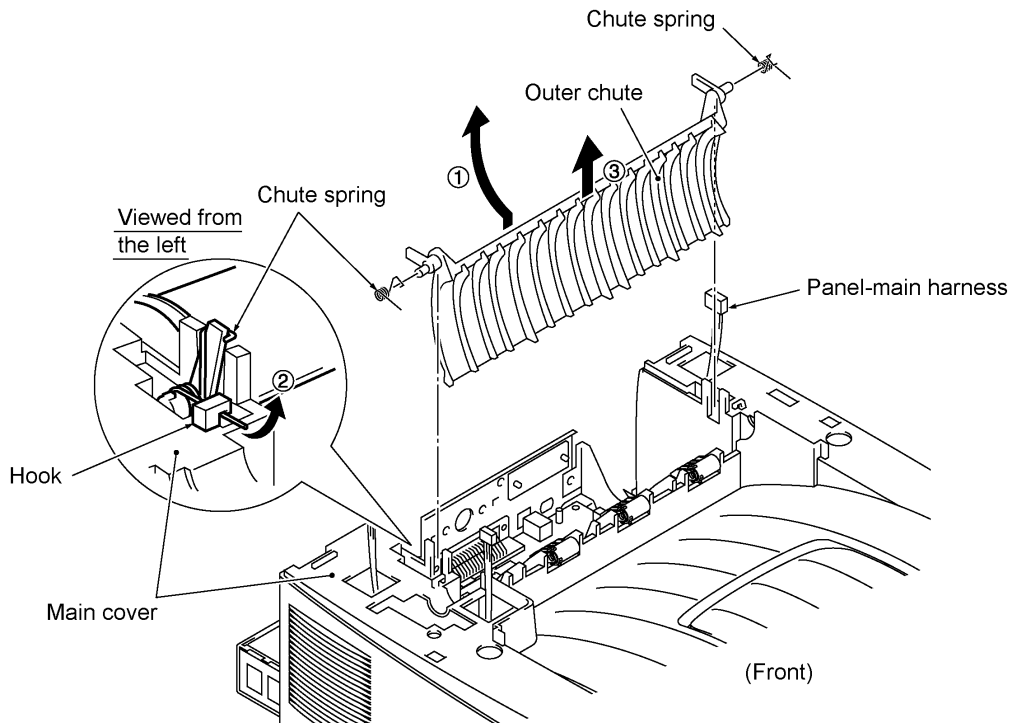


- (2) Remove the screw from the left bottom of the front side of the main cover.
- (3) Hold the front cover at an angle of 45° and pull the front cover link to the left to release it from the front cover.
- (4) Pull the bottom left front corner of the main cover to the left (in the direction of arrow ) and release the front cover from the boss provided on the main cover (arrow ).

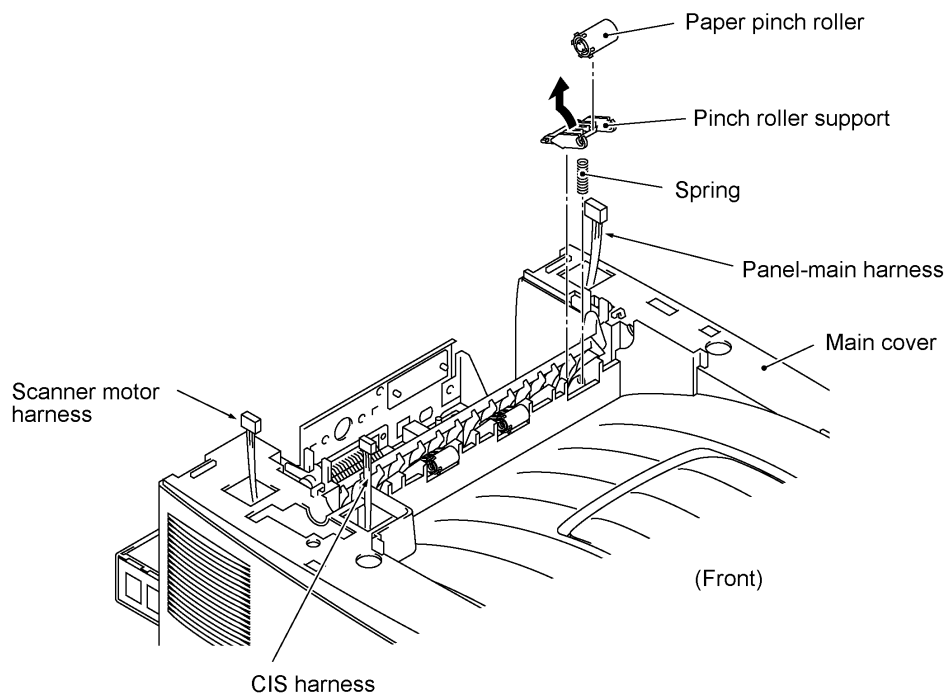


### 1.13 Outer Chute and Paper Pinch Rollers

- (1) Pull up the outer chute and open it (in the direction of arrow ).
- (2) Remove the chute springs from the hooks provided on the main cover (arrow ), then lift up the outer chute (arrow ).

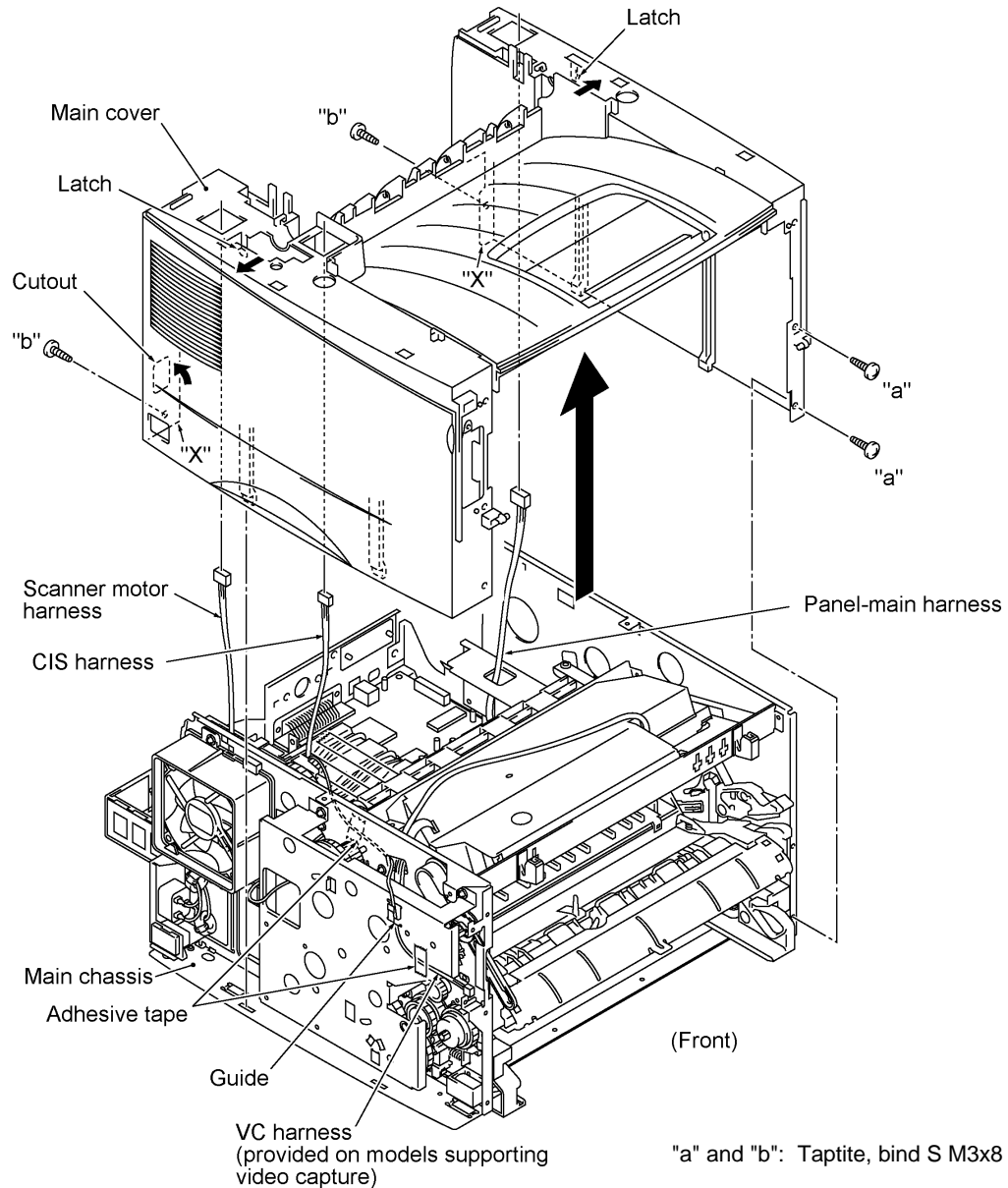


- (3) Remove the paper pinch rollers, their supports, and their springs.



## 1.14 Main Cover

- (1) Remove two screws "a" from the front side of the main cover.
- (2) Remove two screws "b" from the rear side of the main cover, and then pull corner edges "X" outwards to dislocate the main cover from the main chassis. Make sure that the cutout provided in the main cover is dislocated from the power inlet.
- (3) Unhook the two latches with the tip of a flat screwdriver, then lift up the main cover.



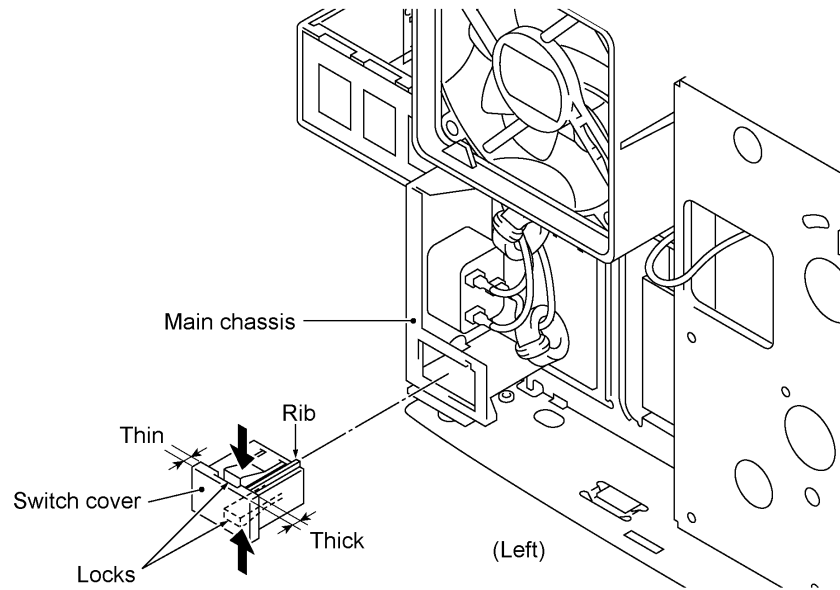
### Reassembling Notes

- When reinstalling the main cover, route the panel-main harness, CIS harness, and scanner motor harness through the respective cutouts provided in the main cover, as illustrated above.



### 1.15 Switch Cover

- (1) Push the locks of the switch cover as shown below and remove it.

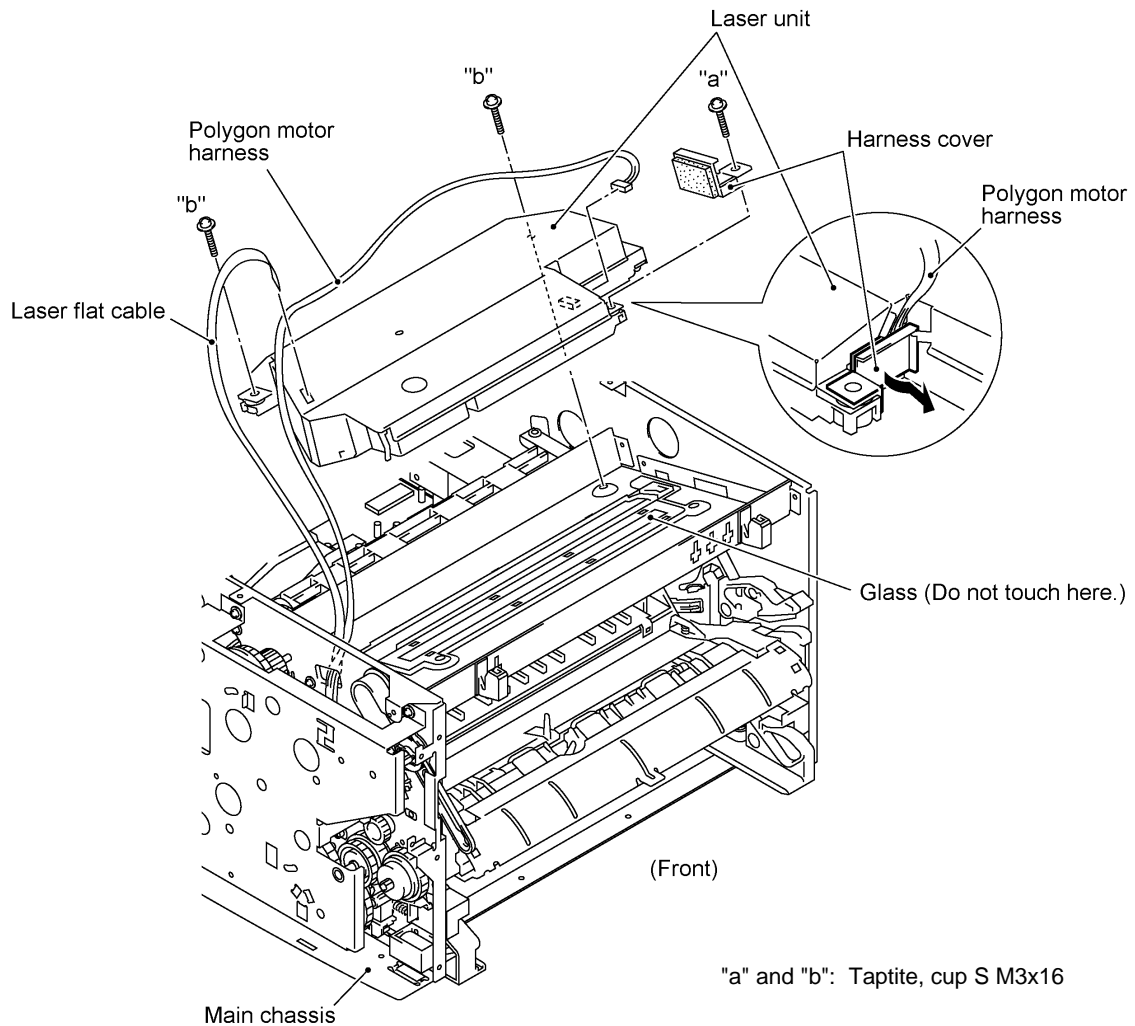


## 1.16 Laser Unit

- (1) Remove screw "a" and take off the harness cover.
- (2) Remove two screws "b."
- (3) Disconnect the polygon motor harness and laser flat cable from the laser unit.
- (4) Lift up the laser unit.

**NOTE:** When handling the laser unit, take care not to touch the inside of the unit, glass, or mirror.

**NOTE:** On the small PCB in the laser unit is a 2-pin connector which is for the adjustment in the factory. Do not disturb it.



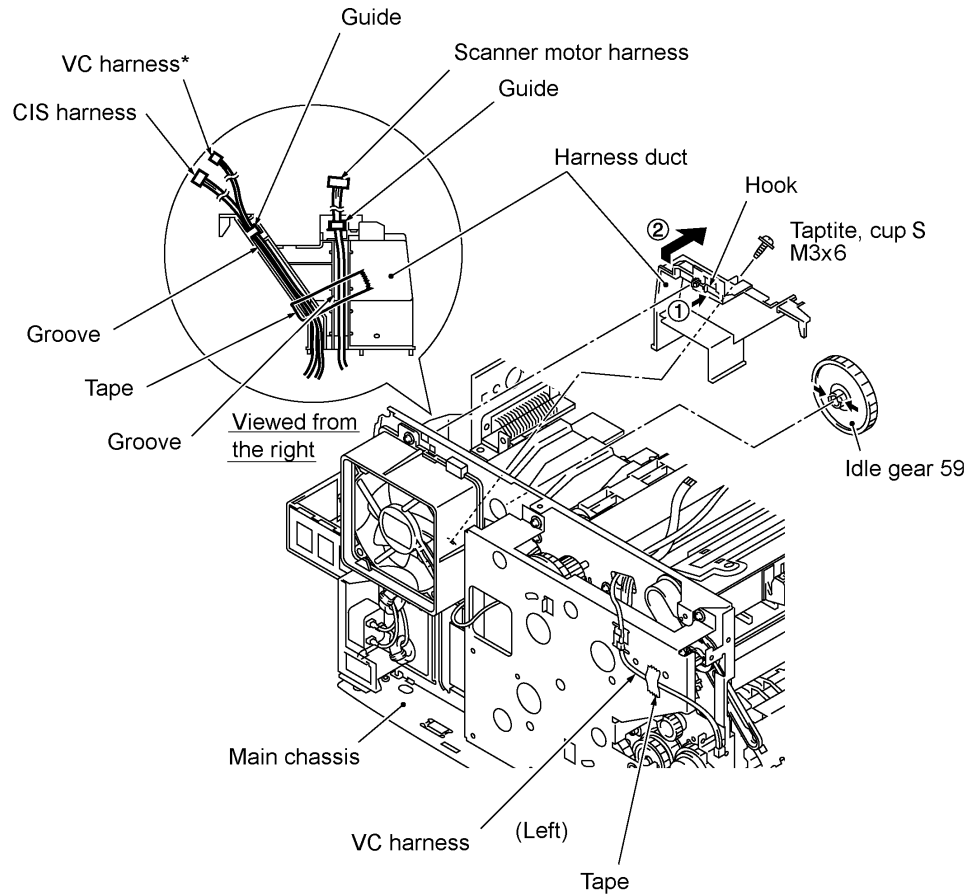
### Reassembling Notes

- Before putting the laser unit back into place, check for any toner particles, paper dust or dirt, and clean them out.

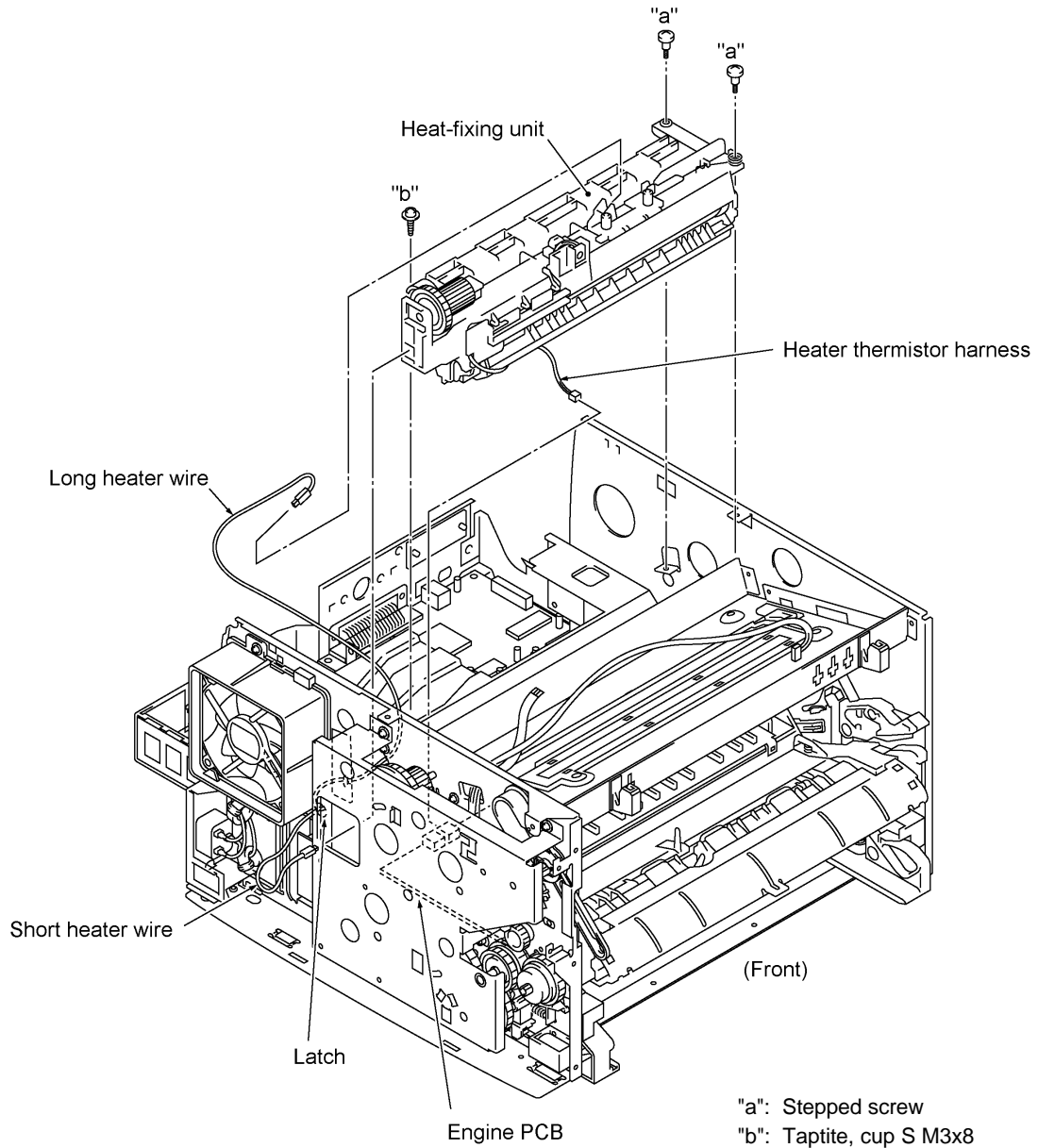
### 1.17 Heat-fixing Unit and FU Lamp

- (1) Remove the screw from the harness duct.
- (2) Peel off tape and take off the scanner motor harness, CIS harness, and VC harness\* from the harness duct.
- (3) Unhook the harness duct from the main chassis in the directions of arrows and .

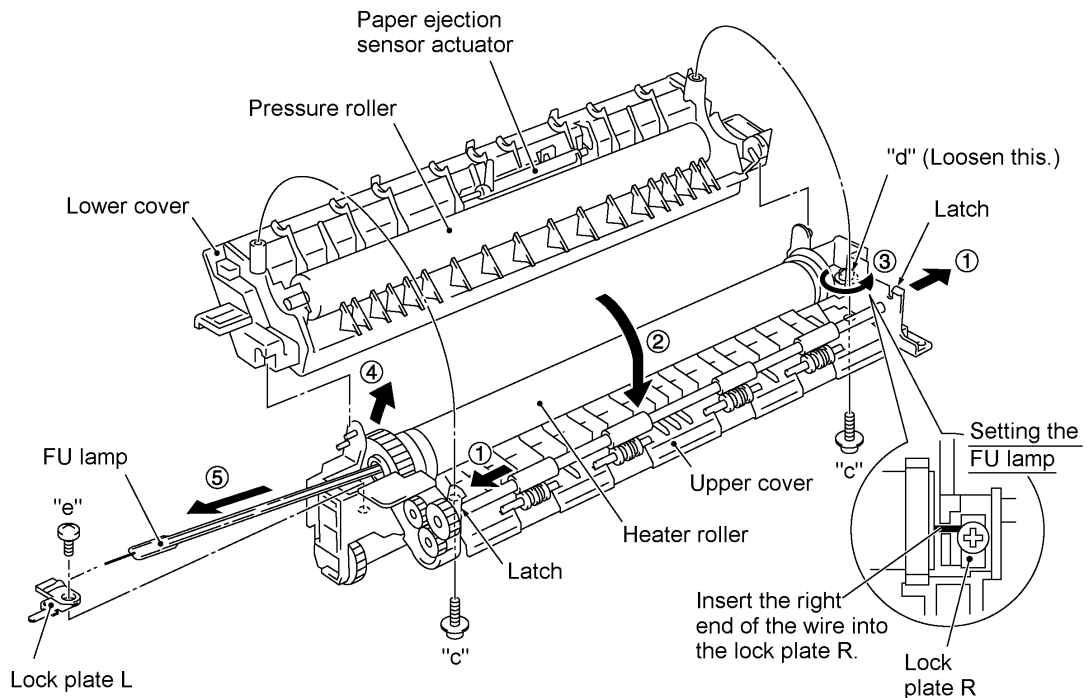
\*Provided on models supporting video capture



- (4) Remove three screws (two "a" and one "b").
- (5) Disconnect the long heater wire (of the heater harness) from the upper center of the heat-fixing unit.
- (6) Disconnect the short heater wire (of the heater harness) from the left end of the heat-fixing unit.
- (7) Lift up the heat-fixing unit and disconnect the heater thermistor harness from the engine PCB.



- (8) To take out the FU lamp from the heat-fixing unit, remove two screws "c."
  - (9) Unhook the two latches outwards (in the direction of arrows ) with the tip of a flat screwdriver and open the upper cover (arrow ). The upper and lower covers will become separated from each other.
  - (10) Loosen screw "d" (arrow ).
  - (11) Remove screw "e," slightly lift up the heater roller gear (arrow ), hold the lock plate L of the FU lamp between your fingers, and pull out the FU lamp from the heater roller (arrow ).
- CAUTION:** Do not touch the FU lamp. If you have touched it, clean it thoroughly with alcohol.

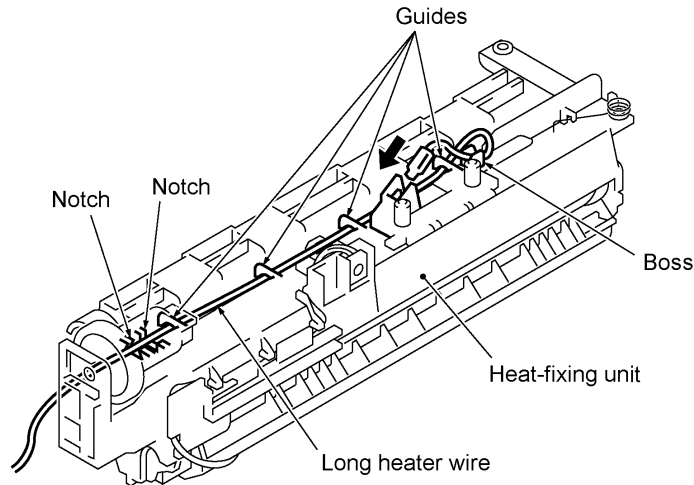


"c": Taptite, cup B M3x20  
 "d": Pan cup M3x6  
 "e": Taptite, pan M3x10DB

### Reassembling Notes

- When setting the FU lamp into the heat-fixing unit, be sure to insert the right edge of the wire into the lock plate R as illustrated above.

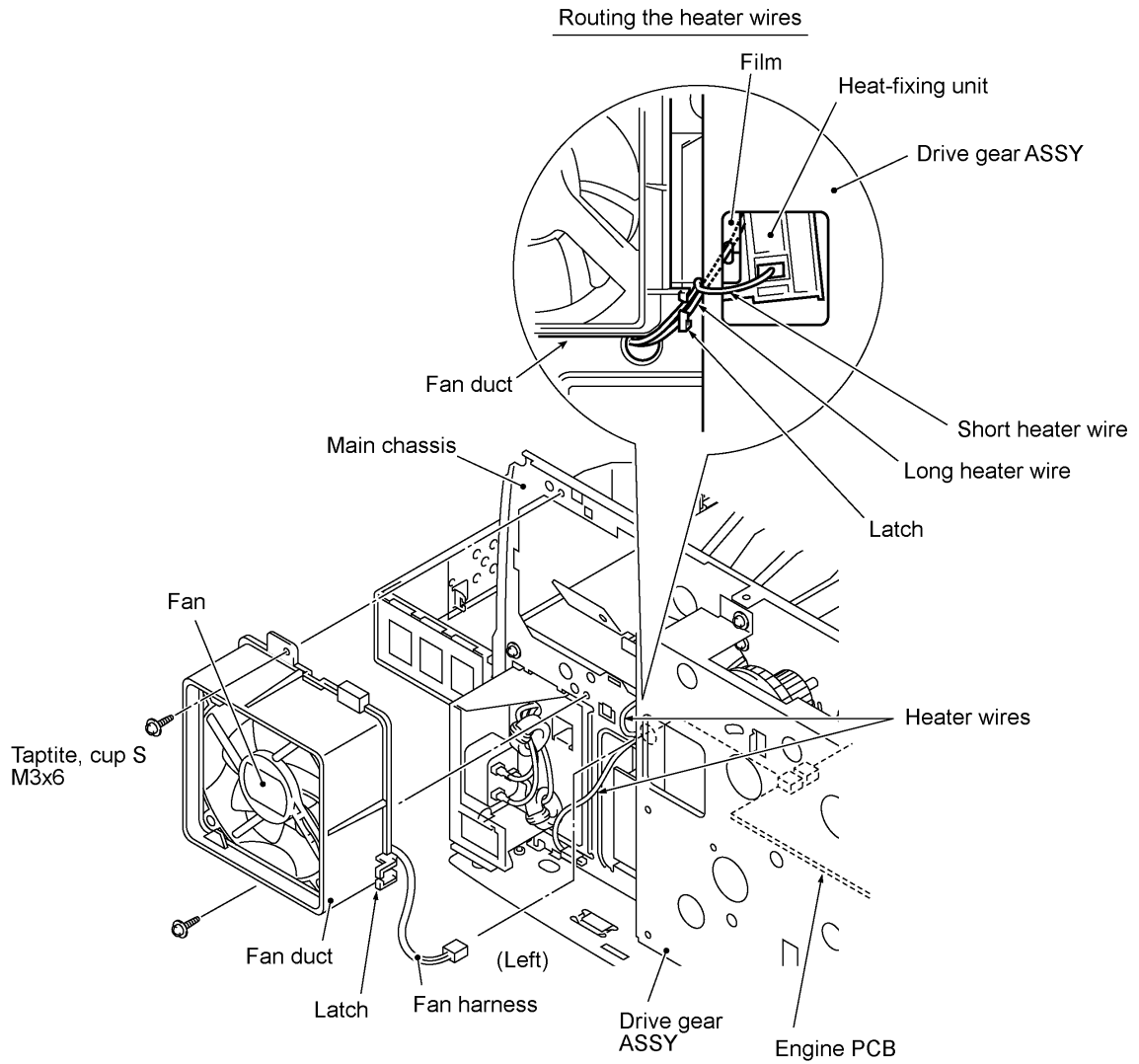
- A new heat-fixing unit will be provided with the heater thermistor harness being taped to the unit. Before installing the unit, remove the tape.
- When setting the heat-fixing unit back into place, make sure that the heater wires are routed through the latch of the fan duct (see the illustration given on page IV-34) and then route the long heater wire as shown below.



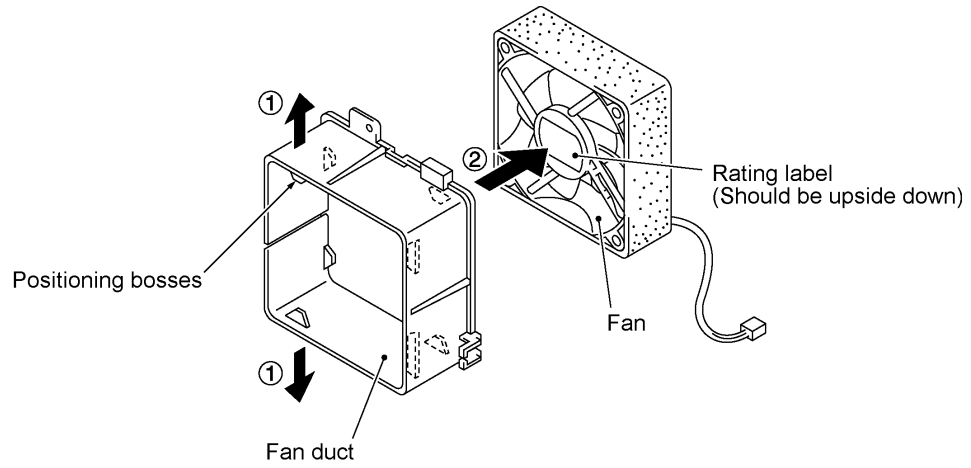
- If you remove and reinstall the heat-fixing unit because of any failure, make the equipment enter the maintenance mode (by pressing the **Function/Menu**, \* **2**, **8**, **6**, and **4** keys) after completion of reassembly and then make it exit from the mode (by pressing the **9** key twice). Otherwise, the heat-fixing unit may not become energized because of the following reason:  
 If the failure of the heat-fixing unit is caused by an opening of the thermistor circuit (that senses the temperature of the heat-fixing unit), the system misinterprets the hot heater as being cold. As a result, the temperature of the heat-fixing unit may become excessively high. To prevent the system from heating the hot heater further at the next powering-on, it is designed so that the heater will not be energized. To cancel this setting, you need to carry out the above maintenance-mode procedure.

## 1.18 Fan

- (1) Disconnect the fan harness from the engine PCB.
- (2) Remove two screws, take out the heater wires from the latch of the fan duct, and take off the fan duct together with the fan.



(3) As shown below, pull the fan duct outwards and take out the fan.



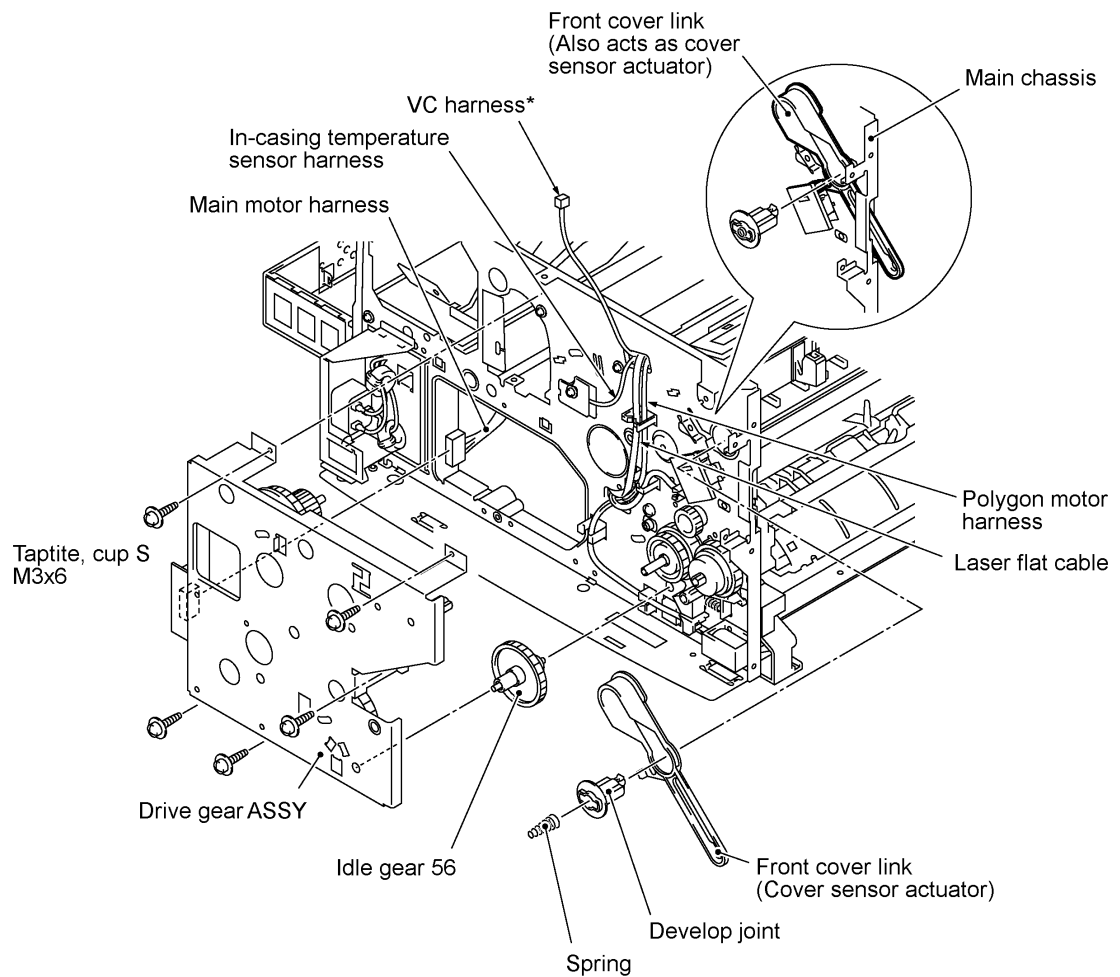
#### Reassembling Notes

- Put the fan back into place so that the rating label faces outwards and upside down.
- Route the heater wires through the latch of the fan duct as shown on the previous page.



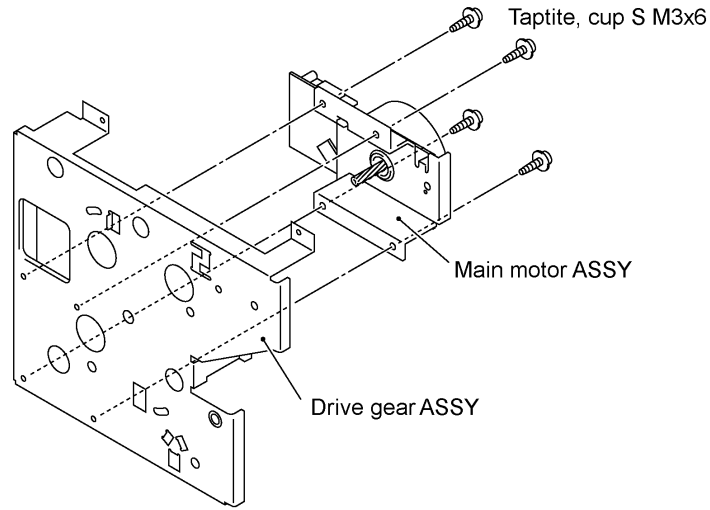
### 1.19 Drive Gear ASSY and Main Motor ASSY

- (1) Remove five screws from the drive gear ASSY.
- (2) Tilt the drive gear ASSY towards you while taking care not to drop the develop joint and spring, and then disconnect the main motor harness.
- (3) Remove the front cover link and idle gear 56 from the main chassis.



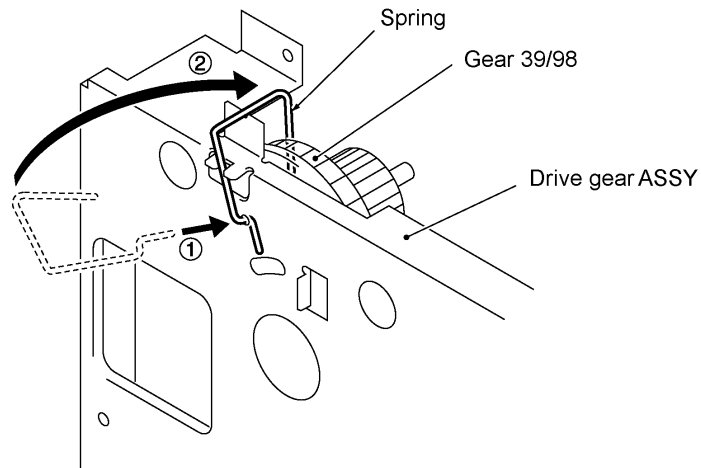
\*Provided on models supporting video capture

(4) Remove four screws and take off the main motor ASSY from the drive gear ASSY.



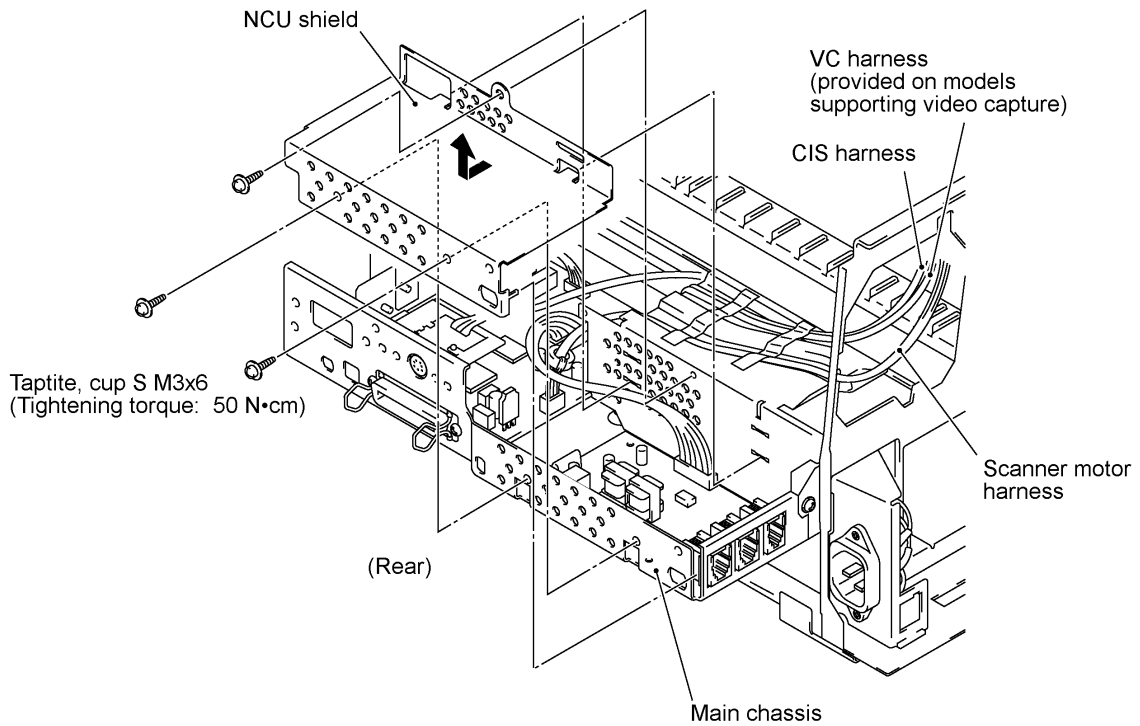
### Reassembling Notes

- If you have removed the gear 39/98 from the drive gear ASSY, hook the spring as shown below.

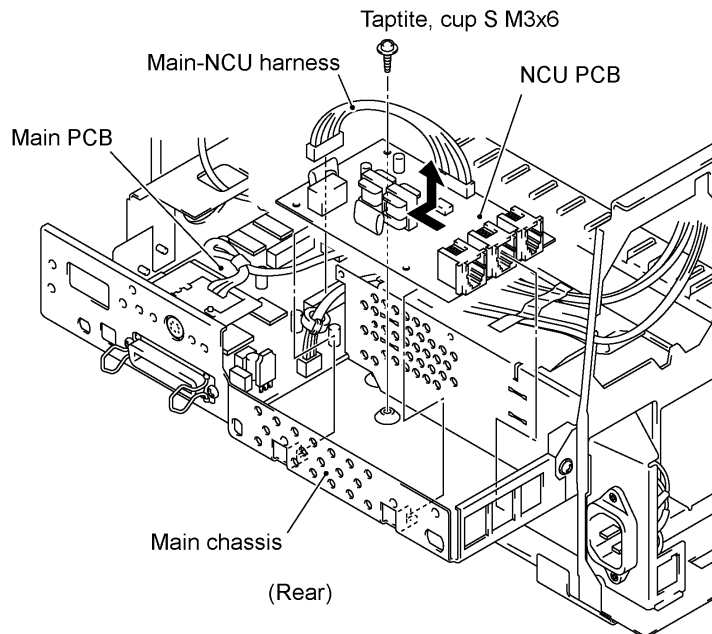


## 1.20 NCU Shield and NCU PCB

- (1) Remove three screws from the NCU shield, then take off the NCU shield.

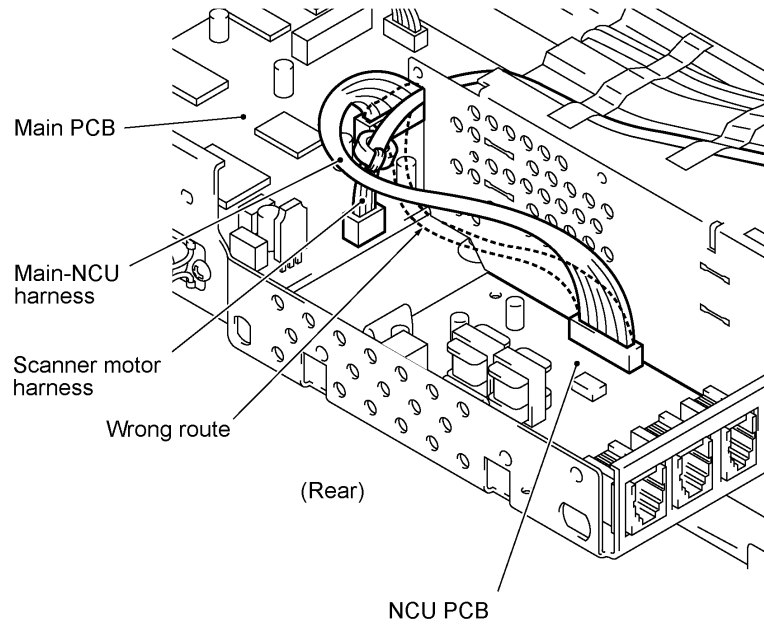


- (2) Disconnect the main-NCU harness from the main PCB.
- (3) Remove the screw from the NCU PCB and take out the PCB.



## Reassembling Notes

- Route the main-NCU harness above the scanner motor harness as illustrated below.



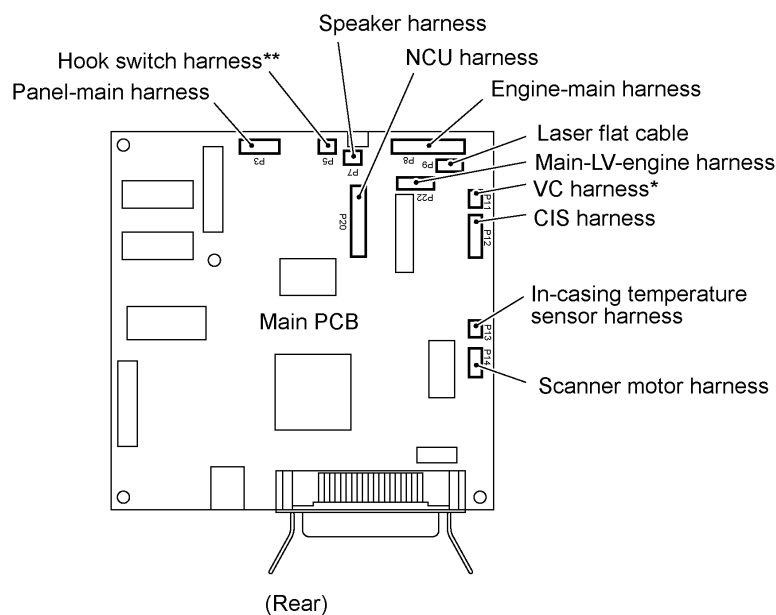
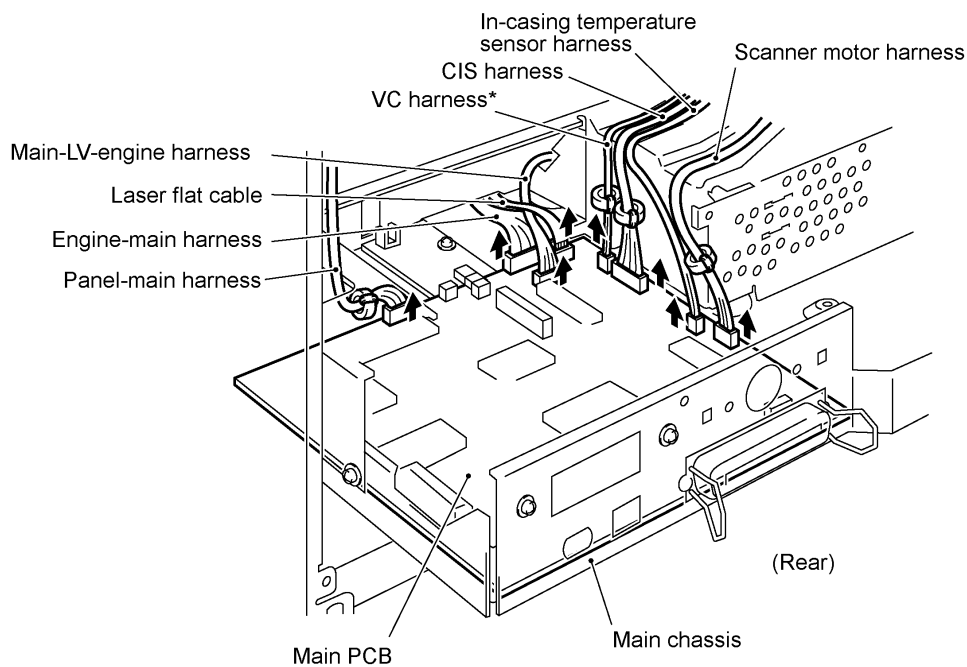
## 1.21 Bottom Plate, Main PCB, and Bottom Insulation Film

(1) Disconnect the following harnesses and flat cable from the main PCB:

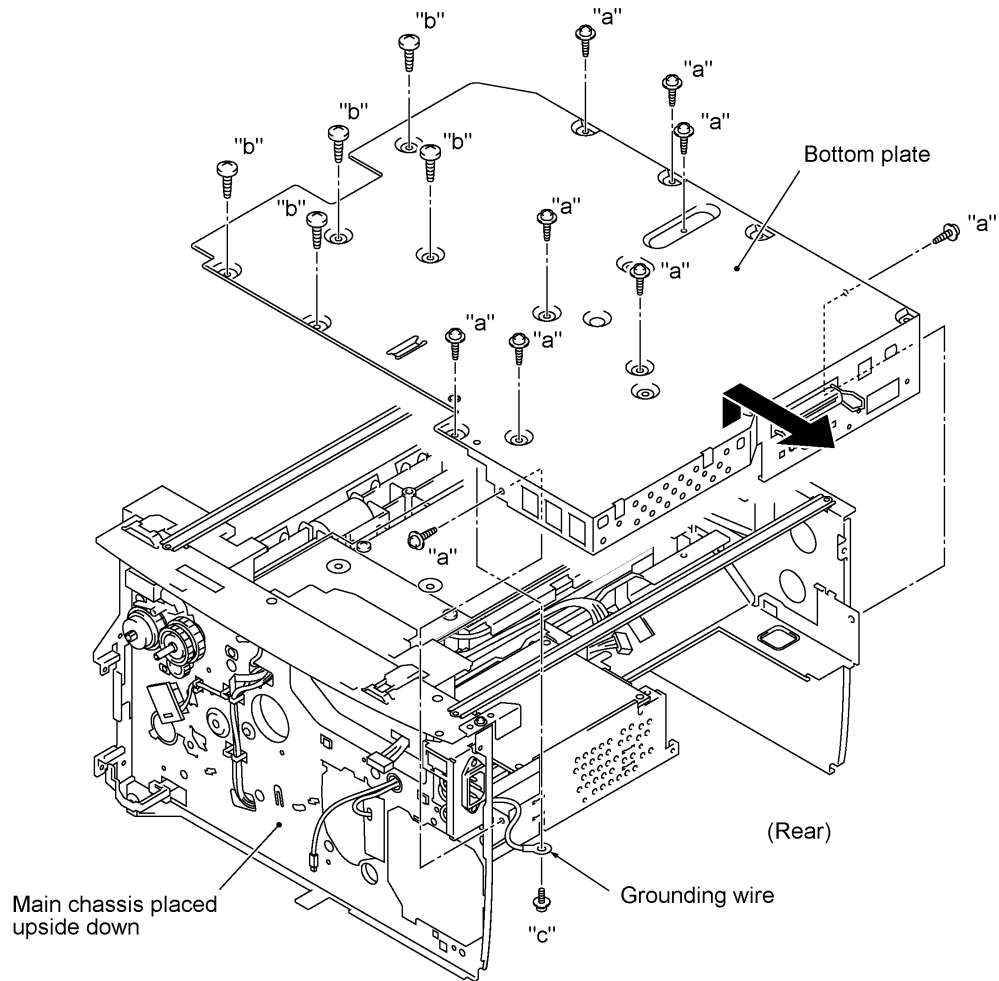
- Panel-main harness (6-pin, P3)
- Main-LV-engine harness (6-pin, P22)
- Laser flat cable (P9)
- Engine-main harness (12-pin, P8)
- VC harness\* (2-pin, P11)
- CIS harness (7-pin, P12)
- In-casing temperature sensor harness (2-pin, P13)
- Scanner motor harness (4-pin, P14)

\*Provided on models supporting video capture

\*\*Provided on models equipped with a handset

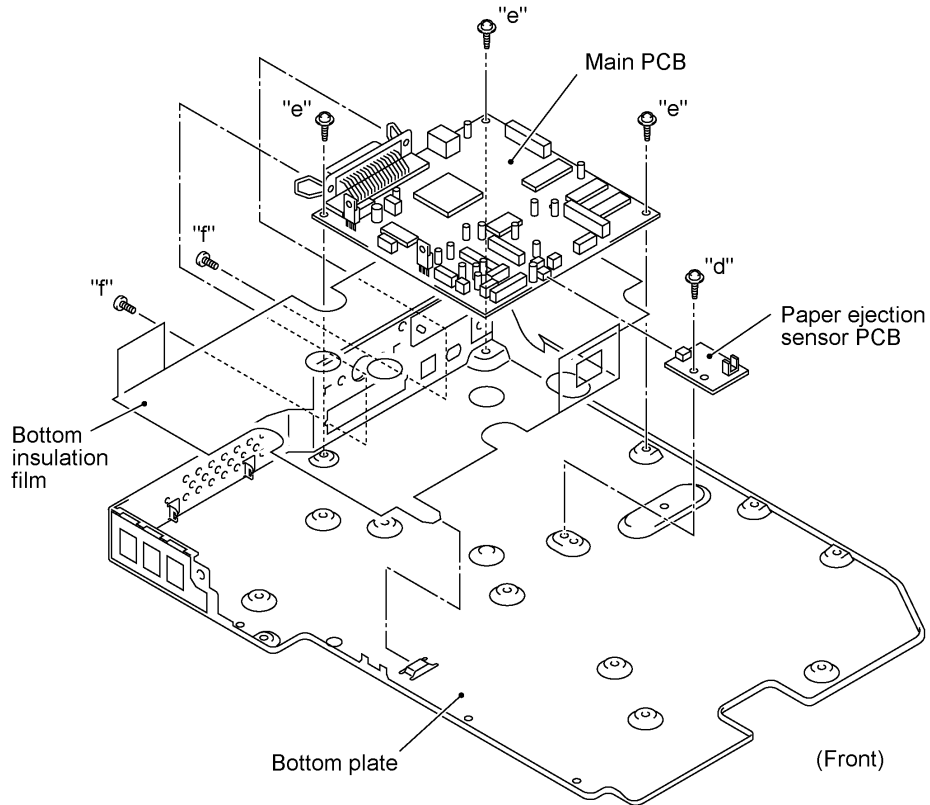


- (2) Turn the main chassis upside down.
- (3) Remove 14 screws (nine "a" and five "b").
- (4) Slightly lift up the bottom plate and pull it to the rear until you can remove screw "c."
- (5) Remove screw "c" to release the grounding wire.
- (6) For models available with a 2nd paper cassette: Unhook the 2nd cassette relay PCB bracket from the bottom plate.
- (7) Pull the bottom plate to the rear and out of the main chassis.



- "a": Taptite cup S M3x6
- "b": Taptite, bind B M4x10
- "c": Screw, pan (washer) M3.5x6

- (8) Remove screw "d" and disconnect the paper ejection sensor PCB from the main PCB.
- (9) Remove five screws (three "e" and two "f"), then take off the main PCB from the bottom plate.
- (10) Remove the bottom insulation film.

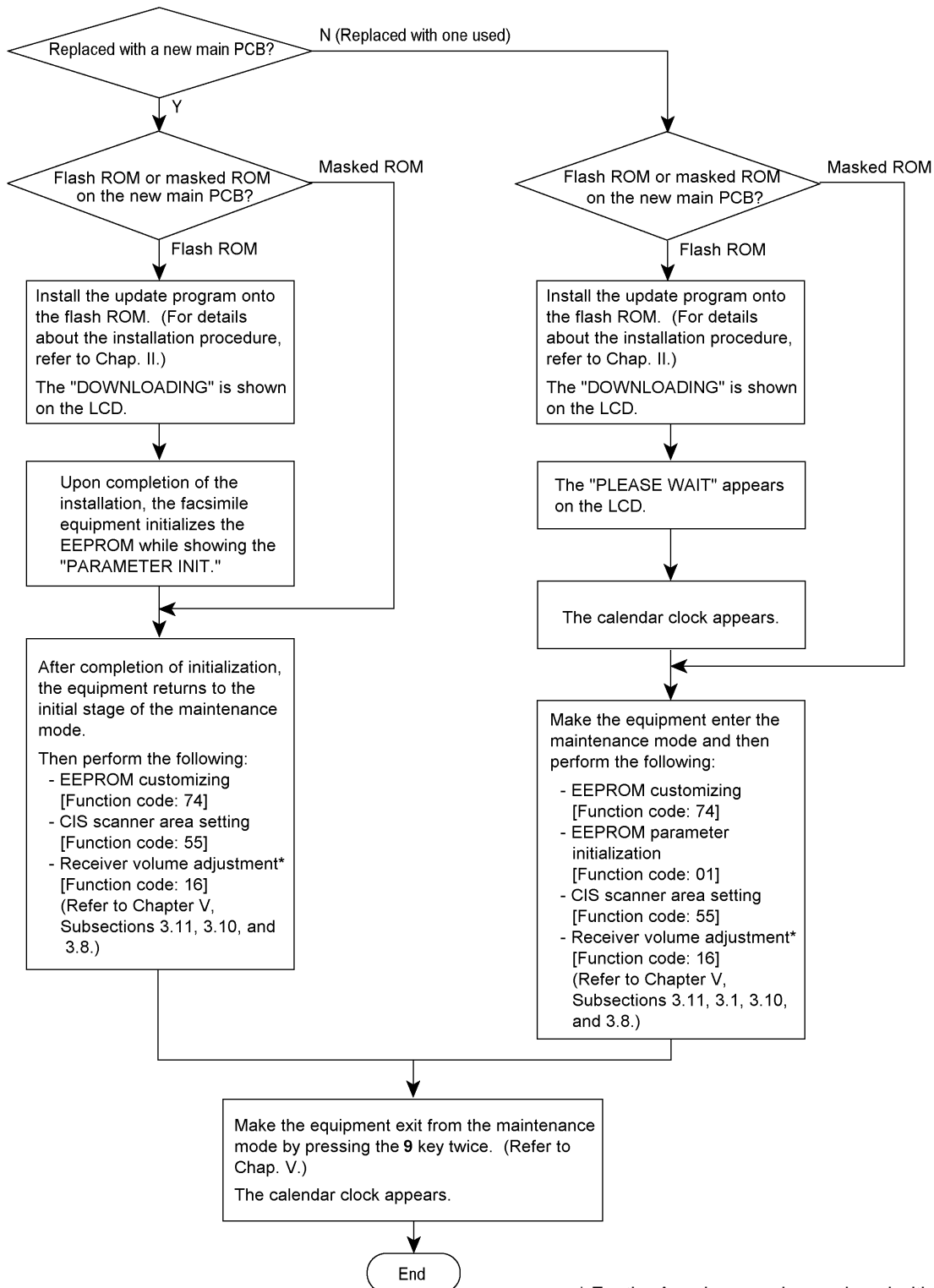


"d" and "e": Taptite, cup S M3x6  
 "f": Machine screw, pan M3x6

### **Reassembling Notes**

- When putting the bottom plate back into place, make sure that the grounding wire is looped and routed through the support film (as illustrated on page IV-44) and then secure the grounding wire to the bottom plate with screw "c" (shown on the previous page).
- After you replace the main PCB, be sure to follow the flowchart given on the next page.

## Setting up the main PCB after replacement

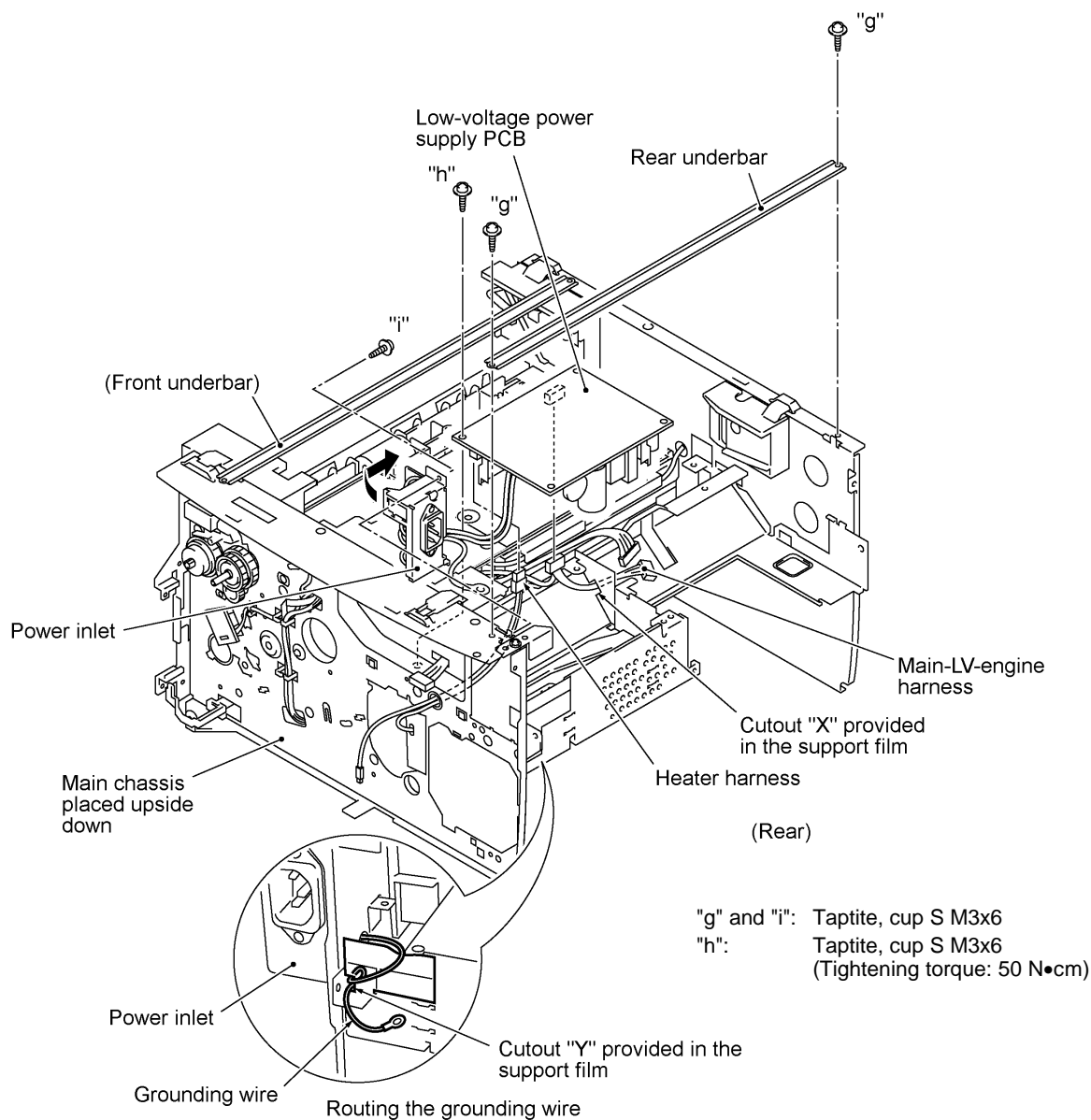


\* For the American version equipped with a handset.



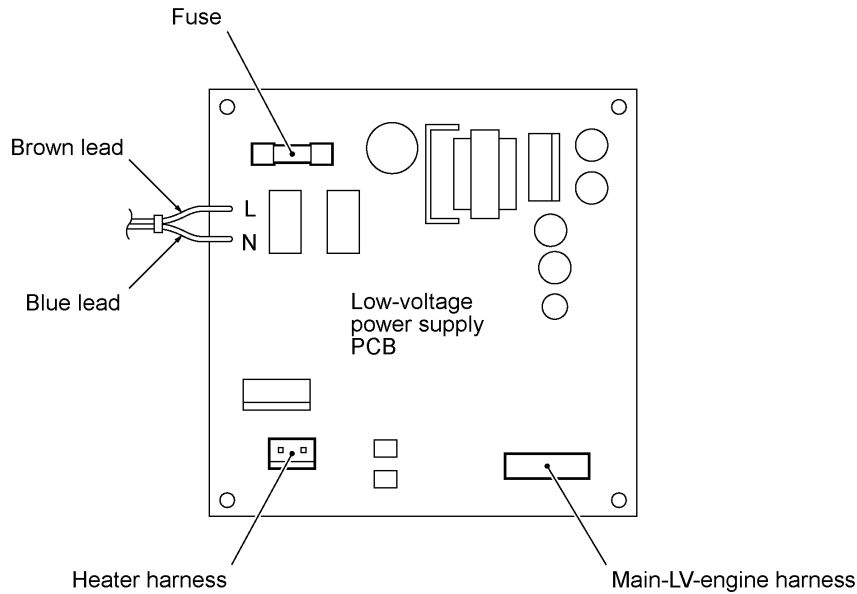
## 1.22 Low-voltage Power Supply PCB and Power Inlet

- (1) Remove two screws "g" and take off the rear underbar.
- (2) Remove screw "h."
- (3) Slightly lift up the low-voltage power supply PCB and disconnect the heater harness and main-LV-engine harness. The low-voltage power supply PCB is connected to the power inlet with soldered lead wires.
- (4) Remove screw "i."
- (5) While holding up the low-voltage power supply PCB, take out the power inlet from the main chassis to the inside in the direction of the arrow shown below.
- (6) To separate the power inlet from the low-voltage power supply PCB, unsolder the two lead wires from the PCB.



## Reassembling Notes

- When connecting the power inlet to the low-voltage power supply PCB, insert the brown and blue lead wires into eyelets L and N in the PCB, and then solder those wires on the solder side of the PCB.

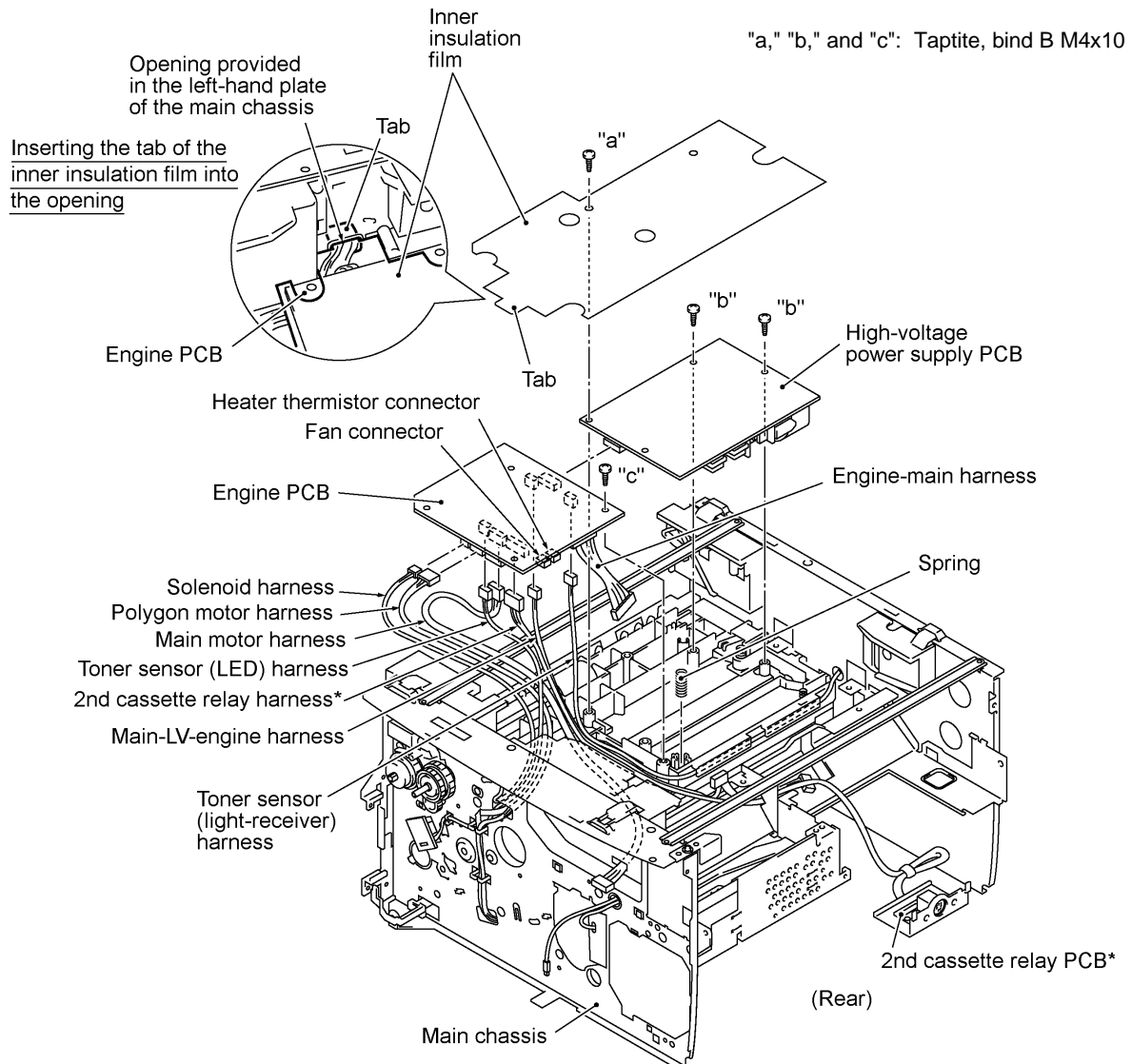


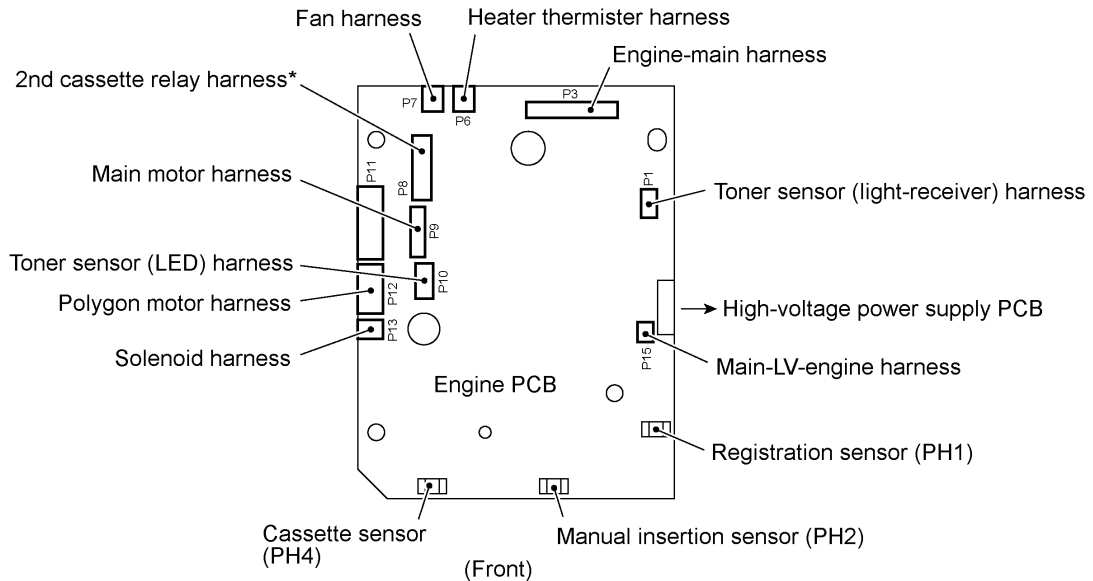
- After setting the power inlet back into place, fold the grounding wire into two and route the fold through cutout "Y" provided in the support film as shown on the previous page.
- When reinstalling the low-voltage power supply PCB, route the main-LV-engine harness through cutout "X" provided in the support film as shown on the previous page.

### 1.23 Inner Insulation Film, High-voltage Power Supply PCB, Engine PCB, and 2nd Cassette Relay PCB\*

(\*Provided on models available with a 2nd paper cassette)

- (1) Remove screw "a" and take off the inner insulation film.
- (2) Remove three screws (two "b" and one "c") from the high-voltage power supply PCB and engine PCB.
- (3) Slightly lift up the high-voltage power supply PCB and disconnect it from the engine PCB.
- (4) Pull the spring up and out.
- (5) Slightly hold up the engine PCB and disconnect the following harnesses:
  - Toner sensor (light-receiver) harness (3-pin, P1)
  - Main-LV-engine harness (2-pin, P15)
  - 2nd cassette relay harness\* (8-pin, P8)
  - Heater thermistor harness (2-pin, P6), if the heat-fixing unit has not been removed
  - Fan harness (2-pin, P7), if the fan has not been removed
  - Toner sensor (LED) harness (4-pin, P10)
  - Main motor harness (6-pin, P9)
  - Polygon motor harness (5-pin, P12)
  - Solenoid harness (2-pin, P13)

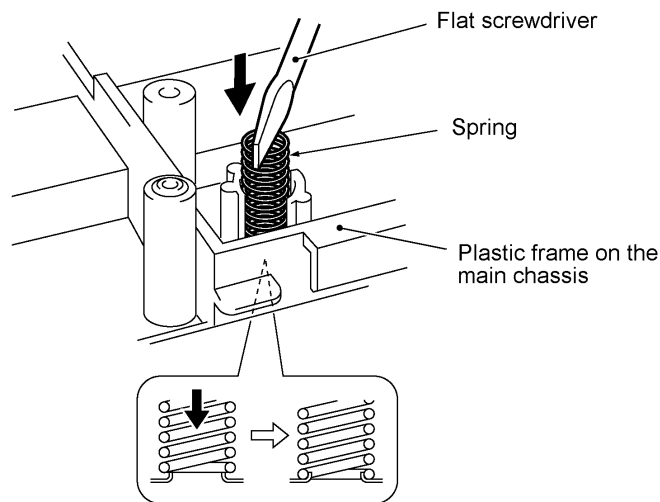




- (6) For models available with a 2nd paper cassette: Pull the 2nd cassette relay PCB bracket to take out its harness. Remove the screw and take off the 2nd cassette relay PCB from its bracket.

### Reassembling Notes

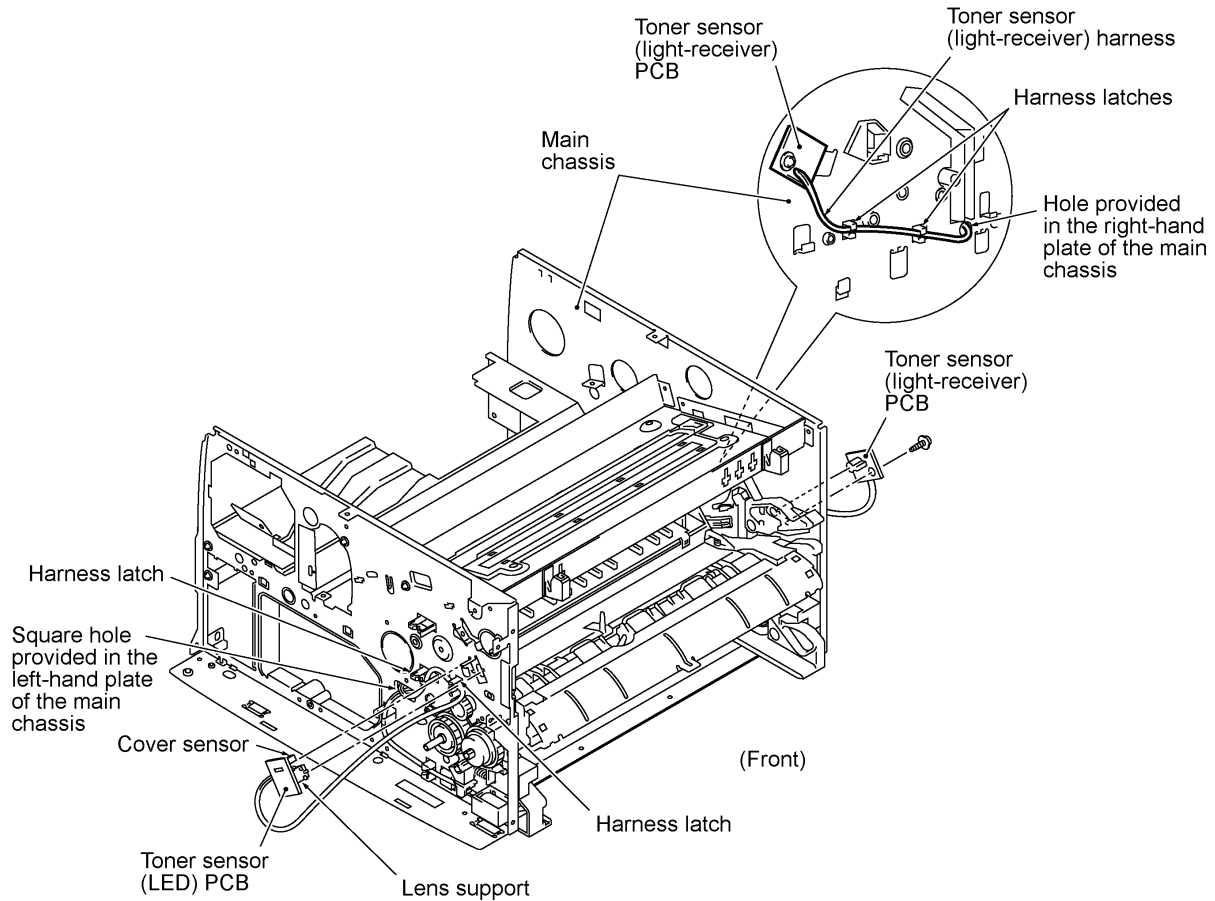
- Before reinstalling the high-voltage power supply PCB, push in the spring with a flat screwdriver until it snaps into place as shown below.



- Before reinstalling the high-voltage power supply PCB, check the high-voltage contacts for any toner particles, paper dust or dirt, and clean them out.

## 1.24 Toner Sensor (light-receiver) PCB and Toner Sensor (LED) PCB

- (1) At the right-hand plate of the main chassis, remove the screw from the toner sensor (light-receiver) PCB, release its harness from the two harness latches, and then pull it out.
- (2) At the left-hand plate of the main chassis, press the both sides of the lens support on the toner sensor (LED) PCB with your fingers to release them from the main chassis, release its harness from the two latches, and then pull it out.

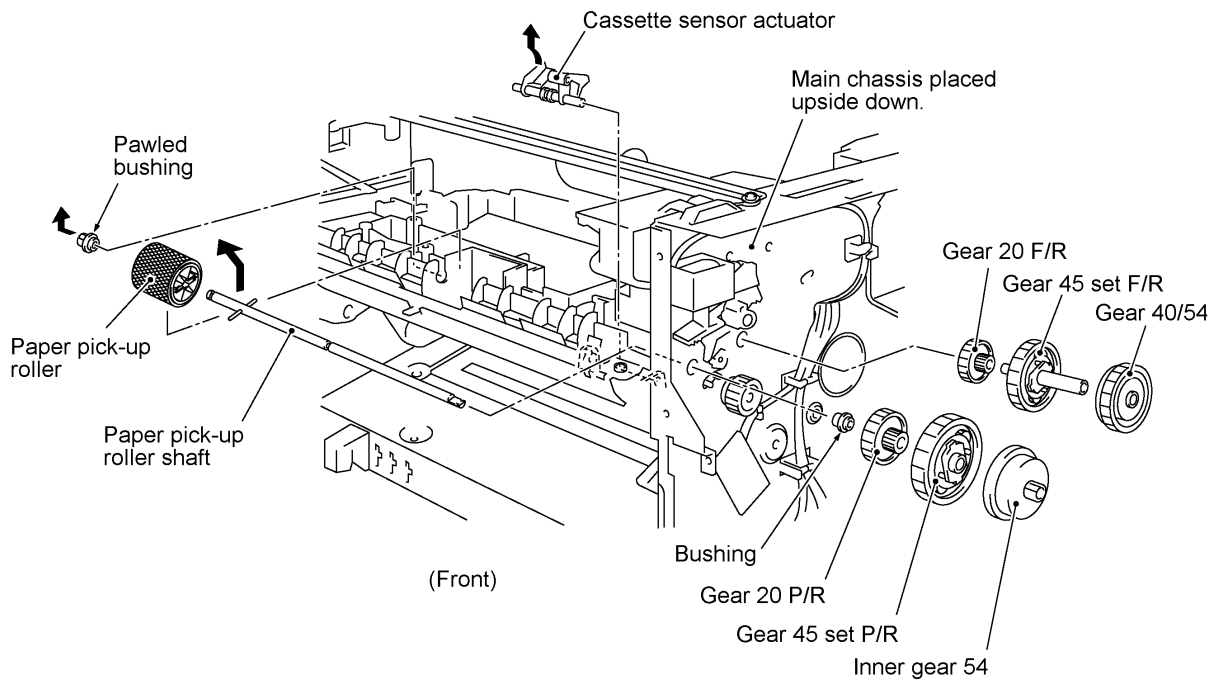


### Reassembling Notes

- Route the toner sensor (LED) harness on the left-hand side of the main chassis as shown above. Also refer to the illustration given on page IV-46.
- Route the toner sensor (light-receiver) harness on the right-hand side of the main chassis as shown above and on the top of the plastic frame as shown on page IV-46.

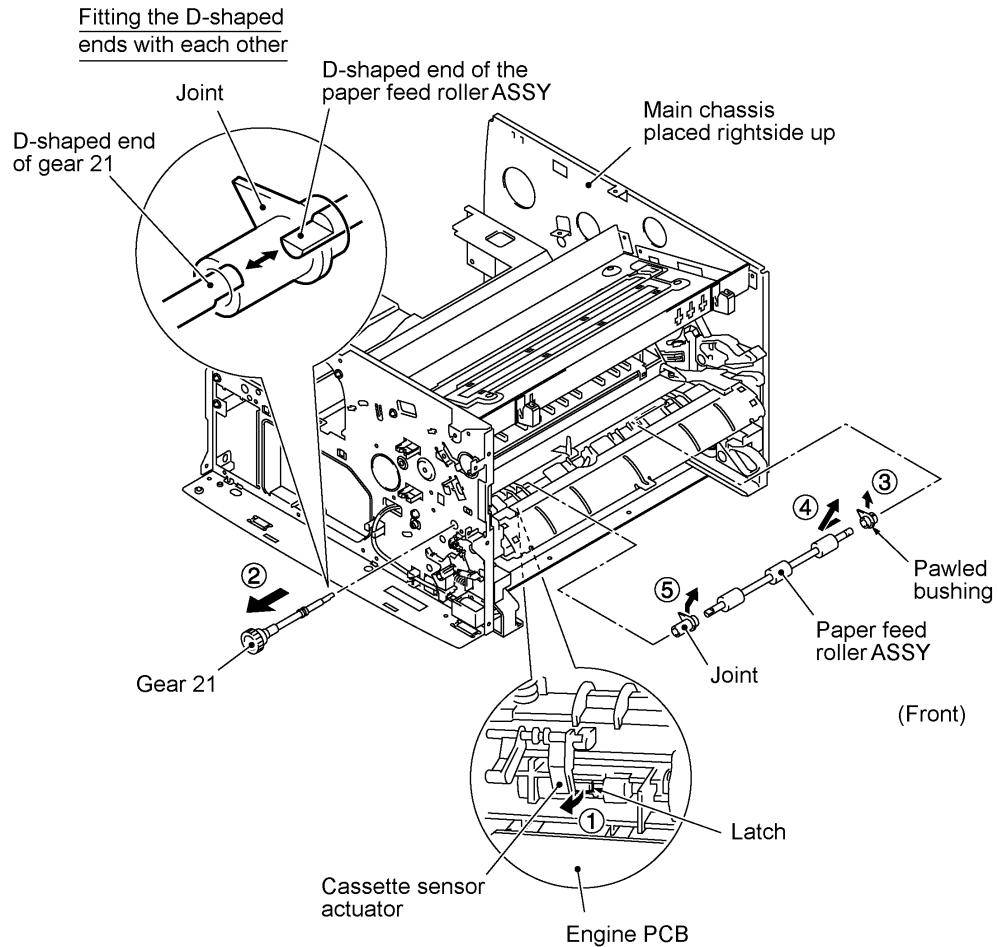
## 1.25 Gears and Paper Pick-up Roller

- (1) Place the main chassis upside down.
- (2) Remove the inner gear 54 (by pulling its pawl outwards), gear 45 set P/R, gear 20 P/R, and the bushing from the end of the paper pick-up roller shaft.
- (3) Remove the pawled bushing by pulling its pawl outwards, then remove the paper pick-up roller and its shaft.
- (4) Remove the gear 40/54, gear 45 set F/R, and gear 20 F/R.
- (5) If the engine PCB has been removed, take out the cassette sensor actuator. (This prevents the actuator from dropping during the following disassembly jobs.)



## 1.26 Paper Feed Roller ASSY

- (1) Unhook the latch (arrow ) provided on the underside of the plastic frame by using a small flat screwdriver and pull out the gear 21 (arrow ).
- (2) Place the main chassis rightside up.
- (3) At the right end of the paper feed roller shaft, pull up the pawl of the bushing (arrow ) with the tip of a flat screwdriver and move the paper feed roller ASSY to the left (arrow ). Then take out the bushing and paper feed roller ASSY.
- (4) Remove the joint (arrow ).

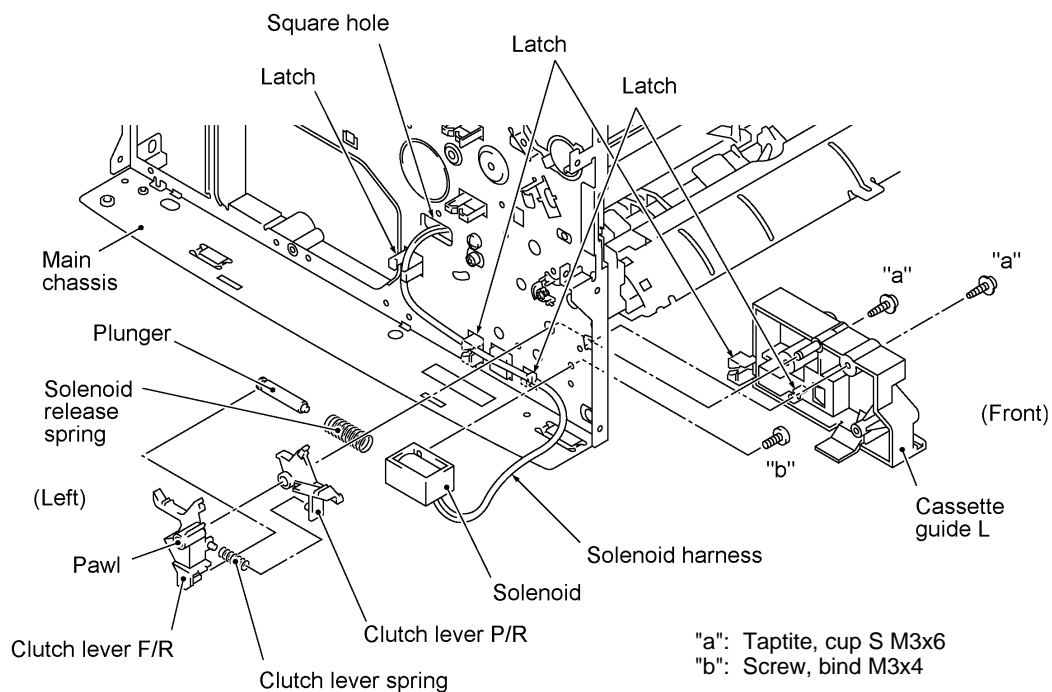


### Reassembling Notes

- When setting the gear 21 back into place, insert it and turn it so that its D-shaped end becomes fitted with the D-shaped end of the paper feed roller ASSY.

## 1.27 Clutch Levers, Cassette Guide L, and Solenoid

- (1) Turn the main chassis upside down.
- (2) Remove the two screws and take off the front underbar (which is shown on page IV-44).
- (3) Place the main chassis rightside up.
- (4) Remove the clutch lever F/R by pulling its pawl outwards.
- (5) Remove the clutch lever spring and clutch lever P/R.
- (6) Remove the plunger and solenoid release spring.
- (7) Remove two screws "a" and take off the cassette guide L.
- (8) Remove screw "b" and take off the solenoid.



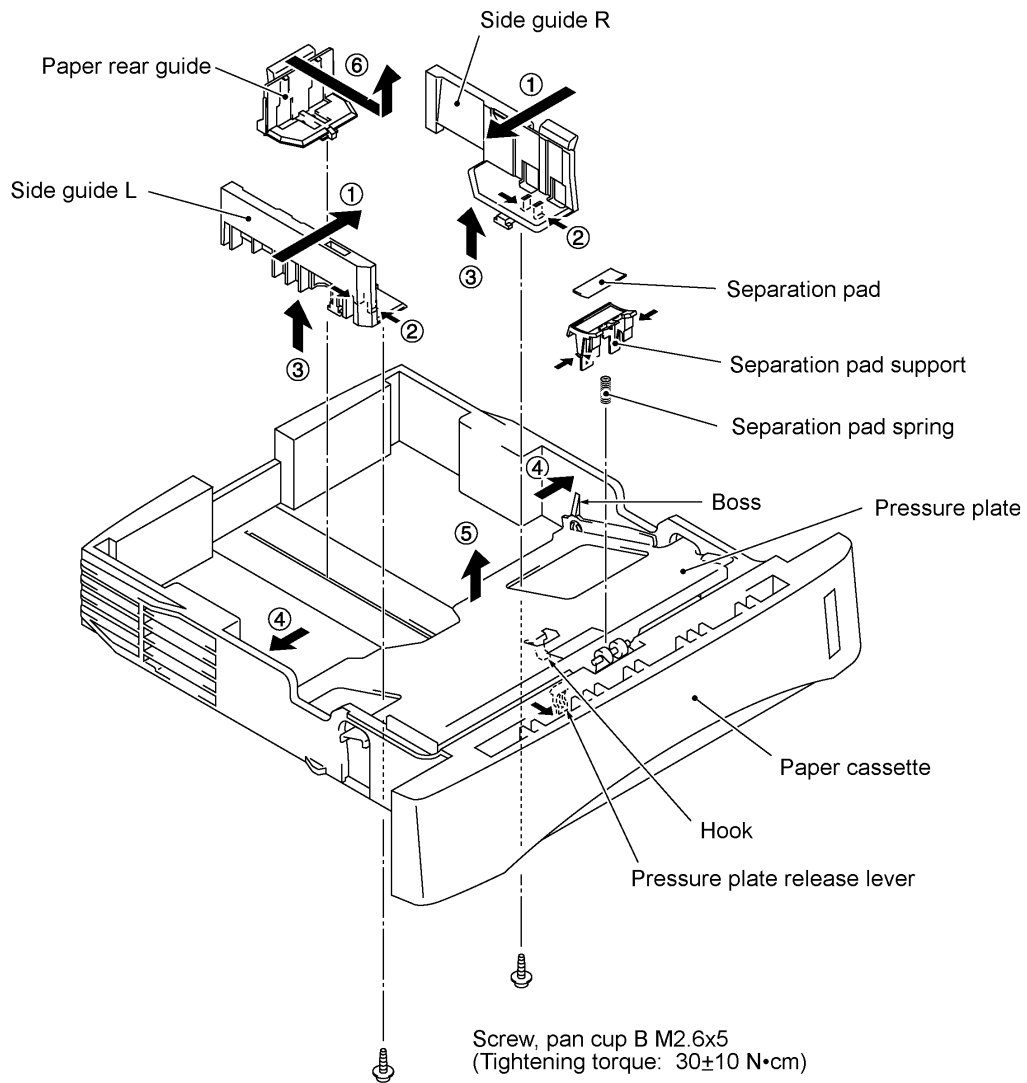
### Reassembling Notes

- Route the solenoid harness through three latches and pass it through the square hole provided in the left-hand plate of the main chassis.



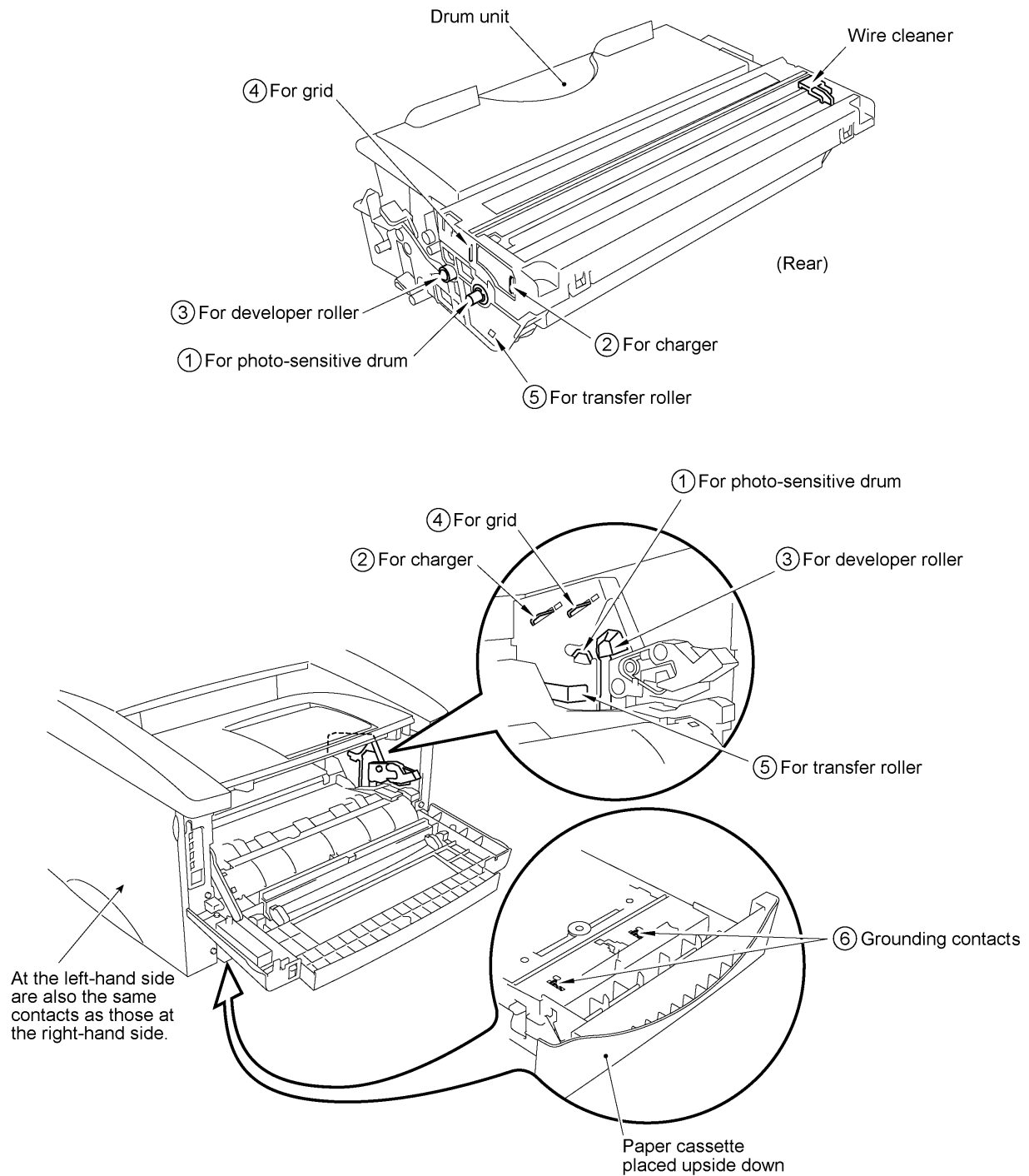
## 1.28 Paper Cassette

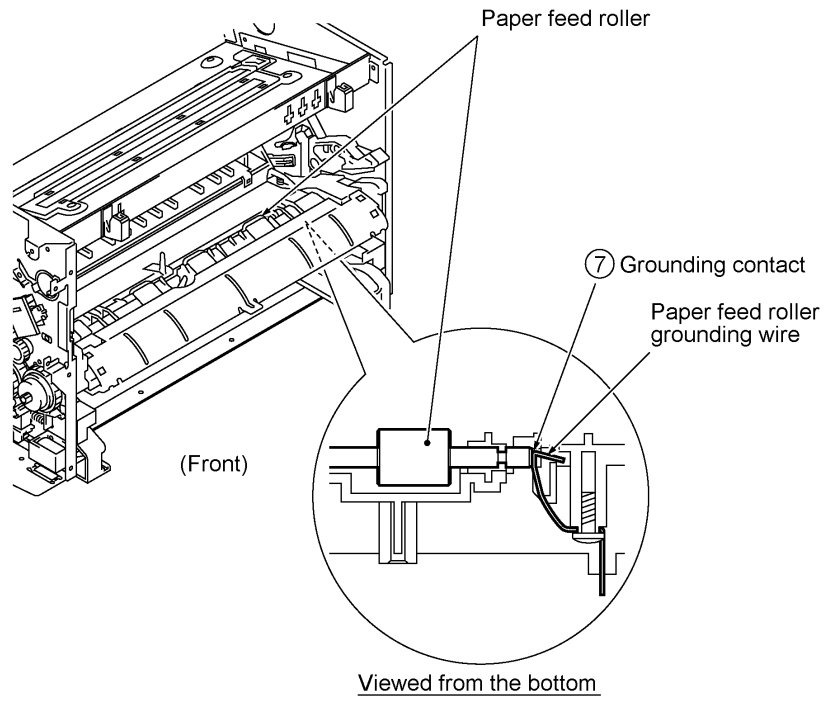
- (1) Pull the pressure plate release lever to the front to release the pressure plate.
- (2) Fully slide the side guide (R or L) inwards (in the direction of arrow ) and remove the screw. Then release the latches (arrow ) and pull up the side guide (arrow ).
- (3) Release the pressure plate from the bosses (arrow ) and remove it (arrow ).
- (4) Fully slide the paper rear guide to the front and lift it up (arrow ).



## 1.29 Cleaning of High-voltage Contacts and Grounding Contacts

If any toner particles, paper dust or dirt are on the contacts, clean them out. This will ensure that power flows correctly to enable printing.



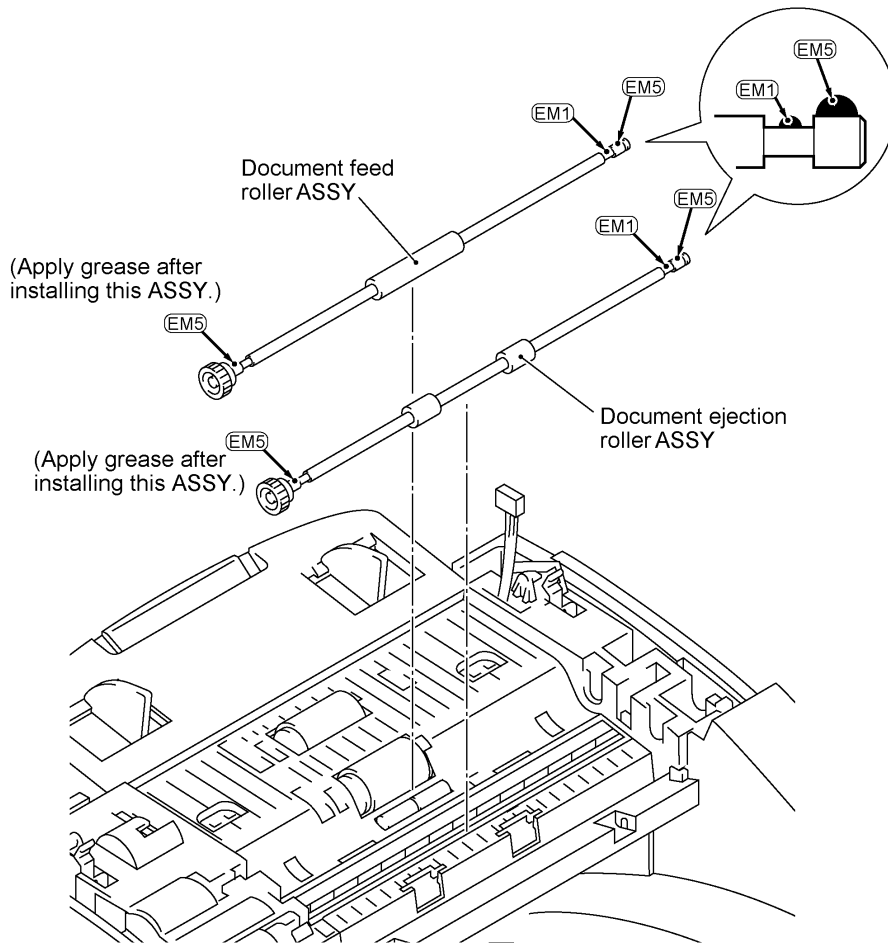


## 2. LUBRICATION

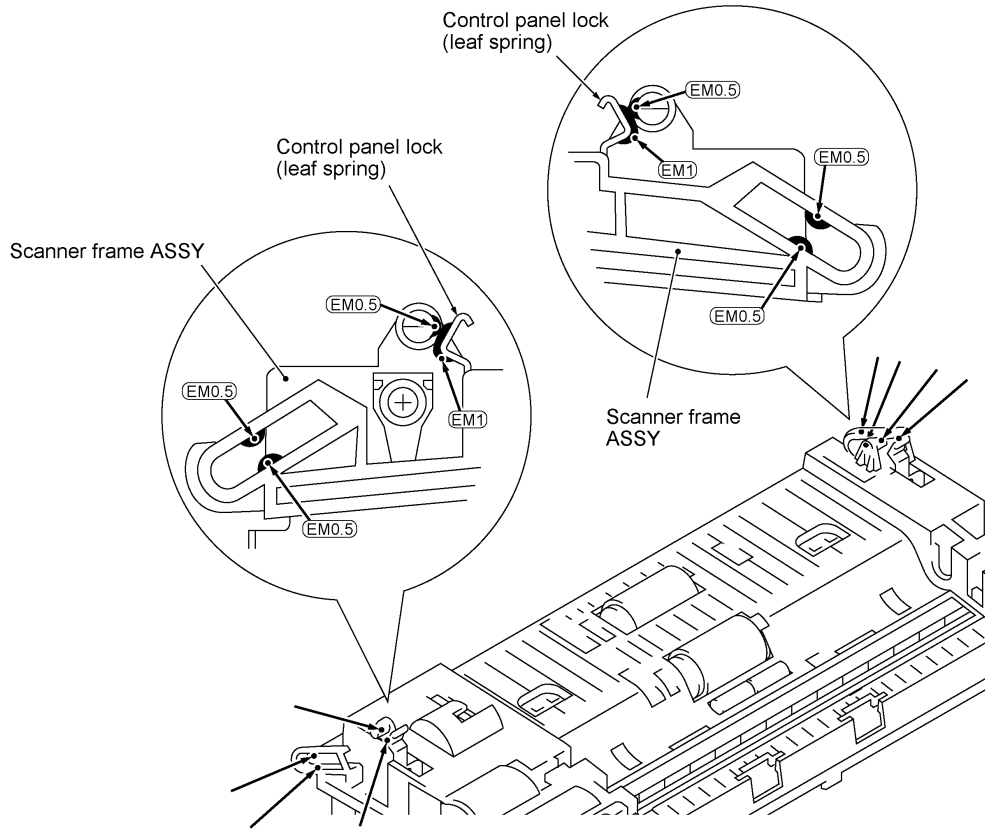
Apply the specified lubricants to the lubrication points as shown below.

Lubricant type (Manufacturer)	Lubricant amount			
	Half of a rice-sized pinch of grease (3 mm <sup>3</sup> )	Rice-sized pinch of grease (6 mm <sup>3</sup> )	Two rice-sized pinches of grease (12 mm <sup>3</sup> )	Five rice-sized pinches of grease (30 mm <sup>3</sup> )
Molykote grease EM-30L (Dow Corning)	EM0.5	EM1	EM2	EM5
Molykote grease EMD-110 (Dow Corning.)	—	EMD1	—	—
Molykote grease PG662 (Dow Corning)	—	PG1	—	—

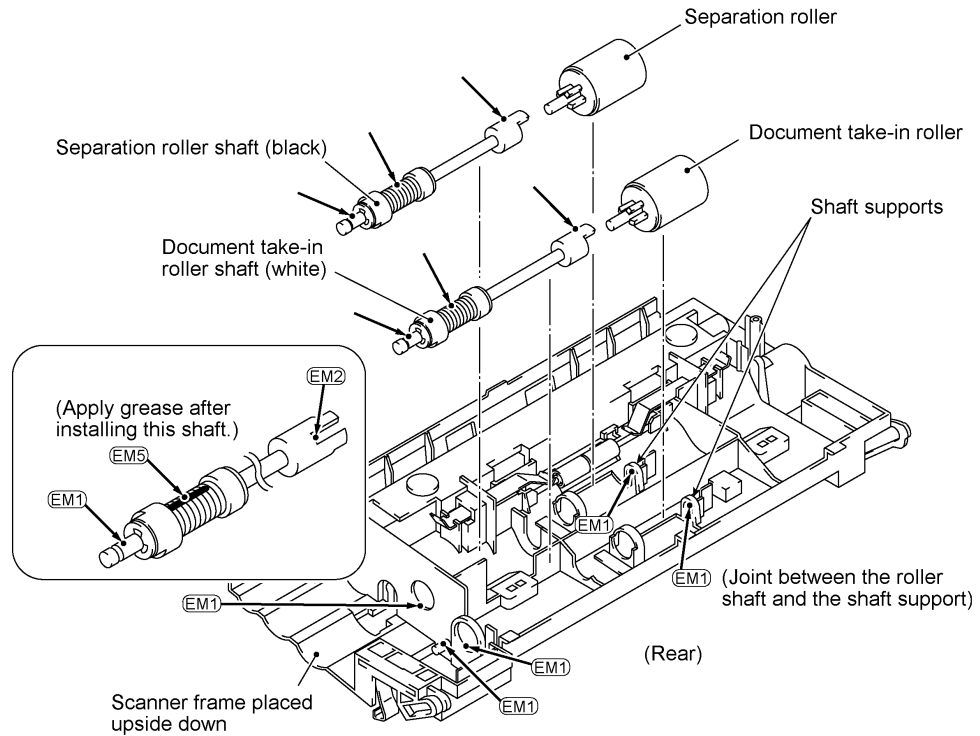
### [ 1 ] Document feed roller ASSY and document ejection roller ASSY



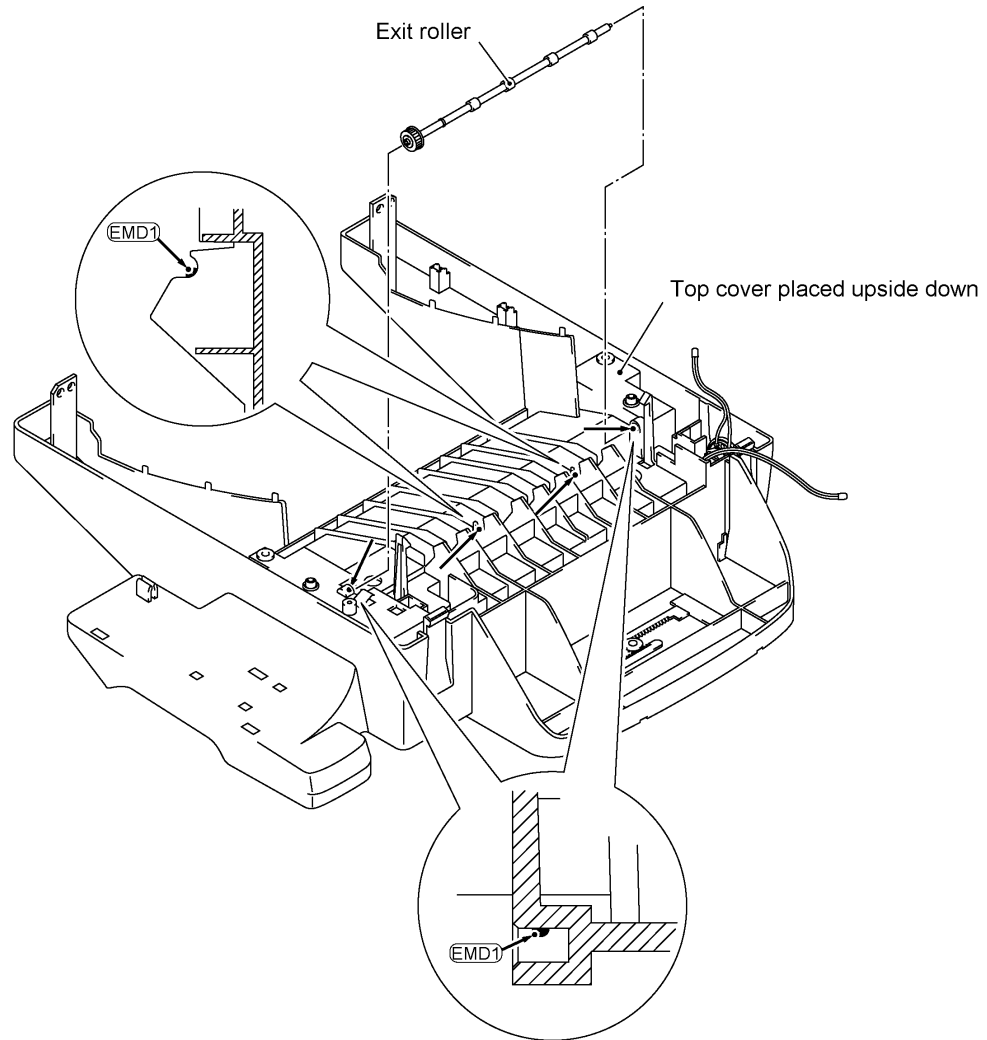
[ 2 ] Control panel locks



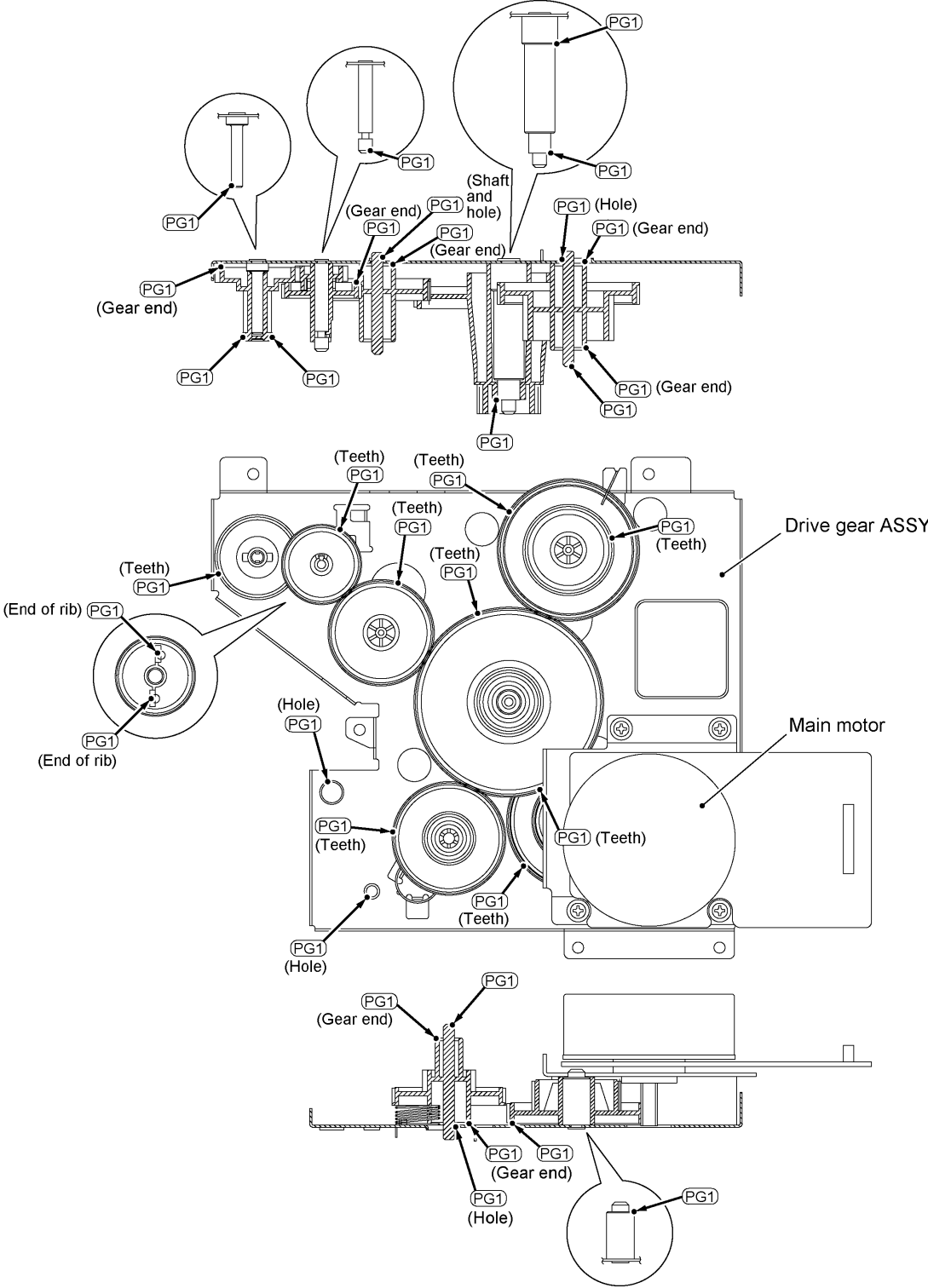
[ 3 ] Scanner frame ASSY, document take-in roller and its shaft, and separation roller and its shaft



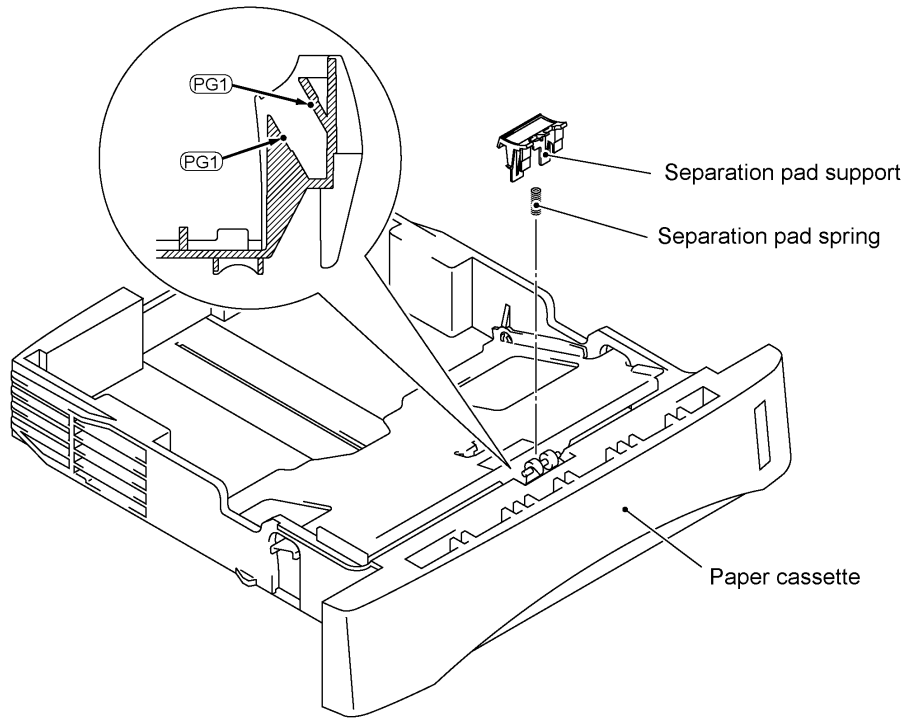
[ 4 ] Top cover



[ 5 ] Drive gear ASSY



[ 6 ] Paper cassette





# **CHAPTER V.**

## **MAINTENANCE MODE**

## CONTENTS

<b>1.</b>	<b>ENTRY INTO THE MAINTENANCE MODE.....</b>	<b>V-1</b>
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3.2	Printout of Scanning Compensation Data .....	V-5
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# 1. ENTRY INTO THE MAINTENANCE MODE

American models: To make the equipment enter the maintenance mode, press the **Function**, \*, **2**, **8**, **6**, and **4** keys in this order.

← Within 2 seconds →

European models: To make the equipment enter the maintenance mode, press the **Menu**, \*, **2**, **8**, **6**, and **4** keys in this order.

← Within 2 seconds →

The equipment beeps for approx. one second and displays " ■■ MAINTENANCE ■■■ " on the LCD, indicating that it is placed in the initial stage of the maintenance mode, a mode in which the equipment is ready to accept entry from the keys.

To select one of the maintenance-mode functions listed in Section 2, enter the corresponding 2-digit function code with the numerical keys on the control panel. (The details of each maintenance-mode function are described in Section 3.)

- NOTES:**
- Pressing the **9** key twice in the initial stage of the maintenance mode makes the equipment exit from the maintenance mode, restoring it to the standby state.
  - Pressing the **Stop** key after entering only one digit restores the equipment to the initial stage of the maintenance mode.
  - If an invalid function code is entered, the equipment resumes the initial stage of the maintenance mode.

## 2. LIST OF MAINTENANCE-MODE FUNCTIONS

### Maintenance-mode Functions

Function Code	Function	Reference Subsection (Page)
01	EEPROM Parameter Initialization	3.1 (V-4)
02	_____	_____
03	_____	_____
04	_____	_____
05	Printout of Scanning Compensation Data	3.2 (V-5)
06	_____	_____
07	_____	_____
08	ADF* Performance Test	3.3 (V-7)
09	Test Pattern 1	3.4 (V-8)
10	Firmware Switch Setting	3.5 (V-9)
11	Printout of Firmware Switch Data	3.5 (V-53)
12	Operational Check of LCD	3.6 (V-54)
13	Operational Check of Control Panel PCB (Check of Keys and Buttons)	3.7 (V-54)
14	_____	_____
15	_____	_____
16	Receiver Volume Adjustment (applicable to the American version only)	3.8 (V-56)
32	Sensor Operational Check	3.9 (V-57)
55	CIS Scanner Area Setting	3.10 (V-58)
74	EEPROM Customizing	3.11 (V-58)
82	Equipment Error Code Indication	3.12 (V-59)
87	Output of Transmission Log to the Telephone Line	3.13 (V-59)
91	EEPROM Parameter Initialization (except the telephone number storage area)	3.1 (V-4)
99	Exit from the Maintenance Mode	---- (V-1)

\* ADF: Automatic document feeder

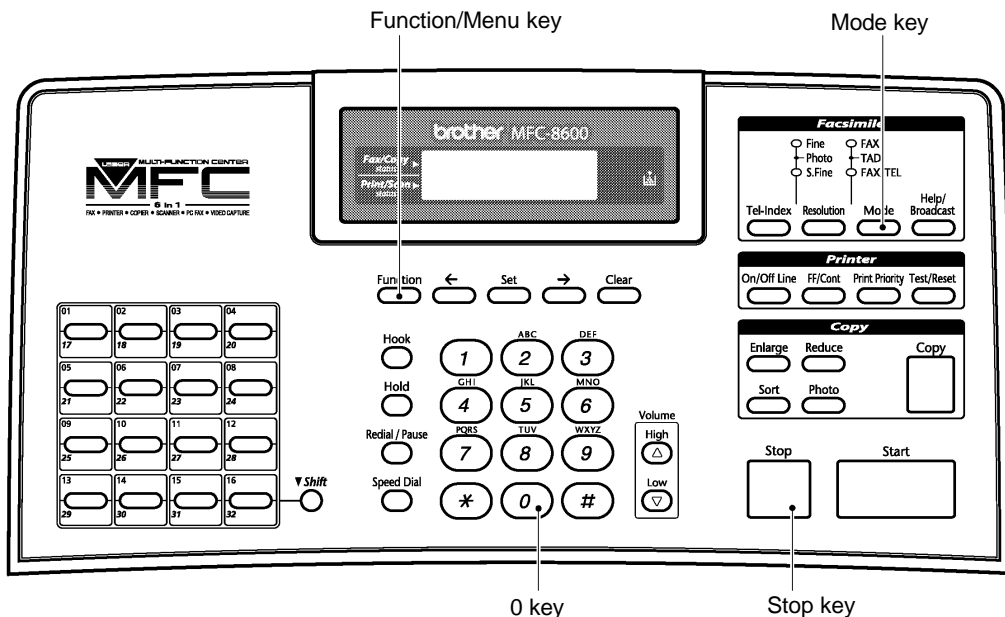
----- **IMPORTANT** -----

Basically, the maintenance-mode functions listed on the previous page should be accessed by service personnel only. However, you may allow end users to access some of these under the guidance of service personnel (e.g., by telephone).

The user-accessible functions (codes 10, 11, 12, 82, 87 and 91) are shaded in the table given on the previous page. Function code 10 accesses the firmware switches WSW01 to WSW42, each of which has eight selectors. You should not allow end users to access all of those selectors, but you may allow them to access user-accessible selectors which are shaded in the firmware switch tables in Subsection 3.5.

The service personnel should instruct end users to follow the procedure given below.

- (1) American models: Press the **Function** and **Mode** keys in this order.  
European models: Press the **Menu** and **Mode** keys in this order.  
The LCD clears the current display.  
**NOTE:** The **Mode** key is inoperable during standby for redialing and timer.
- (2) Press the **0** key.
- (3) Enter the desired function code (10, 11, 12, 82, 87, or 91) with the numerical keys.  
For function code 10, access the desired firmware switch according to the operating procedure described in Subsection 3.5.
- (4) To make the equipment return to the standby state, press the **Stop** key.



### 3. DETAILED DESCRIPTION OF MAINTENANCE-MODE FUNCTIONS

#### 3.1 EEPROM Parameter Initialization

##### Function

The equipment initializes the parameters, user switches, and firmware switches registered in the EEPROM, to the initial values. Entering the function code 01 initializes all of the EEPROM areas, but entering 91 does not initialize some areas, as listed below.

Function code	01	91
Data item		
Maintenance-mode functions	All of these will be initialized	These will be initialized
User switches		
Firmware switches		
Remote activation code		
Activity report		
Station ID data		These will <u>not</u> be initialized
Outside line number		
Telephone function registration		
One-touch dialing		
Speed dialing		
Group dialing		
EEPROM customizing code (4-digit)	This will <u>not</u> be initialized. (Note that the first digit of the 4-digit code will be initialized to "0." If the code is <u>1</u> 001, for example, it will be initialized to <u>0</u> 001.)	

**NOTE:** If you replace the main PCB with one used for other facsimile equipment, carry out this procedure and then customize the EEPROM (maintenance-mode function code 74 in Subsection 3.11).

##### Operating Procedure

- (1) Press the **0** and **1** keys (or the **9** and **1** keys according to your need) in this order in the initial stage of the maintenance mode.  
The "PARAMETER INIT" will appear on the LCD.
- (2) Upon completion of parameter initialization, the equipment returns to the initial stage of the maintenance mode.

## 3.2 Printout of Scanning Compensation Data

### Function

The equipment prints out the white and black level data for scanning compensation.

### Operating Procedure

Do not start this function merely after powering on the equipment but start it after carrying out a sequence of scanning operation. Unless the equipment has carried out any scanning operation, this function cannot print out correct scanning compensation data. This is because at the start of scanning operation, the equipment initializes white and black level data and takes in the scanning compensation reference data.

- (1) Press the **0** and **5** keys in this order in the initial stage of the maintenance mode.  
The "WHITE LEVEL 1" will appear on the LCD.
- (2) The equipment prints out the scanning compensation data list containing the following:
  - a) 2-value quantization white level data (2496 bytes)
  - b) 2-value quantization black level data (1 byte)
  - c) LED light intensity value, 2-value quantization LED light intensity value, and photo mode LED light intensity value (3 bytes)
  - d) 2-value quantization A/D-high and photo-mode A/D-high values (2 bytes)
  - e) A/D-low value (1 byte)
  - f) Compensation data for background color (1 byte)
- (3) Upon completion of recording of the compensation data list, the equipment returns to the initial stage of the maintenance mode.

**NOTE:** When the equipment prints monochrome images after monochrome scanning, only the green data is valid.

**NOTE:** If any data is abnormal, its code will be printed in inline style, as shown on the next page.

```

9A90 : 77 73 73 70 6D 70 77 77 73 70 73 6C 72 70 73 77
9AA0 : 70 77 68 65 70 6A 6A 65 67 67 64 65 67 68 6D 67
9AB0 : 67 65 64 65 67 67 67 67 67 67 67 67 67 67 67 67
9AC0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9AD0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9AE0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9AF0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B00 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B10 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B20 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B30 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B40 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B50 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B60 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B70 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B80 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9B90 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9BA0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9BB0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9BC0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9BD0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9BE0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9BF0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C00 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C10 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C20 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C30 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C40 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C50 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C60 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C70 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C80 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9C90 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9CA0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9CB0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9CC0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9CD0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9CE0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9CF0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D00 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D10 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D20 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D30 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D40 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D50 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D60 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D70 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D80 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9D90 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9DA0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9DB0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9DC0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9DD0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9DE0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9DF0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E00 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E10 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E20 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E30 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E40 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E50 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E60 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E70 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E80 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9E90 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9EA0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9EB0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9EC0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9ED0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9EE0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9EF0 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F00 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F10 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F20 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F30 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F40 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F50 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F60 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F70 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67
9F80 : 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67

```

```

99 98
99 9D
96 99
90 8D
9D A0
AB B3
B0 AC
B6 B3
AB A8
A1 9D
93 8E
8E 95
9E A6
B4 B4
B4 B7
BF BF
B7 BC
B3 A9
A0 A0
95 95
A6 A4
AE AE
A9 AE
AE B7
B4 B6
B4 B6
AC B0
A3 9E
B3 B1
BC B7
B9 B4
BF C1
C4 C6
C2 CA
C6 C9
BE C1
D7 DA
E7 E5
E2 DF
EC E5
E5 E5
DC DA
CC C4
B9 BB
C4 CA
C9 D1
D1 D4
DC E5
F5 F3
F3 F8
FB F5
DD DC
E5 DC
D9 D9
C6 CA
C9 CA
CA CC
C6 C2
C1 C4
AC B3
C2 BF
C2 C4
BE BB
BF C2
BB BC
B4 AE
AE AC
A6 A9
B9 C2
C4 C7
CC C9
C2 B9
A9 A6
88 86
68 65
FF FF

```

```

A420 : A3 A3 9E A3 AB A1 9D 92 99 93 93 98 99 93
A430 : 86 80 86 85 83 83 77 7B 7A 73 72 77 75 6D
A440 : 65 6A 70 FF FF FF FF FF FF FF FF FF FF FF

```

```

9A90 : 1F
9A90 : 00

```

Scanning Compensation Data List



### 3.3 ADF Performance Test

#### Function

The equipment counts the documents fed by the automatic document feeder (ADF) and displays the count on the LCD for checking the ADF performance.

#### Operating Procedure

- (1) Set documents. (Allowable up to the ADF capacity.)

The "DOC. READY" will appear on the LCD.

- (2) Press the **0** and **8** keys in this order.

While counting the documents, the equipment feeds them in and out, displaying the current count on the LCD as shown below.

ADF CHECK P.01

↑ Current count (1st page in this example)

- (3) After showing the final count, the equipment beeps for one second. To return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.4 Test Pattern 1

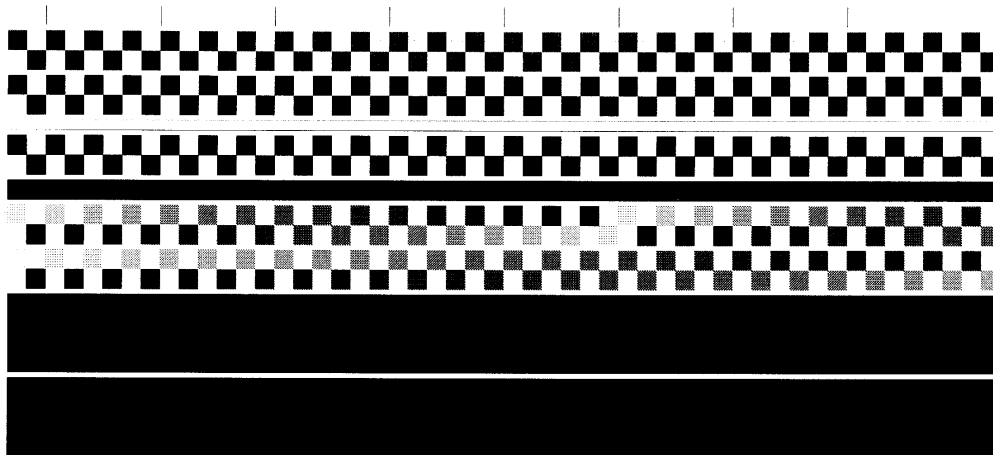
#### Function

This function, much like the copying function, prints out test pattern 1 to allow the service personnel to check for record data missing or print quality.

#### Operating Procedure

Press the **0** and **9** keys in this order in the initial stage of the maintenance mode.

The figure below shows test pattern 1.



**Test Pattern 1**

### 3.5 Firmware Switch Setting and Printout

#### [ A ] Firmware switch setting

##### Function

The facsimile equipment incorporates the following firmware switch functions (WSW01 through WSW42) which may be activated with the procedures using the control panel keys and buttons. The firmware switches have been set at the factory in conformity to the communications standards and codes of each country. Do not disturb them unless necessary. Some firmware switches may not be applicable in some versions. The firmware switch data list indicates "Not used." for those inapplicable switches.

#### Firmware Switches (WSW01 through WSW42)

WSW No.	Function	Reference Page
WSW01	Dial pulse setting	V-11
WSW02	Tone signal setting	V-12
WSW03	PABX mode setting	V-13
WSW04	TRANSFER facility setting	V-15
WSW05	1st dial tone and busy tone detection	V-16
WSW06	Pause key setting and 2nd dial tone detection	V-18
WSW07	Dial tone setting 1	V-20
WSW08	Dial tone setting 2	V-21
WSW09	Protocol definition 1	V-22
WSW10	Protocol definition 2	V-23
WSW11	Busy tone setting	V-24
WSW12	Signal detection condition setting	V-25
WSW13	Modem setting	V-26
WSW14	AUTO ANS facility setting	V-27
WSW15	REDIAL facility setting	V-28
WSW16	Function setting 1	V-29
WSW17	Function setting 2	V-30
WSW18	Function setting 3	V-31
WSW19	Transmission speed setting	V-32
WSW20	Overseas communications mode setting	V-33
WSW21	TAD setting 1	V-34
WSW22	ECM setting	V-34
WSW23	Communications setting	V-35
WSW24	TAD setting 2	V-36
WSW25	TAD setting 3	V-37
WSW26	Function setting 4	V-38
WSW27	Function setting 5	V-39
WSW28	Function setting 6	V-40
WSW29	Function setting 7	V-41
WSW30	Function setting 8	V-41
WSW31	Function setting 9	V-42
WSW32	Function setting 10	V-43
WSW33	Function setting 11	V-44
WSW34	Function setting 12	V-45
WSW35	Function setting 13	V-45
WSW36	Function setting 14	V-46

### Firmware Switches (WSW01 through WSW42) *Continued*

WSW No.	Function	Reference Page
WSW37	Function setting 15	V-47
WSW38	Function setting 16	V-48
WSW39	Function setting 17	V-49
WSW40	Function setting 18	V-50
WSW41	Function setting 19	V-51
WSW42	Function setting 20	V-52

### Operating Procedure

- (1) Press the **1** and **0** keys in this order in the initial stage of the maintenance mode.  
The equipment displays the "WSW00" on the LCD and becomes ready to accept a firmware switch number.
- (2) Enter the desired number from the firmware switch numbers (01 through 41).  
The following appears on the LCD:  
WSWXX = 0 0 0 0 0 0 0
- (3) Use the ◀ and ▶ keys to move the cursor to the selector position to be modified.
- (4) Enter the desired number using the **0** and **1** keys.
- (5) Press the **Set** key. This operation saves the newly entered selector values onto the EEPROM and readies the equipment for accepting a firmware switch number.
- (6) Repeat steps (2) through (5) until the modification for the desired firmware switches is completed.
- (7) Press the **Set** or **Stop** key to return the equipment to the initial stage of the maintenance mode.

- NOTES:**
- To cancel this operation and return the equipment to the initial stage of the maintenance mode during the above procedure, press the **Stop** key.
  - If there is a pause of more than one minute after a single-digit number is entered for double-digit firmware switch numbers, the equipment will automatically return to the initial stage of the maintenance mode.

### Note

The user-accessible selectors of the firmware switches are shaded in the tables given on the following pages.

## Detailed Description for the Firmware Switches

### WSW01 (Dial pulse setting)

Selector No.	Function	Setting and Specifications
1 2	Dial pulse generation mode	No. 1 2 0 0 : N 0 1 : N+1 1 0 : 10-N 1 1 : N
3 4	Break time length in pulse dialing	No. 3 4 0 0 : 60 ms 0 1 : 67 ms 1 0 : 40 ms (for 16 PPS) 1 1 : 64 ms (at 106-ms intervals)
5 6	Inter-digit pause	No. 5 6 0 0 : 800 ms 0 1 : 850 ms 1 0 : 950 ms 1 1 : 600 ms
7	Switching between pulse (DP) and tone (PB) dialing, by the function switch	0: Yes                      1: No
8	Default dialing mode, pulse (DP) or tone (PB) dialing	0: PB                      1: DP

- Selectors 1 and 2: Dial pulse generation mode**

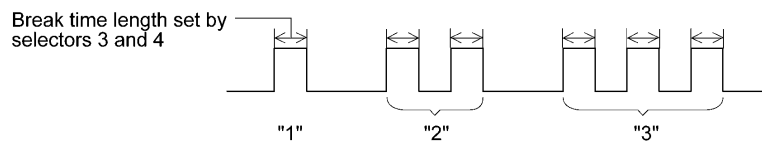
These selectors set the number of pulses to be generated in pulse dialing.

- N: Dialing "N" generates "N" pulses. (Dialing "0" generates 10 pulses.)
- N + 1: Dialing "N" generates "N + 1" pulses.
- 10 - N: Dialing "N" generates "10 - N" pulses.

- Selectors 3 and 4: Break time length in pulse dialing**

These selectors set the break time length in pulse dialing.

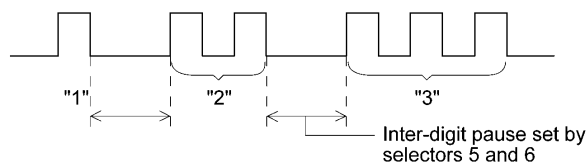
(Example: If "1," "2," and "3" are dialed when N is set by selectors 1 and 2.)



- Selectors 5 and 6: Inter-digit pause**

These selectors set the inter-digit pause in pulse dialing.

(Example: If "1," "2," and "3" are dialed when N is set by selectors 1 and 2.)



- **Selector 7: Switching between pulse (DP) and tone (PB) dialing, by the function switch**

This selector determines whether or not the dialing mode may be switched between the pulse (DP) and tone (PB) dialing by using the function switch.

- **Selector 8: Default dialing mode, pulse (DP) or tone (PB) dialing**

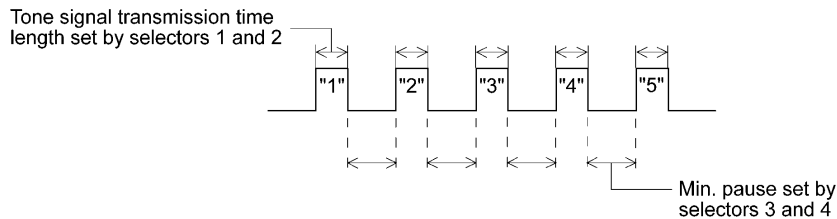
This selector sets the default dialing mode (pulse dialing or tone dialing) which may be changed by the function switch. If the user switches it with the function switch when selector 7 is set to "0," the setting specified by this selector will also be switched automatically.

**WSW02 (Tone signal setting)**

Selector No.	Function	Setting and Specifications
1 2	Tone signal transmission time length	No. 1 2 0 0 : 70 ms 0 1 : 80 ms 1 0 : 90 ms 1 1 : 100 ms
3 4	Min. pause in tone dialing	No. 3 4 0 0 : 70 ms 0 1 : 80 ms 1 0 : 90 ms 1 1 : 140 ms
5   8	Attenuator for pseudo ring backtone to the line (selectable in the range of 0-15 dB)	0: 0 dB      1: 8 dB 0: 0 dB      1: 4 dB 0: 0 dB      1: 2 dB 0: 0 dB      1: 1 dB

- **Selectors 1 through 4: Tone signal transmission time length and Min. pause in tone dialing**

These selectors set the tone signal transmission time length and minimum pause in tone dialing.  
(Example: If "1," "2," "3," "4," and "5" are dialed.)



- **Selectors 5 through 8: Attenuator for pseudo ring backtone to the line**

These selectors are used to adjust the sound level of beep generated as a ring backtone in the F/T mode or as a signal during remote control operation or at the start of ICM recording.

Setting two or more selectors to "1" produces addition of attenuation assigned to each selector.

**WSW03 (PABX\* mode setting)**

Selector No.	Function	Setting and Specifications
1	CNG detection when sharing a modular wall socket with a telephone	0: A            1: B
2   4	Min. detection time length of PABX* dial tone, required for starting dialing	No. 2 3 4 0 0 0 : 50 ms 0 0 1 : 210 ms 0 1 0 : 500 ms 0 1 1 : 800 ms 1 0 0 : 900 ms 1 0 1 : 1.5 sec. 1 1 0 : 2.0 sec. 1 1 1 : 2.5 sec.
5	CNG detection when sharing a modular wall socket with a telephone	0: A            1: B
6   7	Dial tone detection in PABX*	No. 6 7 0 0 : No detection (3.5 sec. WAIT) 0 1 : No detection (5 sec. WAIT) 1 0 : No detection (7 sec. WAIT) 1 1 : Detection (Frequency only)
8	Not used.	

\* PABX: Private automatic branch exchange

**NOTE:** Selectors 2 through 4, 6 and 7 are not applicable where no PABX is installed.

- **Selectors 1 and 5: CNG detection when sharing a modular wall socket with a telephone**

These selectors determine whether or not the equipment detects a CNG signal when a line is connected to a telephone sharing a modular wall socket with the equipment. Upon detection of CNG signals by the number of cycles specified by these selectors, the equipment interprets CNG as an effective signal and then starts FAX reception.

Selector No.		Cycle
1	5	
0 (A)	0 (A)	0.5 cycle
0 (A)	1 (B)	1.0 cycle
1 (B)	0 (A)	1.5 cycles
1 (B)	1 (B)	2.0 cycles

- **Selectors 2 through 4: Min. detection time length of PABX dial tone, required for starting dialing**

Upon detection of the PABX dial tone for the time length set by these selectors, the equipment starts dialing.

These selectors are effective only when both selectors 6 and 7 are set to "1" (Detection).

- **Selectors 6 and 7: Dial tone detection in PABX**

These selectors activate or deactivate the dial tone detection function which detects a dial tone when a line is connected to the PABX.

Setting both of these selectors to "1" activates the dial tone detection function so that the equipment starts dialing upon detection of a dial tone when a line is connected.

Other setting combinations deactivate the dial tone detection function so that the equipment starts dialing after the specified WAIT (3.5, 5.0, or 7.0 sec.) without detection of a dial tone when a line is connected.



**WSW04 (TRANSFER facility setting)**

Selector No.	Function	Setting and Specifications
1   4	Not used.	
5  6	Earth time length for earth function	No. 5 6 0 0 : 200 ms 0 1 : 300 ms 1 0 : 500 ms 1 1 : 700 ms
7  8	Break time length for flash function	No. 7 8 0 0 : 80 ms 0 1 : 110 ms 1 0 : 250 ms 1 1 : 500 ms

**NOTE:** Selectors 5 through 8 are not applicable in those countries where no transfer facility is supported.

- **Selectors 5 and 6: Earth time length for earth function**

These selectors set the short-circuiting time length of the telephone line (La or Lb) to ground.

This setting is effective only when the earth function is selected for the R key by using the function switch.

- **Selectors 7 and 8: Break time length for flash function**

These selectors set the break time length.

This setting is effective only when the flash function is selected for the R key by using the function switch.

### WSW05 (1st dial tone and busy tone detection)

Selector No.	Function	Setting and Specifications
1   3	1st dial tone detection	No. 1 2 3 0 0 0 : 3.5 sec. WAIT 0 0 1 : 7.0 sec. WAIT 0 1 0 : 10.5 sec. WAIT 0 1 1 : 14.0 sec. WAIT 1 0 0 : 17.5 sec. WAIT 1 0 1 : 21.0 sec. WAIT 1 1 0 : 24.5 sec. WAIT 1 1 1 : Detection (Without WAIT)
4	Max. pause time allowable for remote ID code detection	0 : 2 seconds    1: 1 second
5 6	Busy tone detection in automatic sending mode	No. 5 6 0 0 : No detection 0 1 : Detection only after dialing 1 0 : No detection 1 1 : Detection before and after dialing
7	Busy tone detection in automatic receiving mode	0: Yes            1: No
8	Not used.	

**NOTE:** Selectors 5 through 7 are not applicable in those countries where no busy tone detection is supported.

- **Selectors 1 through 3: 1st dial tone detection**

These selectors activate or deactivate the 1st dial tone detection function which detects the 1st dial tone issued from the PSTN when a line is connected to the PSTN.

Setting all of these selectors to "1" activates the dial tone detection function so that the equipment starts dialing upon detection of a dial tone when a line is connected. For the detecting conditions of the 1st dial tone, refer to WSW07 and WSW08.

Other setting combinations deactivate the dial tone detection function so that the equipment starts dialing after the specified WAIT (3.5, 7.0, 10.5, 14.0, 17.5, 21.0, or 24.5 seconds) without detection of a dial tone when a line is connected to the PSTN.

- **Selector 4: Max. pause time allowable for remote ID code detection**

This selector sets the maximum pause time allowable for detecting the second digit of a remote ID code after detection of the first digit in remote reception.

If selector 4 is set to "0" (2 seconds), for instance, only a remote ID code whose second digit is detected within 2 seconds after detection of the first digit will become effective so as to activate the remote function.

- **Selectors 5 and 6: Busy tone detection in automatic sending mode**

These selectors determine whether or not the equipment automatically disconnects a line upon detection of a busy tone in automatic sending mode.

Setting selector 6 to "0" ignores a busy tone so that the equipment does not disconnect the line.

Setting selectors 5 and 6 to "0" and "1," respectively, makes the equipment detect a busy tone only after dialing and disconnect the line.

Setting both of selectors 5 and 6 to "1" makes the equipment detect a busy tone before and after dialing and then disconnect the line.

- **Selector 7: Busy tone detection in automatic receiving mode**

This selector determines whether or not the equipment automatically disconnects a line upon detection of a busy tone in automatic receiving mode.

**WSW06 (Pause key setting and 2nd dial tone detection)**

Selector No.	Function	Setting and Specifications
1   3	<b>Pause</b> key setting and 2nd dial tone detection	No. 1 2 3 0 0 0 : No pause 0 0 1 : 3.5 sec. WAIT 0 1 0 : 7 sec. WAIT 0 1 1 : 10.5 sec. WAIT 1 0 0 : 14 sec. WAIT 1 1 0 : 2nd dial tone detection only in pulse dialing (DP) system 1 0 1 : } 2nd dial tone detection 1 1 1 : } both in DP and push-button (PB) dialing system
4   6	Detection of 2nd dial tone	No. 4 5 6 0 0 0 : 50 ms 0 0 1 : 210 ms 0 1 0 : 500 ms 0 1 1 : 800 ms 1 0 0 : 900 ms 1 0 1 : 1.5 sec. 1 1 0 : 2.0 sec. 1 1 1 : 2.5 sec.
7	No. of 2nd dial tone detection times	0: Once          1: Twice
8	2nd dial tone interrupt detecting time	0: 30 ms          1: 50 ms

- **Selectors 1 through 3: Pause key setting and 2nd dial tone detection**

Selectors			
1	2	3	
0	0	0	No WAIT is inserted even if the <b>Pause</b> key is pressed.
0	0	1	If you press the <b>Pause</b> key during dialing, the facsimile equipment will insert WAIT as defined in the above table. If the <b>Pause</b> key is pressed repeatedly, the equipment inserts the specified WAIT multiplied by the number of depressions. It applies also in hook-up dialing.
0	1	0	
0	1	1	
1	0	0	
1	0	1	When these selectors are set to "1, 0, 1":
1	1	0	If you press the <b>Pause</b> key during dialing, the equipment will wait for the 2nd dial tone to be sent via the communications line.
1	1	1	When these selectors are set to "1, 1, 0" or "1, 1, 1": If you press the <b>Pause</b> key during dialing, the equipment will first wait for the 2nd dial tone to be sent via the communications line. After that, the equipment will insert a WAIT of 3.5 seconds. If no 2nd dial tone is received within the specified time length (set by WSW08), the equipment will disconnect the line if in automatic dialing, or it will start transmitting the dial signal if given after depression of the <b>Pause</b> key in hook-up dialing.

- **Selectors 4 through 6: Detection of 2nd dial tone**

Upon detection of the 2nd dial tone for the time length specified by these selectors, the equipment starts dialing.

This setting is effective only when the 2nd dial tone detection function is activated by selectors 1 through 3 (Setting 101, 110, or 111).

This function does not apply in those countries where no dial tone detection function is supported.

- **Selector 7: No. of 2nd dial tone detection times**

This selector sets the number of dial tone detection times required for starting dialing.

- **Selector 8: 2nd dial tone interrupt detecting time**

This selector sets the allowable time length of an interrupt which should not be interpreted as an interrupt in the 2nd tone dialing.

**WSW07 (Dial tone setting 1)**

Selector No.	Function	Setting and Specifications
1 2	Frequency band range	No. 1 2 0 0 : Narrows by 10 Hz 0 1 : Initial value 1 X : Widens by 10 Hz
3	Line current detection	0: No          1: Yes
4   6	2nd dial tone detection level (Z = 600 Ω)	No. 4 5 6 0 0 0 : -21 dBm 0 0 1 : -24 dBm 0 1 0 : -27 dBm 0 1 1 : -30 dBm 1 0 0 : -33 dBm 1 0 1 : -36 dBm 1 1 0 : -39 dBm 1 1 1 : -42 dBm
7	1st dial tone interrupt detecting time	0: 30 ms      1: 50 ms
8	Not used.	

**NOTE:** Selectors 1 through 7 are not applicable in those countries where no dial tone or line current detection is supported, e.g., U.S.A.

- **Selectors 1 and 2: Frequency band range**

These selectors set the frequency band for the 1st dial tone and the busy tone (before dialing) to be detected.

This setting is effective only when selectors 1 through 3 of WSW05 are set to "1,1,1."

- **Selector 3: Line current detection**

This selector determines whether or not the equipment should detect a line current before starting dialing.

- **Selectors 4 through 6: 2nd dial tone detection level**

These selectors set the detection level of the 2nd dial tone.

- **Selector 7: 1st dial tone interrupt detecting time**

This selector sets the allowable time length of an interrupt which should not be interpreted as an interrupt in the 1st dial tone dialing.

**WSW08 (Dial tone setting 2)**

Selector No.	Function	Setting and Specifications
1   3	1st dial tone detection time length	No. 1 2 3 0 0 0 : 50 ms 0 0 1 : 210 ms 0 1 0 : 500 ms 0 1 1 : 800 ms 1 0 0 : 900 ms 1 0 1 : 1.5 sec. 1 1 0 : 2.0 sec. 1 1 1 : 2.5 sec.
4 5	Time-out length for 1st and 2nd dial tone detection	No. 4 5 0 0 : 10 sec. 0 1 : 20 sec. 1 0 : 15 sec. 1 1 : 30 sec.
6   8	Detection level of 1st dial tone and busy tone before dialing	No. 6 7 8 0 0 0 : -21 dBm 0 0 1 : -24 dBm 0 1 0 : -27 dBm 0 1 1 : -30 dBm 1 0 0 : -33 dBm 1 0 1 : -36 dBm 1 1 0 : -39 dBm 1 1 1 : -42 dBm

**NOTE:** The WSW08 is not applicable in those countries where no dial tone detection is supported, e.g., U.S.A.

- **Selectors 1 through 3: 1st dial tone detection time length**

Upon detection of the 1st dial tone for the time length set by these selectors, the equipment starts dialing.

This setting is effective only when selectors 1 through 3 of WSW05 are set to "1,1,1."

- **Selectors 4 and 5: Time-out length for 1st and 2nd dial tone detection**

These selectors set the time-out length for the 1st and 2nd dial tone detection so that the equipment waits dial tone input for the specified time length and disconnects itself from the line when no dial tone is inputted.

**WSW09 (Protocol definition 1)**

Selector No.	Function	Setting and Specifications
1	Frame length selection	0: 256 octets    1: 64 octets
2	Use of non-standard commands	0: Allowed    1: Prohibited
3	No. of retries	No. 3    4
4		0    0    :    4 times
		0    1    :    3 times
		1    0    :    2 times
		1    1    :    1 time
5	T5 timer	0: 300 sec.    1: 60 sec.
6	T1 timer	0: 35 sec.    1: 40 sec.
7	Elapsed time for time-out control for no response from the called station in automatic sending mode	No. 7    8
8		0    0    :    60 sec. (55 sec. for US and Canada)
		0    1    :    140 sec.
		1    0    :    90 sec.
		1    1    :    35 sec.

**NOTE:** Selectors 1 through 6 are not applicable in those models which do not support ECM.

- **Selector 1: Frame length selection**

Usually a single frame consists of 256 octets (1 octet = 8 bits). For communications lines with higher bit error rate, however, set selector 1 to "1" so that the facsimile equipment can divide a message into 64-octet frames.

Remarks: The error correction mode (ECM) is a facsimile transmission manner in which the equipment divides a message into frames for transmission so that if any data error occurs on the transmission line, the equipment retransmits only those frames containing the error data.

- **Selector 2: Use of non-standard commands**

If this selector is set to "0," the equipment may use non-standard commands (the machine's native-mode commands, e.g., NSF, NSC, and NSS) for communications. If it is set to "1," the equipment will use standard commands only.

- **Selectors 3 and 4: No. of retries**

These selectors set the number of retries in each specified modem transmission speed.

- **Selector 5: T5 timer**

This selector sets the time length for the T5 timer.

- **Selector 6: T1 timer**

This selector sets the time length for the T1 timer.

- **Selectors 7 and 8: Elapsed time for time-out control**

If the equipment receives no response (no G3 command) from the called terminal in automatic sending during the time set by these selectors, it disconnects the line.



**WSW10 (Protocol definition 2)**

Selector No.	Function	Setting and Specifications
1	Not used.	
2	Time length from transmission of the last dial digit to CML ON	0: 100 ms      1: 50 ms
3	Time length from CML ON to CNG transmission	0: 2 sec.      1: 4 sec.
4	Time length from CML ON to CED transmission (except for facsimile-to-telephone switching)	0: 0.5 sec.      1: 2 sec.
5 6	No. of training retries	No. 5 6 0 0 : 1 time 0 1 : 2 times 1 0 : 3 times 1 1 : 4 times
7	Encoding system (Compression)	MR      0: Allowed      1: Not allowed
8		MMR      0: Allowed      1: Not allowed

- **Selector 2: Time length from transmission of the last dial digit to CML ON**  
This selector sets the time length from when the equipment transmits the last dial digit until the CML relay comes on.
- **Selector 3: Time length from CML ON to CNG transmission**  
This selector sets the time length until the equipment transmits a CNG after it turns on the CML relay.
- **Selector 4: Time length from CML ON to CED transmission**  
This selector sets the time length until the equipment transmits a CED after it turns on the CML relay. This setting does not apply to switching between facsimile and telephone.
- **Selectors 5 and 6: No. of training retries**  
These selectors set the number of training retries to be repeated before automatic fallback.
- **Selectors 7 and 8: Encoding system (Compression)**  
This selector determines whether or not use of the MR/MMR coding system will be allowed.

### WSW11 (Busy tone setting)

Selector No.	Function	Setting and Specifications
1 2	Frequency band range	No. 1 2 0 0 : Narrows by 10 Hz 0 1 : Initial value 1 x : Widens by 10 Hz
3	Not used.	
4	ON/OFF time length ranges (More than one setting allowed)	1: 400-600/400-600 ms
5		1: 175-440/175-440 ms
6		1: 700-800/700-800 ms
7		1: 110-410/320-550 ms
8		1: 100-660/100-660 ms

**NOTE:** WSW11 is not applicable in those countries where no busy tone detection is supported.

**NOTE:** The setting of WSW11 is effective only when selectors 5 and 6 of WSW05 are set to "0, 1" or "1, 1" (Busy tone detection).

- **Selectors 1 and 2: Frequency band range**

These selectors set the frequency band for busy tone to be detected.

- **Selectors 4 through 8: ON/OFF time length ranges**

These selectors set the ON and OFF time length ranges for busy tone to be detected. If more than one selector is set to "1," the ranges become wider. For example, if selectors 4 and 5 are set to "1," the ON and OFF time length ranges are from 175 to 600 ms.

**WSW12 (Signal detection condition setting)**

Selector No.	Function	Setting and Specifications
1 2	Min. OFF time length of calling signal (Ci)	No. 1 2 0 0 : 1500 ms 0 1 : 500 ms 1 0 : 700 ms 1 1 : 900 ms
3 4	Max. OFF time length of calling signal (Ci)	No. 3 4 0 0 : 6 sec. 0 1 : 7 sec. 1 0 : 9 sec. 1 1 : 11 sec.
5 6	Detecting time setting	No. 5 6 0 0 : 800 ms 0 1 : 200 ms 1 0 : 250 ms 1 1 : 150 ms
7 8	Not used.	

- **Selectors 1 through 4: Min. and max. OFF time length of calling signal (Ci)**

If the equipment detects the OFF state of calling signal (Ci) for a time length which is greater than the value set by selectors 1 and 2 and less than the value set by selectors 3 and 4, it interprets the Ci signal as OFF.

- **Selectors 5 and 6: Detecting time setting**

These selectors set the time length required to make the equipment acknowledge itself to be called. That is, if the equipment continuously detects calling signals with the frequency set by selectors 1 through 4 of WSW14 during the time length set by these selectors 5 and 6, it acknowledges the call.

### WSW13 (Modem setting)

Selector No.	Function	Setting and Specifications
1 2	Cable equalizer	No. 1 2 0 0 : 0 km 0 1 : 1.8 km 1 0 : 3.6 km 1 1 : 5.6 km
3 4	Reception level	No. 3 4 0 0 : -43 dBm 0 1 : -47 dBm 1 0 : -49 dBm 1 1 : -51 dBm
5   8	Modem attenuator	0: 0 dB            1: 8 dB 0: 0 dB            1: 4 dB 0: 0 dB            1: 2 dB 0: 0 dB            1: 1 dB

The modem should be adjusted according to the user's line conditions.

- **Selectors 1 and 2: Cable equalizer**

These selectors are used to improve the pass-band characteristics of analogue signals on a line. (Attenuation in the high-band frequency is greater than in the low-band frequency.)

Set these selectors according to the distance from the telephone switchboard to the facsimile equipment.

- **Selectors 3 and 4: Reception level**

These selectors set the optimum receive signal level.

- **Selectors 5 through 8: Modem attenuator**

These selectors are used to adjust the transmitting level of the modem when the reception level at the remote station is improper due to line loss. This function applies to G3 protocol signals.

Setting two or more selectors to "1" produces addition of attenuation assigned to each selector.

This setting will be limited if selector 8 of WSW23 is set to "0."

**WSW14 (AUTO ANS facility setting)**

Selector No.	Function	Setting and Specifications
1 2	Frequency band selection (Lower limit)	No. 1 2 0 0 : 13 Hz 0 1 : 15 Hz 1 0 : 23 Hz 1 1 : 20 Hz
3 4	Frequency band selection (Upper limit)	No. 3 4 0 0 : 30 Hz 0 1 : 55 Hz 1 X : 70 Hz
5   8	No. of rings in AUTO ANS mode	No. 5 6 7 8 0 0 0 0 : Fixed to once 0 0 0 1 : Fixed to 2 times 0 0 1 0 : Fixed to 3 times 0 0 1 1 : Fixed to 4 times 0 1 0 0 : 1 to 2 times 0 1 0 1 : 1 to 3 times 0 1 1 0 : 1 to 4 times 0 1 1 1 : 1 to 5 times 1 0 0 0 : 2 to 3 times 1 0 0 1 : 2 to 4 times 1 0 1 0 : 2 to 5 times 1 0 1 1 : 2 to 6 times 1 1 0 0 : 1 to 10 times 1 1 0 1 : 2 to 10 times 1 1 1 0 : 3 to 5 times 1 1 1 1 : 4 to 10 times

- **Selectors 1 through 4: Frequency band selection**

These selectors are used to select the frequency band of calling signals for activating the AUTO ANS facility.

In the French versions, if the user sets the PBX to OFF from the control panel, the setting made by selectors 1 and 2 will take no effect and the frequency's lower limit will be fixed to 32 Hz. (Even if the setting made by these selectors does not apply, it will be printed on the configuration list.)

- **Selectors 5 through 8: No. of rings in AUTO ANS mode**

These selectors set the number of rings to initiate the AUTO ANS facility.

**WSW15 (REDIAL facility setting)**

Selector No.	Function	Setting and Specifications
1 2	Selection of redial interval	No. 1 2 0 0 : 5 minutes 0 1 : 1 minute 1 0 : 2 minutes 1 1 : 3 minutes
3   6	No. of redialings	No. 3 4 5 6 0 0 0 0 : 16 times 0 0 0 1 : 1 times 0 0 1 0 : 2 times 0 0 1 1 : 3 times     1 1 1 1 : 15 times
7	Redialing for no response sent from the called terminal	0: Redialing 1: No redialing
8	Not used.	

**NOTE:** Selector 7 is not applicable in those countries where no busy tone detection is supported.

- **Selectors 1 through 6: Selection of redial interval and No. of redialings**

The equipment redials by the number of times set by selectors 3 through 6 at intervals set by selectors 1 and 2.

This setting is effective only when selector 7 is set to "0."

- **Selectors 7: Redialing for no response sent from the called terminal**

This selector determines whether or not the equipment redials if no G3 command response comes from the called station after dialing within the time length set by selectors 7 and 8 of WSW09.

### WSW16 (Function setting 1)

Selector No.	Function	Setting and Specifications
1	Not used.	
2	CCITT superfine recommendation	0: OFF      1: ON
3   6	Not used.	
7	Max. document length limitation	0: 400 cm      1: 90 cm
8	<b>Stop</b> key pressed during reception	0: Not functional      1: Functional

- **Selector 2: CCITT superfine recommendation**

If this selector is set to "1," the equipment communicates in CCITT recommended superfine mode (15.4 lines/mm). If it is set to "0," it communicates in native superfine mode.

- **Selector 7: Max. document length limitation**

This selector is used to select the maximum length of a document to be sent.

- **Selector 8: Stop key pressed during reception**

If this selector is set to "1," pressing the **Stop** key can stop the current receiving operation. The received data will be lost.

### WSW17 (Function setting 2)

Selector No.	Function	Setting and Specifications
1 2	Off-hook alarm	No. 1 2 0 0 : No alarm 0 1 : Always valid 1 X : Valid except when 'call reservation' is selected.
3 4	Not used.	
5	Calendar clock type	0: U.S.A. type 1: European type
6	Not used.	
7	Non-ring reception	0: OFF 1: ON
8	Not used.	

- **Selectors 1 and 2: Off-hook alarm**

These selectors activate or deactivate the alarm function which sounds an alarm when the communication is completed with the handset being off the hook.

- **Selector 5: Calendar clock type**

If this selector is set to "0" (USA), the MM/DD/YY hh:mm format applies; if it is set to "1" (Europe), the DD/MM/YY hh:mm format applies: DD is the day, MM is the month, YY is the last two digits of the year, hh is the hour, and mm is the minute.

- **Selector 7: Non-ring reception**

Setting this selector to "1" makes the equipment receive calls without ringer sound if the ring delay is set to 0.



**WSW18 (Function setting 3)**

Selector No.	Function	Setting and Specifications
1	Not used.	
2 3	Detection enabled time for CNG and no tone	No. 2 3 0 0 : 40 sec. 0 1 : 0 sec. (No detection) 1 0 : 5 sec. 1 1 : 80 sec.
4 5	Not used.	
6	Registration of station ID	0: Permitted 1: Prohibited
7 8	Tone sound monitoring	No. 7 8 0 X : No monitoring 1 0 : Up to phase B at the calling station only 1 1 : All transmission phases both at the calling and called stations

- **Selectors 2 and 3: Detection enabled time for CNG and no tone**

After the line is connected via the external telephone or by picking up the handset of the facsimile equipment, the equipment can detect a CNG signal or no tone for the time length specified by these selectors. The setting specified by these selectors becomes effective only when selector 8 of WSW20 is set to "1."

- **Selectors 7 and 8: Tone sound monitoring**

These selectors set monitoring specifications of the tone sound inputted from the line.

### WSW19 (Transmission speed setting)

Selector No.	Function	Setting and Specifications
1   3	First transmission speed choice for fallback	No. 1 2 3 No. 4 5 6 0 0 0 : 2,400 bps 0 0 1 : 4,800 bps 0 1 0 : 7,200 bps 0 1 1 : 9,600 bps 1 0 0 : 12,000 bps 1 0 1 : } 1 1 0 : } 14,400 bps 1 1 1 : }
4   6	Last transmission speed choice for fallback	
7	V. 34 mode	0: Permitted 1: Prohibited
8	V. 17 mode	0: Permitted 1: Prohibited

- **Selectors 1 through 6: First and last choices of transmission speed for fallback**

These selectors are used to set the modem speed range. With the first transmission speed choice specified by selectors 1 through 3, the equipment attempts to establish the transmission link via the modem. If the establishment fails, the equipment automatically steps down to the next highest speed and attempts to establish the transmission link again. The equipment repeats this sequence while stepping down the transmission speed to the last choice specified by selectors 4 through 6.

If the modem always falls back to a low transmission speed (e.g., 4,800 bps), set the first transmission speed choice to the lower one (e.g., modify it from 12,000 bps to 7,200 bps) in order to deactivate the high-speed modem function and reduce the training time for shorter transmission time.

Generally, to save the transmission time, set the last transmission speed choice to a higher one.

- **Selector 7: V. 34 mode**

This selector determines whether or not the equipment communicates with the remote station in the V. 34 mode when that station supports the V. 34 mode.

### WSW20 (Overseas communications mode setting)

Selector No.	Function	Setting and Specifications
1	EP* tone prefix	0: OFF      1: ON
2	Overseas communications mode (Reception)	0: 2100 Hz      1: 1100 Hz
3	Overseas communications mode (Transmission)	0: OFF      1: Ignores DIS once.
4 5	Min. time length from reception of CFR to start of transmission of video signals	No. 4    5 0    0 :    100 ms 0    1 :    200 ms 1    0 :    300 ms 1    1 :    400 ms
6 7	Not used.	
8	CNG detection on/off	0: OFF      1: ON

\* EP: Echo protection

- **Selector 1: EP tone prefix**

Setting this selector to "1" makes the equipment transmit a 1700 Hz echo protection (EP) tone immediately preceding training in V.29 modulation system to prevent omission of training signals.

Prefixing an EP tone is effective when the equipment fails to transmit at the V.29 modem speed and always has to fall back to 4800 bps transmission.

- **Selectors 2 and 3: Overseas communications mode**

These selectors should be used if the facsimile equipment malfunctions in overseas communications. According to the communications error state, select the signal specifications.

Setting selector 2 to "1" allows the equipment to use 1100 Hz CED signal instead of 2100 Hz in receiving operation. This prevents malfunctions resulting from echoes, since the 1100 Hz signal does not disable the echo suppressor (ES) while the 2100 Hz signal does.

Setting selector 3 to "1" allows the equipment to ignore a DIS signal sent from the called station once in sending operation. This operation suppresses echoes since the first DIS signal immediately follows a 2100 Hz CED (which disables the ES) so that it is likely to be affected by echoes in the disabled ES state. However, such a disabled ES state will be removed soon so that the second and the following DIS signals are not susceptible to data distortion due to echoes. Note that some models when called may cause error by receiving a self-outputted DIS.

- **Selectors 8: CNG detection on/off**

If this selector is set to "1," the equipment detects a CNG signal according to the condition preset by selectors 2 and 3 of WSW18 after a line is connected. If it is set to "0," the equipment detects a CNG signal as long as the line is connected.

### WSW21 (TAD setting 1)

Selector No.	Function	Setting and Specifications
1   7	Not used.	
8	Erasure of message stored in the memory after the message transfer	0: Yes      1: No

- **Selector 8: Erasure of message**

Setting this selector to "0" will erase the message recorded in the memory after the document retrieval feature transfers the message.

### WSW22 (ECM setting)

Selector No.	Function	Setting and Specifications
1	ECM* in sending	0: ON      1: OFF
2	ECM* in receiving	0: ON      1: OFF
3	Call Waiting Caller ID	0: ON      1: OFF
4	Not used.	
5   8	Acceptable TCF bit error rate (%) (Only at 4800 bps)	0: 0%      1: 8% 0: 0%      1: 4% 0: 0%      1: 2% 0: 0%      1: 1%

\* ECM: Error correction mode

**NOTE:** Selector 3 is applicable to the American version only, but not applicable to those models equipped with high-speed modem.

**NOTE:** Selectors 5 through 8 are applicable to the Asian version only.

- **Selector 3: Call Waiting Caller ID**

Setting this selector to "0" allows the user to decide whether or not to interrupt the current call when a new call comes in. If Call Waiting Caller ID service is available in the area and the user subscribes to it, he/she can see information about his/her incoming call.

- **Selectors 5 through 8: Acceptable TCF bit error rate (%)**

Setting two or more selectors to "1" produces addition of percent assigned to each selector. If you set selectors 7 and 8 to "1," the acceptable TCF bit error rate will be 3%.

### WSW23 (Communications setting)

Selector No.	Function	Setting and Specifications
1	Starting point of training check (TCF)	0: From the head of a series of zeros 1: From any arbitrary point
2 3	Allowable training error rate	No. 2 3 0 0 : 0% 0 1 : 0.5% 1 0 : 1% 1 1 : 2%
4 5		Decoding error rate for transmission of RTN
6 7	Not used.	
8	Limitation of attenuation level	0: Yes      1: No

**NOTE:** Selector 8 is not applicable to the French versions.

- **Selector 1: Starting point of training check (TCF)**

At the training phase of receiving operation, the called station detects for 1.0 second a training check (TCF) command, a series of zeros which is sent from the calling station for 1.5 seconds to verify training and give the first indication of the acceptability of the line.

This selector sets the starting point from which the called station should start counting those zeros. If this selector is set to "0," the called station starts counting zeros 100 ms after the head of a series of zeros is detected.

If it is set to "1," the called station starts counting zeros upon detection of 10-ms successive zeros 50 ms after the head of a series of zeros is detected. In this case, if the detection of 10-ms successive zeros is too late, the data counting period will become less than 1.0 second, making the called station judge the line condition unacceptable.

- **Selectors 2 and 3: Allowable training error rate**

The called station checks a series of zeros gathered in training (as described in Selector 1) according to the allowable training error rate set by these selectors. If the called station judges the line condition to be accepted, it responds with CFR; if not, it responds with FTT.

- **Selectors 4 and 5: Decoding error rate for transmission of RTN**

The facsimile equipment checks the actual decoding errors and then transmits an RTN according to the decoding error rate (Number of lines containing an error per page ÷ Total number of lines per page) set by these selectors.

- **Selector 8: Limitation of attenuation level**

Setting this selector to "0" limits the transmitting level of the modem to 10 dB.

This setting has priority over the settings selected by WSW02 (selectors 5 through 8) and WSW13 (selectors 5 through 8).

**WSW24 (TAD setting 2)**

Selector No.	Function	Setting and Specifications																				
1 2	Not used.																					
3 4	Time length from CML ON to start of pseudo ring backtone transmission	<table> <tr> <td>No.</td> <td>3</td> <td>4</td> <td></td> </tr> <tr> <td></td> <td>0</td> <td>0</td> <td>: 4 sec.</td> </tr> <tr> <td></td> <td>0</td> <td>1</td> <td>: 3 sec.</td> </tr> <tr> <td></td> <td>1</td> <td>0</td> <td>: 2 sec.</td> </tr> <tr> <td></td> <td>1</td> <td>1</td> <td>: 1 sec.</td> </tr> </table>	No.	3	4			0	0	: 4 sec.		0	1	: 3 sec.		1	0	: 2 sec.		1	1	: 1 sec.
No.	3	4																				
	0	0	: 4 sec.																			
	0	1	: 3 sec.																			
	1	0	: 2 sec.																			
	1	1	: 1 sec.																			
5   8	Attenuator for playback of ICM/OGM to the line (Selectable from the range of 0-15 dB)	<table> <tr> <td>0:</td> <td>0 dB</td> <td>1:</td> <td>8 dB</td> </tr> <tr> <td>0:</td> <td>0 dB</td> <td>1:</td> <td>4 dB</td> </tr> <tr> <td>0:</td> <td>0 dB</td> <td>1:</td> <td>2 dB</td> </tr> <tr> <td>0:</td> <td>0 dB</td> <td>1:</td> <td>1 dB</td> </tr> </table>	0:	0 dB	1:	8 dB	0:	0 dB	1:	4 dB	0:	0 dB	1:	2 dB	0:	0 dB	1:	1 dB				
0:	0 dB	1:	8 dB																			
0:	0 dB	1:	4 dB																			
0:	0 dB	1:	2 dB																			
0:	0 dB	1:	1 dB																			

- **Selectors 3 and 4: Time length from CML ON to start of pseudo ring backtone transmission**

These selectors set the length of time from CML-ON up to the start of pseudo ring backtone transmission.

In those versions which have an OGM facility, the settings made by these selectors also apply to the length of time from CML-ON up to the start of OGM transmission.

- **Selectors 5 through 8: Attenuator for playback of ICM/OGM to the line**

Setting two or more selectors to "1" produces addition of attenuation assigned to each selector.

This setting will not be limited by selector 8 of WSW23.

**WSW25 (TAD setting 3)**

Selector No.	Function	Setting and Specifications
1   4	Not used.	
5   7	Pause between paging number and PIN	No. 5 6 7 0 0 0 : 2 sec. 0 0 1 : 4 sec. 0 1 0 : 6 sec. 0 1 1 : 8 sec. 1 0 0 : 10 sec. 1 0 1 : 12 sec. 1 1 0 : 14 sec. 1 1 1 : 16 sec.
8	Not used.	

- **Selectors 5 through 7: Pause between paging number and PIN**

These selectors set the pause time between a telephone number being paged and PIN (private identification number) for the paging feature.

**WSW26 (Function setting 4)**

Selector No.	Function	Setting and Specifications
1 2	Not used.	
3	Dialing during document reading into the temporary memory in in-memory message transmission	0: Disabled    1: Enabled
4 5	No. of CNG cycles to be detected (when the line is connected via the external telephone except in the external TAD mode)	No. 4    5 0 0 : 0.5    (A) 0 1 : 1    (B) 1 0 : 1.5    (C) 1 1 : 2    (D)
6   8	Not used.	

- **Selector 3: Dialing during document reading into the temporary memory in in-memory message transmission**

If this selector is set to "0," the equipment waits for document reading into the memory to complete and then starts dialing. This enables the equipment to list the total number of pages in the header of the facsimile message.

- **Selectors 4 and 5: No. of CNG cycles to be detected**

The equipment interprets a CNG as an effective signal if it detects a CNG signal by the number of cycles specified by these selectors when the line is connected via the external telephone except in the external TAD mode.



**WSW27 (Function setting 5)**

Selector No.	Function	Setting and Specifications
1	Not used.	
2	Ringer OFF setting	0: Yes      1: No
3   7	Not used.	
8	Toner save mode	0: Yes      1: No

- **Selector 2: Ringer OFF setting**

This selector determines whether or not the ringer can be set to OFF.

**WSW28 (Function setting 6)**

Selector No.	Function	Setting and Specifications
1   3	Transmission level of DTMF high-band frequency signal	No. 1 2 3 0 0 0 : 0 dB 0 0 1 : +1 dB 0 1 0 : +2 dB 0 1 1 : +3 dB 1 0 0 : 0 dB 1 0 1 : -1 dB 1 1 0 : -2 dB 1 1 1 : -3 dB
4   6	Transmission level of DTMF low-band frequency signal	No. 4 5 6 0 0 0 : 0 dB 0 0 1 : +1 dB 0 1 0 : +2 dB 0 1 1 : +3 dB 1 0 0 : 0 dB 1 0 1 : -1 dB 1 1 0 : -2 dB 1 1 1 : -3 dB
7 8	Not used.	

- **Selectors 1 through 6: Transmission level of DTMF high-/low-band frequency signal**

These selectors are intended for the manufacturer who tests the equipment for the Standard. Never access them.

### WSW29 (Function setting 7)

Selector No.	Function	Setting and Specifications
1   6	Not used.	
7	Impedance switching control in pulse dialing	0: OFF      1: ON
8	Beep when the memory area for the activity report becomes full	0: No      1: Yes

**NOTE:** Selector 7 and 8 are applicable to the European version only.

- **Selector 8: Beep when the memory area for the activity report becomes full**

If this selector is set to "1," the equipment will beep when the memory area for the activity report becomes full (as well as displaying a message on the LCD, prompting the output of the activity report).

### WSW30 (Function setting 8)

Selector No.	Function	Setting and Specifications
1   3	Not used.	
4	Duty cycle control of pulsed current for the heat-fixing unit	0: OFF      1: ON
5   8	Not used.	

**NOTE:** Selector 4 is applicable to the European version only.

- **Selector 4: Duty cycle control of pulsed current for the heat-fixing unit**

Setting this selector to "1" activates the duty cycle control that suppresses the rush current. The duty cycle is 10-ms ON and 20-ms OFF.

However, the duty cycle control may emit switching noise to the AC line. Depending upon the codes and regulations in the country, this selector should be set to "0."

### WSW31 (Function setting 9)

Selector No.	Function	Setting and Specifications
1	Not used.	
2	Default reduction rate for failure of automatic reduction during recording	0: 100%    1: 75% (Letter) 87% (A4) 95% (Legal)
3 4	Not used.	
5	Minimum short-OFF duration in distinctive ringing	0: 130 ms    1: 90 ms
6 7	Not used.	
8	"CHANGE DRUM SOON" message	0: Yes            1: No

- **Selector 2: Default reduction rate for failure of automatic reduction during recording**

This selector sets the default reduction rate to be applied if the automatic reduction function fails to record one-page data sent from the calling station in a single page of the current recording paper.

If it is set to "0," the equipment records one-page data at full size (100%) without reduction; if it is set to "1," the equipment records it at the size\* specified according to the current paper size.

(\*American versions allow the user to select the desired paper size from the control panel. According to the paper size setting, the equipment determines the reduction rate. Other versions can handle only A4-size paper, so the reduction rate is always 87%.)

- **Selector 5: Minimum short-OFF duration in distinctive ringing**

The ringer pattern consists of short and long rings, e.g., short-short-long rings. This selector sets the minimum OFF duration following a short ring in order to avoid missing ringer tones in distinctive ringing.

If this selector is set to "1," when the short-OFF duration is a minimum of 90 ms long, then the equipment will interpret the short-OFF as OFF.

- **Selector 8: "CHANGE DRUM SOON" message**

This selector determines whether or not the "CHANGE DRUM SOON" message should appear on the LCD when the service life of the laser-sensitive drum in the laser unit will expire soon.

**WSW32 (Function setting 10)**

Selector No.	Function	Setting and Specifications
1   4	Not used.	
5 6	Default resolution	No. 5 6 0 0 : Standard 0 1 : Fine 1 0 : Super fine 1 1 : Photo
7 8	Default contrast	No. 7 8 0 X : Automatic 1 0 : Super light 1 1 : Super dark

- **Selectors 5 and 6: Default resolution**

These selectors set the default resolution which applies when the equipment is powered up or completes a transaction.

- **Selectors 7 and 8: Default contrast**

These selectors set the default contrast which applies when the equipment is powered up or completes a transaction.

**WSW33 (Function setting 11)**

Selector No.	Function	Setting and Specifications
1   5	Not used.	
6	Report output of polled transmission requests	0: Yes      1: No
7 8	Not used.	

**NOTE:** Selector 6 is not applicable to American versions.

**WSW34 (Function setting 12)**

Selector No.	Function	Setting and Specifications
1   3	Not used.	
4  5	No. of CNG cycles to be detected (when the line is connected via the facsimile equipment or external telephone except in the external TAD mode)	No. 6 7 0 0 : 0.5 (A) 0 1 : 1 (B) 1 0 : 1.5 (C) 1 1 : 2 (D)
6  7	Number of DTMF tone signals for inhibiting the detection of CNG during external TAD operation	No. 6 7 0 0 : 3 0 1 : 2 1 0 : 1 1 1 : OFF
8	CNG detection when the external telephone is connected with a line TAD mode	0: Only when the equipment detects itself being called      1: Always

**NOTE:** Selectors 4 and 5 are not applicable to the American version.

- **Selectors 4 and 5: No. of CNG cycles to be detected**

The equipment interprets a CNG as an effective signal if it detects a CNG signal by the number of cycles specified by these selectors when the line is connected via the facsimile equipment or external telephone except in the external TAD mode.

- **Selectors 6 and 7: Number of DTMF tone signals for inhibiting the detection of CNG during external TAD operation**

If the equipment receives this specified number of DTMF tone signals during external TAD operation, it will not detect CNG afterwards.

If these selectors are set to "1, 1," the CNG detection will not be inhibited.

- **Selector 8: CNG detection when the external telephone is connected with a line in TAD**

If this selector is set to "0," the equipment will detect a CNG signal only when it detects itself being called. If the external telephone is connected with a line before the equipment detects itself being called, the equipment will not longer detect a CNG signal.

If this selector is set to "1," the equipment will detect a CNG signal every time the external telephone is connected with a line, even without detecting itself being called.

**WSW35 (Function setting 13)**

Selector No.	Function	Setting and Specifications
1   8	Not used.	

### WSW36 (Function setting 14)

Selector No.	Function	Setting and Specifications
1	ECP* mode	0: ON      1: OFF
2	Recovery from inactive PC interface	0: Disabled    1: Enabled
3	PC power-off recognition time	0: Normal      1: Long
4	Not used.	
5	Escape from phase C	0: Yes      1: No
6   8	Lower limit of frequency to be ignored after detection of calling signals (Ci)	No. 6 7 8 0 0 0 : 0 (Not ignored) 0 0 1 : 4 (448 Hz) 0 1 0 : 8 (244 Hz) 0 1 1 : 12 (162 Hz) 1 0 0 : 16 (122 Hz) 1 0 1 : 20 (97 Hz) 1 1 0 : 24 (81 Hz) 1 1 1 : 28 (69 Hz)

\*ECP (Enhanced Capabilities Port)

- **Selector 1: ECP mode**

The ECP mode enhances the normal bidirectional communications between the facsimile equipment and the connected PC for higher transmission speed.

- **Selector 2: Recovery from inactive PC interface**

If the facsimile equipment recognizes via the STB signal line that the connected PC is powered off, it will turn the PC interface outputs Low to protect the PC from hazards that could be caused by weak electric current accidentally flown from the equipment.

This selector determines whether the equipment should recover from the inactive PC interface to normal interfacing state upon receipt of data from the PC.

- **Selector 3: PC power-off recognition time**

This selector sets the time length from when the equipment detects the PC powered off until it recognizes the detected state as power-off.

If selector 2 is set to "0," it is recommended that selector 3 be set to "1": otherwise, the equipment may mistakenly detect PC powered off.

- **Selector 5: Escape from phase C**

This selector determines whether or not the equipment will escape from phase C when it detects an RTC (Return to Control) in non-ECM mode or an RCP (Return to Control Partial page) in ECM mode.

- **Selectors 6 through 8: Lower limit of frequency to be ignored after detection of calling signals (Ci)**

At the start of reception, if the equipment detects the frequency of calling signals (Ci) specified by selectors 1 through 4 of WSW14, it will start the ringer sounding. When doing so, the equipment may fail to detect the calling signals normally due to noises superimposed at the time of reception. To prevent it, use selectors 6 through 8 of WSW36.

If the equipment detects higher frequencies than the lower limit specified by these selectors, it will regard them as noise and interpret that detecting state as being normal, allowing the ringer to keep sounding (until the equipment starts automatic reception of FAX data if in the FAX mode or enters the TAD mode if set in the TEL mode, according to the preset number of ringers).



### WSW37 (Function setting 15)

Selector No.	Function	Setting and Specifications
1	Printout of the stored image data of an unsent document onto the error report	0: No      1: Yes
2	Erasure of the stored image data of an unsent document at the time of the subsequent in-memory message transmission	0: No      1: Yes
3   8	Not used.	

- **Selector 1: Printout of the stored image data of an unsent document onto an error report**

This selector determines whether or not the 1st-page image data of a document will be printed out onto the error report if the document image data stored in the temporary memory cannot be transmitted normally.

- **Selector 2: Erasure of the stored image data of an unsent document at the time of the subsequent in-memory message transmission**

If in-memory message transmission fails repeatedly when selector 1 is set to "1," the temporary memory will be occupied with image data. Setting selector 2 to "1" will automatically erase the stored 1st-page image data of an unsent document at the time of the subsequent in-memory message transmission only when recording paper or toner runs out.

**WSW38 (Function setting 16)**

Selector No.	Function	Setting and Specifications
1 2	Setting of the equalizer	No. 1 2 0 X Automatic 1 0 : Fixed to 4 points 1 1 : Fixed to 16 points
3	Sending level of guard tone at phase 2	0: Normal - 7 db 1: Normal
4	Stepping down the transmission speed at fallback each	0: 2400 bps 1: 4800 bps
5 6	Automatic control of modem's EQM gain for proper transmission speed choice	No. 5 6 0 0 For higher transmission speed than the current setting 0 1 : No change from the current setting 1 0 : For lower transmission speed than the current setting 1 1 : For further lower transmission than the setting made by 1, 0
7 8	Not used.	

**NOTE:** WSW38 takes effect only in the V. 34 mode.

- **Selectors 1 and 2: Setting of the equalizer**

These selectors set the equalizer's training level to be applied if the facsimile equipment fails to send training due to weak line connection. If these selectors are set to "0, X," the modem will automatically set the appropriate training level.

- **Selector 3: Sending level of guard tone at phase 2**

This selector sets the sending level of guard tone for 1800 Hz to be sent at Phase 2 in the V. 34 mode.

- **Selector 4: Stepping down the transmission speed at fallback each**

This selector determines how much the modem steps down the transmission speed at fallback when called by the remote station. If this selector is set to "1," the modem may step down the transmission speed from 33600 bps to 28800 bps by one-time fallback.

- **Selectors 5 and 6: Automatic control of modem's EQM gain for proper transmission speed choice**

These selectors determine how the modem controls the EQM (Eye Quality Monitor) gain for proper choice of the transmission speed, which applies if the modem selects higher transmission speed than the possible speed so that it always repeats falling back.

**WSW39 (Function setting 17)**

Selector No.	Function	Setting and Specifications
1   4	First transmission speed choice for fallback	No. 1 2 3 4 No. 5 6 7 8 0 0 0 0 : 2400 bps 0 0 0 1 : 4800 bps 0 0 1 0 : 7200 bps 0 0 1 1 : 9600 bps 0 1 0 0 : 12000 bps 0 1 0 1 : 14400 bps 0 1 1 0 : 16800 bps 0 1 1 1 : 19200 bps 1 0 0 0 : 21600 bps 1 0 0 1 : 24000 bps 1 0 1 0 : 26400 bps 1 0 1 1 : 28800 bps 1 1 0 0 : 31200 bps 1 1 0 1 : 33600 bps 1 1 1 0 : 33600 bps 1 1 1 1 : 33600 bps
5   8	Last transmission speed choice for fallback	

**NOTE:** WSW39 takes effect only in the V. 34 mode.

• **Selectors 1 through 8: First and last choices of transmission speed for fallback**

These selectors are used to set the modem speed range. With the first transmission speed choice specified by selectors 1 through 4, the equipment attempts to establish the transmission link via the modem. If the establishment fails, the equipment automatically steps down to the next highest speed and attempts to establish the transmission link again. The equipment repeats this sequence while stepping down the transmission speed to the last choice specified by selectors 5 through 8.

If the modem always falls back to a low transmission speed (e.g., 24,000 bps), set the first transmission speed choice to the lower one (e.g., modify it from 31,200 bps to 26,400 bps) in order to deactivate the high-speed modem function and reduce the training time for shorter transmission time.

WSW39 will be limited by selectors 3 through 8 of WSW40.

**WSW40 (Function setting 18)**

Selector No.	Function	Setting and Specifications				
1 2	Not used.					
3   8	Masking of symbol rate(s)	Not masking		Masking		
		No. 3	0	1	3429 symbols/sec	
		No. 4	0	1	3200 symbols/sec	
		No. 5	0	1	3000 symbols/sec	
		No. 6	0	1	2800 symbols/sec	
		No. 7	-	-	Not used.	
No. 8	0	1	2400 symbols/sec			

**NOTE:** WSW40 takes effect only in the V. 34 mode.

- Selectors 3 and 8: Masking of symbol rate(s)**

These selectors allow you to limit the transmission speed range in the V. 34 mode by masking the desired symbol rate(s). Transmission speeds assigned to the symbol rates are listed below. The setting made by these selectors will limit the setting made by selectors 1 through 4 of WSW39.

If selector 3 is set to "1" to mask the 3429 symbols/second when the first transmission speed choice is 33600 bps (specified by selectors 1 through 4 of WSW39), for example, the allowable maximum transmission speed will be limited to 31200 bps. If selector 8 is set to "1" to mask the 2400 symbols/second when the first transmission speed choice is 33600 bps, then the allowable maximum transmission speed remains 33600 bps.

If selector 8 is set to "1" to mask the 2400 symbols/second when the first transmission speed choice is 21600 bps (specified by selectors 1 through 4 of WSW39), the allowable maximum transmission speed remains 21600 bps but the minimum transmission speed will be limited to 4800 bps.

Symbol rate	Transmission speed (bps)	Symbol rate	Transmission speed (bps)	Symbol rate	Transmission speed (bps)
2400	2400	3000	4800	3429	4800
	4800		7200		7200
	7200		9600		9600
	9600		12000		12000
	12000		14400		14400
	14400		16800		16800
	16800		19200		19200
	19200		21600		21600
	21600		24000		24000
	24000		26400		26400
2800	4800	3200	4800		28800
	7200		7200		31200
	9600		9600		33600
	12000		12000		
	14400		14400		
	16800		16800		
	19200		19200		
	21600		21600		
	24000		24000		
	26400		26400		

**WSW41 (Function setting 19)**

Selector No.	Function	Setting and Specifications																																																
1   4	Not used.																																																	
5   8	Modem attenuator	<table border="0"> <tr> <td>No.</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td></td> </tr> <tr> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>: -10 dBm</td> </tr> <tr> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>: -11 dBm</td> </tr> <tr> <td></td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>: -12 dBm</td> </tr> <tr> <td></td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>: -13 dBm</td> </tr> <tr> <td></td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>: -14 dBm</td> </tr> <tr> <td></td> <td></td> <td></td> <td align="center"> </td> <td></td> <td align="center"> </td> </tr> <tr> <td></td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>: -25 dBm</td> </tr> </table>	No.	5	6	7	8			0	0	0	0	: -10 dBm		0	0	0	1	: -11 dBm		0	0	1	0	: -12 dBm		0	0	1	1	: -13 dBm		0	1	0	0	: -14 dBm								1	1	1	1	: -25 dBm
No.	5	6	7	8																																														
	0	0	0	0	: -10 dBm																																													
	0	0	0	1	: -11 dBm																																													
	0	0	1	0	: -12 dBm																																													
	0	0	1	1	: -13 dBm																																													
	0	1	0	0	: -14 dBm																																													
	1	1	1	1	: -25 dBm																																													

**NOTE:** WSW41 takes effect only in the V. 34 mode.

- **Selectors 5 through 8: Modem attenuator**

These selectors are used to adjust the transmitting level of the modem when the reception level at the remote station is improper due to line loss. This function applies to super G3 protocol signals.

### WSW42 (Function setting 20)

Selector No.	Function	Setting and Specifications
1	Incoming mail server POP* <sup>1</sup>	0: OFF      1: ON
2	Incoming mail server SMTP* <sup>2</sup>	0: OFF      1: ON
3	Internet-FAX forward function	0: OFF      1: ON
4	JBIG* <sup>3</sup> coding system	0: Disabled      1: Enabled
5   8	Not used.	

\*<sup>1</sup> POP: Post Office Protocol

\*<sup>2</sup> SMTP: Simple Mail Transfer Protocol

\*<sup>3</sup> JBIG: Joint Bi-level Image Group

**NOTE:** Selectors 1 through 3 are applicable to those models equipped with LAN interface.

- **Selector 3: Internet-FAX forward function**

If this selector is set to "ON," the facsimile equipment may forward a FAX message received through Internet to other remote G3 facsimile equipment.

## [ B ] Printout of firmware switch data

### Function

The equipment prints out the setting items and contents specified by the firmware switches.

### Operating Procedure

- (1) Press the **1** key twice in the initial stage of the maintenance mode.  
The "PRINTING" will appear on the LCD.
- (2) The equipment prints out the configuration list as shown in the figure below.
- (3) Upon completion of printing, the equipment returns to the initial stage of the maintenance mode.

#### CONFIGURATION LIST

```

MODEL: 8X5-401
TIME : 06/28/1999 05:54
REV. : U9906251842VER.0
PCI : 5.00
SUM : 0029
54
.0

WSW01 = 00000000
1-2. DIAL FORMAT : NORMAL
3-4. BREAK TIME : 60 MS
5-6. INTERDIGIT PAUSE : 800 MS
7. DP/PB CHANGE IN USER SW : Yes
8. DP/PB FIXING SELECTION : PB
WSW02 = 11111010
1-2. ON TIME : 100 MS
3-4. ON TIME : 140 MS
5-8. LINE BEEP ATTENUATOR : 10 dB
WSW03 = 10000000
1. PARA. CNG DETECTION2 : B
2-4. NOT USED
5. PARA. CNG DETECTION1 : A
6-8. NOT USED
WSW04 = 00010111
1. EARTH IN TRANSFER : ON
2-4. NOT USED
5-6. EARTHING TIME : 300 MS
7-8. FLASHING TIME : 500 MS
WSW05 = 00000110
1-3. DIAL TONE DETECTION : 3.5 SEC WAITING
4. REMOTE ID DETECTION TIMEOUT : 2 SEC
5-6. BUSY TONE DETECTION (CALLING) : AFTER DIALING
7. BUSY TONE DETECTION (CALLED) : OFF
8. DTMF DETECTION : 4
WSW06 = 00101100
1-3. PAUSE KEY : 3.5 SEC WAITING
4-8. NOT USED
WSW07 = 01001100
1-2. FREQUENCY RANGE : INITIAL DATA
3. CURRENT LOOP DETECTION : OFF
4-8. NOT USED
WSW08 = 01100100
1-8. NOT USED
WSW09 = 00000000
1. EOM FRAME : 256 OCTET
2. NON STANDARD FACILITIES : ON
3-4. TIMES OF FALL BACK : 4
5. T5 TIMER : 300 SEC
6. T1 TIMER : 35 SEC
7-8. CALLING TIMEOUT : 60 SEC
WSW10 = 00010100
1. DPS LINK WITH CML : Yes
2. TIMING OF LAST DIGIT-MODEM CHANGE : 100 MS
3. TIMING OF CML ON CNG TRANSMISSION : 2 SEC
4. TIMING OF CML ON CED TRANSMISSION : 2 SEC
5-6. TRAINING RETRIES : 2
7. CODING METHOD MR : ON
8. CODING METHOD MMR : ON
WSW11 = 01011000
1-2. FREQUENCY RANGE : INITIAL DATA
3. NOT USED
4-8. ON/OFF TIME : 175 - 600 / 175 - 600 ms
WSW12 = 10011011
1-2. OFF DETECTION TIME : 700 MS
3-4. AUTO ANS OFF DETECTION TIME : 7 SEC
5-6. ON DETECTION TIME : 250 MS
7. DELAY : OFF
8. NOT USED
WSW13 = 00011010
1-2. CABLE EQUALIZER : 0 km
3-4. RECEIVING LEVEL : -47 dBm
5-8. ATTENUATOR : 10 dB
WSW14 = 01110110
1-2. CALLING SIGNAL RANGE (LOW) : 14 Hz
3-4. CALLING SIGNAL RANGE (HIGH) : 70 Hz
5-8. DELAY TIMES : 1 - 4
WSW15 = 00001110
1-2. INTERVAL TIME : 5 min
3-6. RETRIES : 3
7. REDIAL IN CASE OF NO FAX RESPONSE : No
6-7. NOT USED
8. TONER SAVE IF EMPTY : No
3. INTERNET FAX : ON
4-8. NOT USED

```

#### Configuration List

### 3.6 Operational Check of LCD

#### Function

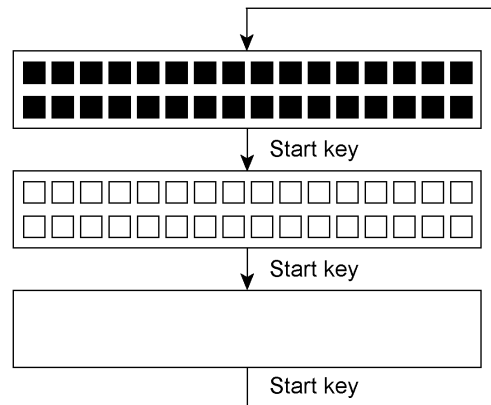
This function allows you to check whether the LCD on the control panel works normally.

#### Operating Procedure

- (1) Press the **1** and **2** keys in this order in the initial stage of the maintenance mode.

The LCD shows

- (2) Press the **Start** key. Each time you press the **Start** key, the LCD cycles through the displays shown at right.



- (3) Press the **Stop** key in any process of the above display cycle. The equipment beeps for one second and returns to the initial stage of the maintenance mode.

### 3.7 Operational Check of Control Panel PCB

#### Function

This function allows you to check the control panel PCB for normal operation.

#### Operating Procedure

- (1) Press the **1** and **3** keys in this order in the initial stage of the maintenance mode.

The "00 " will appear on the LCD.

- (2) Press the keys and buttons in the order designated in the illustration shown below.

The LCD shows the corresponding number in decimal notation each time a key or button is pressed. Check that the displayed number is correct by referring to the illustration below.

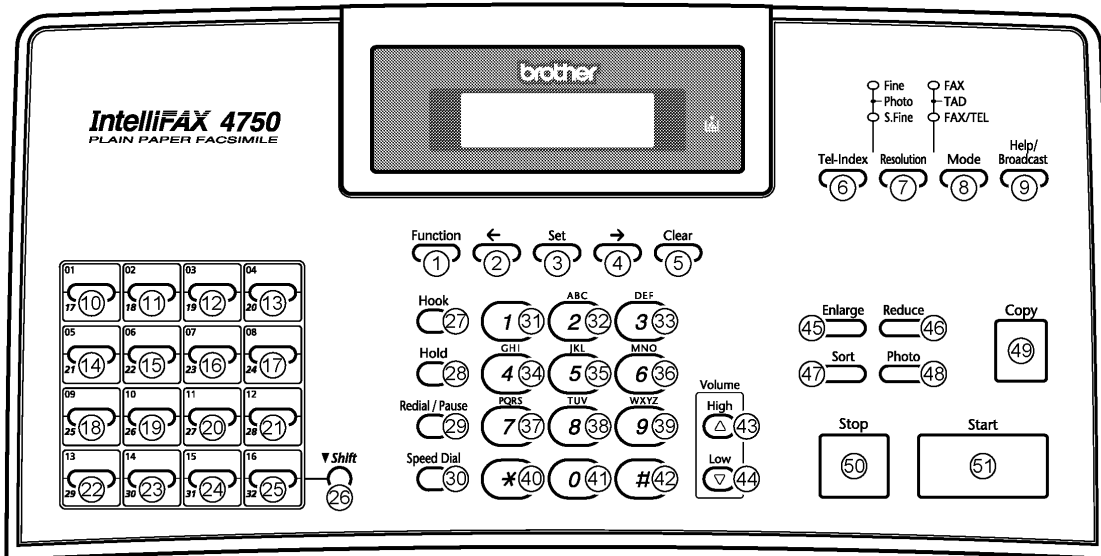
If a key or button is pressed out of order, the equipment beeps and displays the "INVALID OPERATE" on the LCD. To return to the status ready to accept key & button entry for operational check, press the **Stop** key.

- (3) After the last number key or button is pressed, the equipment beeps and returns to the initial stage of the maintenance mode.

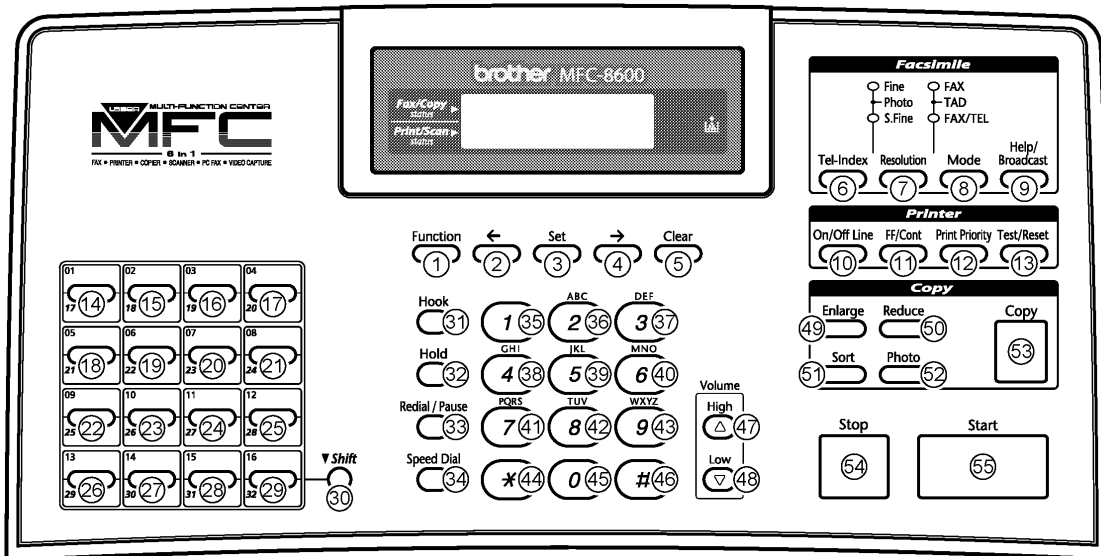
To terminate this operation, press the **Stop** key. The equipment returns to the initial stage of the maintenance mode.



FAX4750



MFC-8300/MFC-8600



Key & Button Entry Order

### 3.8 Receiver Volume Adjustment (applicable to the American version only)

#### Function

The HIGH level of the handset receiver's volume will be influenced by the characteristics of the FET on the main PCB, so it requires fine adjustment according to the procedure given below.

#### Operating Procedure

- (1) Connect the telephone line cord to the modular jack of the facsimile equipment and the telephone wall socket.
- (2) Pick up the handset and listen to the dial tone. If the receiver volume is not appropriate, proceed to the following steps:
- (3) Press the **1** and **6** keys in this order in the initial stage of the maintenance mode.  
The LCD shows the current receiver volume (default: HIGH).
- (4) If the current receiver volume is not HIGH, use the right or left arrow key to choose HIGH.
- (5) Press the **Start** key.  
The equipment enters the receiver volume adjustment mode and shows the PWM duty ratio at the right end of the LCD.
- (6) Adjust the receiver volume by using the **1**, **3**, **4**, or **6** key.  
**1** key: Decrease 10H  
**3** key: Increase 10 H  
**4** key: Decrease 1H  
**6** key: Increase 1H
- (7) To escape from the receiver volume adjustment mode, press the **Set** key.  
The LCD shows the "PWM SETTING." One second later, the LCD returns to the screen shown in step (3).
- (8) To return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.9 Sensor Operational Check

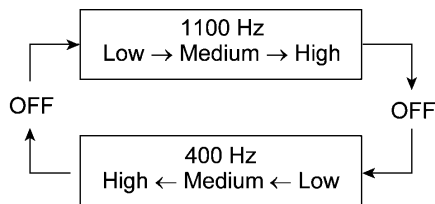
#### Function

This function allows you to check whether the nine sensors (eight sensors on European models)-- document front sensor, document rear sensor, cover sensor, registration sensor, toner sensor, paper ejection sensor, hook switch sensor\*, manual insertion sensor, and cassette sensor--operate correctly.

(\*European models have no hook switch sensor.)

#### Operating Procedure

- Press the **3** and **2** keys in this order in the initial stage of the maintenance mode. The equipment beeps 1100 Hz and 400 Hz tones cyclically through the following volumes for testing the speaker.



**NOTE:** To stop beeping, press the **Function** key (American models) or **Menu** key (European models).

If the sensing status are as listed below, the LCD will show the following:

"DFDRCVRSTNPOHKR2" and "MNCSC2" (which can be switched by pressing the **Start** key) on American models

"DFDRCVRSTNPO R2" and "MNCSC2" (which can be switched by pressing the **Start** key) on European models

Given below is the relationship between the LCD indication, sensor names and sensor status.

LCD	Sensors	Sensing status
DF	Document front sensor	No document detected.
DR	Document rear sensor	No document detected.
CV	Cover sensor	Front cover closed.
RS	Registration sensor	No paper detected.
TN	Toner sensor	No toner detected.
PO	Paper ejection sensor	No paper jam.
HK	Hook switch sensor*	On-hook state.
R2	2nd registration sensor**	No paper detected.
MN	Manual insertion sensor	No paper detected.
CS	Cassette sensor	No paper cassette loaded.
C2	2nd cassette sensor**	No paper cassette loaded.

(\*\*These error indications will always be displayed in models not equipped with a 2nd paper cassette.)

- Change the detecting conditions (e.g., insert paper through the document sensors or the registration sensor(s), open the front cover, remove the toner cartridge, jam paper at the paper outlet, lift up the handset\*, insert paper manually through the paper slot, and load the paper cassette(s)), and then check that the indication on the LCD changes according to the sensor states.
- To stop this operation and return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.10 CIS Scanner Area Setting

#### Function

The equipment sets the CIS scanner area and stores it into the EEPROM.

#### Operating Procedure

- (1) Press the **5** key twice in the initial stage of the maintenance mode.  
The "SCANNER AREA SET" will appear on the LCD.  
The equipment checks and sets the area to be scanned.  
If no error is noted, the equipment returns to the initial stage of the maintenance mode.  
If any error is noted, the "SCANNER ERROR" will appear on the LCD. To return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.11 EEPROM Customizing

#### Function

This function allows you to customize the EEPROM according to language, function settings, and firmware switch settings. The customizing codes list is given in Appendix 1.

**NOTE:** If you replace the main PCB, be sure to carry out this procedure.

#### Operating Procedure

- (1) Press the **7** and **4** keys in this order in the initial stage of the maintenance mode.  
The current customizing code (e.g., 1101 in the case of MFC8300 USA version) appears.
- (2) Enter the desired customizing code (e.g., 0202 in the case of MFC8600 Canadian version).  
The newly entered code appears.  
**NOTE:** If a wrong 4-digit code is entered, the equipment will malfunction.
- (3) Press the **Start** key.  
The equipment saves the setting and returns to the initial stage of the maintenance mode.  
If you press the **Stop** key or no keys are pressed for one minute in the above procedure, the equipment stops the procedure and returns to the initial stage of the maintenance mode.

### 3.12 Equipment Error Code Indication

#### Function

This function displays an error code of the last error on the LCD.

#### Operating Procedure

- (1) Press the **8** and **2** keys in this order in the initial stage of the maintenance mode.  
The LCD shows the "MACHINE ERROR X X."
- (2) To stop this operation and return the equipment to the initial stage of the maintenance mode, press the **Stop** key.

### 3.13 Output of Transmission Log to the Telephone Line

#### Function

This function outputs the transmission log (that the equipment has stored about the latest transmission) to the telephone line. It allows the service personnel to receive the transmission log of the user's equipment at a remote location and use it for analyzing problems arising in the user's equipment.

#### Operating Procedure

- (1) If the user's equipment has a transmission-related problem, call the user's equipment at a remote location from your equipment.
- (2) If the line is connected, have the user perform the following:
  - 1) American models: Press the **Function**, **Mode**, and **0** keys in this order.  
European models: Press the **Menu**, **Mode**, and **0** keys in this order.
  - 2) Press the **8** and **7** keys.  
The above operation makes the user's equipment send CNG to your equipment for sending the transmission log.
- (3) If you hear the CNG sent from the user's equipment, press the **Start** key of your equipment.  
Your equipment will start to receive the transmission log from the user's equipment.

### 3.14 Cancellation of the Memory Security Mode (applicable to the European version only)

#### Function

This procedure can cancel the memory security mode. Use this procedure if the user forgets his/her password entered when setting the memory security mode so as not to exit from the memory security mode.

**NOTE:** Carrying out this procedure will lose passwords previously entered but retain FAX messages received in the memory security mode.

#### Operating Procedure

- (1) When the SECURE MODE is displayed on the LCD, hold down the **Menu** key and press the **#** key. Within two seconds, start to press the **2**, **7**, **9**, **0**, and **0** keys.

The memory security mode will be canceled and the equipment returns to the calendar clock screen.

# **CHAPTER VI.**

## **ERROR INDICATION AND TROUBLESHOOTING**

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# 1. ERROR INDICATION

To help the user or the service personnel promptly locate the cause of a problem (if any), the facsimile equipment incorporates the self-diagnostic functions which display error messages for equipment errors and communications errors.

For the communications errors, the equipment also prints out the transmission verification report and the communications list.

## 1.1 Equipment Errors

If an equipment error occurs, the facsimile equipment emits an audible alarm (continuous beeping) for approximately 4 seconds and shows the error message on the LCD. For the error messages, see [ 1 ] below.

To display detailed error information, use the maintenance-mode function code 82 described in Chapter V, Section 3.12 (that is, make the equipment enter the maintenance mode and then press the **8** and **2** keys). Following the MACHINE ERROR, one of the error codes listed in [ 2 ] will appear on the LCD.

### [ 1 ] Error messages on the LCD

Messages on the LCD	Probable Cause
CHECK PAPER CHECK PAPER#1 CHECK PAPER#2	Even after paper pick-up operation, the manual insertion sensor does not detect paper.  (For those models available with a 2nd paper cassette, the "CHECK PAPER#1" or "CHECK PAPER#2" will appear if the manual insertion sensor or 2nd registration sensor does not detect paper, respectively. If both sensors detect no paper, the "CHECK PAPER" will appear.)
CHECK CASSETTE CHECK CASSETTE#1 CHECK CASSETTE#2	The cassette sensor detects that no paper cassette is loaded.  (For those models available with a 2nd paper cassette, the "CHECK CASSETTE#1" or "CHECK CASSETTE#2" will appear if the cassette sensor or the 2nd cassette sensor does not detect paper cassette, respectively. If both sensors detect no cassette, the "CHECK CASSETTE" will appear.)
COVER OPEN	The cover sensor detects that the front cover is not closed.
PRINTER JAM	(1) The paper ejection sensor stays OFF even after the registration sensor has gone OFF and the paper has been fed by the specified amount.  (2) The paper ejection sensor stays ON even after it has come ON and the paper has been fed by the specified amount.

Messages on the LCD	Probable Cause
DOCUMENT JAM	<p>Document jam</p> <p>(1) The document length exceeds the limitation (400 or 90 cm) registered by firmware switch WSW16. (Refer to Chapter V, Section 3.5.)</p> <p>(Both the document front and rear sensors stay ON after the document has been fed by the registered length.)</p> <p>(2) The document rear sensor detects no trailing edge of a document after the document has been fed by 400 cm.</p> <p>(The document rear sensor stays ON even after the document has been fed when the document front and rear sensors were OFF and ON, respectively.)</p>
	<p>Document loading error</p> <p>(1) The document rear sensor detects no leading edge of a document within 10 seconds from the start of document loading operation.</p> <p>(The document rear sensor stays OFF even after the document has been fed when the document front sensor was ON.)</p> <p>(2) The loaded document is too short.</p> <p>(Since the document is shorter than the distance between the document front and rear sensors, the document front sensor is turned OFF before the document rear sensor is turned ON.)</p>
CLEAN UP SCANNER	<p>In the scanning compensation data list printed by the maintenance-mode function code 05, less than fifty percent of the white level data is faulty.</p> <p>(This message may appear only in the maintenance mode.)</p>
SCANNER ERROR	<p>In the scanning compensation data list printed by the maintenance-mode function code 05, fifty percent or more of the white level data is faulty.</p> <p>(This message may appear only in the maintenance mode.)</p>
TONER LOW	<p>The toner sensor has detected that there is not enough toner.</p>
TONER EMPTY	<p>The toner sensor has detected that there is no toner in the cartridge or that no toner cartridge is loaded. If this message appears, recording is no longer possible.</p>
<p>COOLING DOWN ←</p> <p>PLEASE WAIT ←</p> <p>(Appear alternately.)</p>	<p>The controller, which monitors the internal resistance of the in-casing temperature sensor (thermistor) and heater thermistor, has detected that the temperature inside the equipment or the heater temperature exceeded the specified level. If either temperature exceeds the preset level, recording is no longer possible.</p>

Messages on the LCD	Probable Cause
MACHINE ERROR XX ← PRESS STOP KEY ← (Appear alternately.)	"XX" indicates an error code. Refer to [ 2 ] on pages VI-4 and VI-5.
CHANGE DRUM SOON	The service life of the drum unit will expire soon. This message appears for one minute. (You can turn this message indication on or off by the maintenance-mode function code 10, WSW31, selector 8. Refer to Chapter V, Section 3.5.)
PLS OPEN COVER	To display the relating detailed error code, use maintenance-mode function code 82. (Refer to Chapter V, Section 3.12.) If this message appears, open and close the front cover. The message may disappear if opening/closing the front cover removes the error. If the error persists, the "MACHINE ERROR XX" will appear.

If only an alarm beep is heard without any message on the LCD when the equipment is powered up, the ROM or RAM will be defective.

**[ 2 ] Error codes shown in the "MACHINE ERROR X X " message**

Error Code <u>X</u> <u>X</u> (Hex.)	Error factor
( 71	Polygon motor does not lock. )
( 72	Cannot detect Beam Detect signal. )
( 73	No toner cartridge loaded. )
( 74	Toner empty. )
( 75	In-casing temperature error. )
( 76	Heater harness disconnected or broken. )
( 77	Heater thermistor short circuit.)
( 78	Heater thermistor harness disconnected or broken. )
( 79	In-casing temperature sensor harness disconnected or broken. )
( 7A	Main motor locked. )
( 7B	ASIC error on the main PCB. )
( 7C	Engine PCB error. )
( 80	Paper size setting error. )
( 82	Paper feeding error. )
( 83	Paper jam. The registration sensor, 2nd registration sensor, and/or manual insertion sensor remains ON.)
( 84	Paper jam. The paper ejection sensor remains ON. )
( 85	No paper cassette loaded. )
( 86	No 2nd paper cassette loaded. )
( 88	Paper jam. Even after the registration sensor has gone OFF, the paper ejection sensor still stays OFF.)
( A1	Front cover opened. )
( A2	Document too long to scan. )
( A3	Document not detected by the document rear sensor. )
( A4	50% or more faulty of white level data. )
( A7	One-line feeding timeout error. )
( A8	One-line scanning timeout error. )
( A9	Abnormal scanning reference voltage. )
( AC	Less than 50% faulty of white level data. )

Error codes in parentheses do not appear in the "MACHINE ERROR X X", since those errors are displayed as messages described in "[ 1 ] Error messages on the LCD." In the maintenance mode (Function code 82), those error codes may be displayed.

Error Code <u>X</u> <u>X</u> (Hex.)	Error factor
( B7	A/D converter reference voltage error (at High level). )
( B8	A/D converter reference voltage error (at Low level). )
( B9	Light emission intensity error of the LED array. )
( BA	Magnification error for substantial white level data. )
( BB	Substantial white level data error in black & white mode. )
( BC	Substantial white level data error in photo mode. )
( BD	Black level data error. )
( D5	The MODEM fails to complete the command transmission sequence. )
( E4	Out of recording paper. )
E6	Write error in EEPROM.
( E8	Data scanning error during transmission. )
( EA	Document removed in phase B.)
( F5	EOL not found in page memory transmission mode. )
( F6	PC interface error. )

Error codes in parentheses do not appear in the "MACHINE ERROR X X", since those errors are displayed as messages described in "[ 1 ] Error messages on the LCD." In the maintenance mode (Function code 82), those error codes may be displayed.

## 1.2 Communications Errors

If a communications error occurs, the facsimile equipment

- ① emits an audible alarm (intermittent beeping) for approximately 4 seconds,
- ② displays the corresponding error message, and
- ③ prints out the transmission verification report if the equipment is in sending operation.

## Definition of Error Codes on the Communications List

### (1) Calling

Code 1	Code 2	Causes
10	08	Wrong number called.
10	20	Retrieval file error.
10	21	Image data entry error.
11	01	No dial tone detected before start of dialing.
11	02	Busy tone detected before dialing.
11	03	2nd dial tone not detected.
11	05	No loop current detected.*
11	06	Busy tone detected after dialing or called.
11	07	No response from the remote station in sending.
11	10	No tone detected after dialing.
17	07	No response from the calling station in receiving.
1A	01	Calling impossible due to memory full.

\*Available in German versions only.

### (2) Command reception

Code 1	Code 2	Causes
20	01	Unable to detect a flag field.
20	02	Carrier was OFF for 200 ms or longer.
20	03	Abort detected ("1" in succession for 7 bits or more).
20	04	Overrun detected.
20	05	A frame for 3 seconds or more received.
20	06	CRC error in answerback.
20	07	Undefined command received.
20	08	Invalid command received.
20	09	Command ignored once for document setting or for dumping-out at turn-around transmission.
20	0A	T5 timeout error
20	0B	CRP received.

Code 1	Code 2	Causes
20	0C	EOR and NULL received.
20	0D	Effective command not received.
20	10	Unable to reserve a command receiver memory.
20	11	Image data file error.

**(3) Compatibility [checking the NSF and DIS]**

Code 1	Code 2	Causes
32	01	Remote terminal only with V.29 capability in 2400 or 4800 bps transmission.
32	02	Remote terminal not ready for polling.
32	10	Remote terminal not equipped with password function or its password switch OFF.
32	11	Remote terminal not equipped with or not ready for confidential mail box function.
32	12	Remote terminal not equipped with or not ready for relay broadcasting function.
32	13	No confidential mail in the remote terminal.
32	14	The available memory space of the remote terminal is less than that required for reception of the confidential or relay broadcasting instruction.



**(4) Instructions received from the remote terminal [checking the NSC, DTC, NSS, and DCS]**

Code 1	Code 2	Causes
40	02	Illegal coding system requested.
40	03	Illegal recording width requested.
40	05	ECM requested although not allowed.
40	06	Polled while not ready.
40	07	No document to send when polled.
40	10	Nation code or manufacturer code not coincident.
40	11	Unregistered group code entered for relay broadcasting function, or the specified number of broadcasting subscribers exceeding the limit.
40	12	Retrieval attempted when not ready for retrieval.
40	13	Polled by any other manufacturers' terminal while waiting for secure polling.
40	17	Invalid resolution selected.

**(5) Command reception [checking the NSF and DIS after transmission of NSS and DCS]**

Code 1	Code 2	Causes
50	01	Vertical resolution capability changed after compensation of background color.

**(6) ID checking**

Code 1	Code 2	Causes
63	01	Password plus "lower 4 digits of telephone number" not coincident.
63	02	Password not coincident.
63	03	Polling ID not coincident.
63	04	Entered confidential mail box ID uncoincident with the mail box ID.
63	05	Relay broadcasting ID not coincident.
63	06	Entered retrieval ID uncoincident with that of the mail box ID.

**(7) DCN reception**

Code 1	Code 2	Causes
74		DCN received.

**(8) TCF transmission/reception**

Code 1	Code 2	Causes
80	01	Fallback impossible.

**(9) Signal isolation**

Code 1	Code 2	Causes
90	01	Unable to detect video signals and commands within 6 seconds after CFR is transmitted.
90	02	Received PPS containing invalid page count or block count.

**(10) Video signal reception**

Code 1	Code 2	Causes
A0	03	Error correction sequence not terminated even at the final transmission speed for fallback.
A0	11	Receive buffer empty. (5-second time-out)
A0	12	Receive buffer full during operation except receiving into memory.
A0	13	Decoding error continued on 500 lines.
A0	14	Decoding error continued for 10 seconds.
A0	15	Timeout: Five seconds or more for one-line transmission.
A0	16	RTC not found and carrier OFF signal detected for 6 seconds.
A0	17	RTC found but no command detected for 60 seconds.
A0	18	Receive buffer full during receiving into memory.
A0	19	Unable to obtain compressed image data to be sent in phase C.
A8	01	RTN, PIN, or ERR received at the calling terminal.*
A9	01	RTN, PIN, or ERR received at the called terminal.*

\* Available in German versions only

**(11) General communications-related**

Code 1	Code 2	Causes
B0	02	Unable to receive the next-page data.
B0	03	Unable to receive polling even during turn-around transmission due to call reservation.
B0	04	PC interface error.
BF	01	Transmission canceled by pressing the <b>Stop</b> key (before completion of the G3 FAX negotiation).
BF	02	Transmission canceled by pressing the <b>Stop</b> key (after completion of the G3 FAX negotiation).
BF	03	Transmission canceled due to a scanning error.

**(12) Transmission in V. 34 mode**

Code 1	Code 2	Causes
C0	01	No common modulation mode or failed to poll.
C0	02	Unable to detect JM.
C0	03	Unable to detect CM.
C0	04	Unable to detect CJ.
C0	10	Cannot finish V. 34 negotiation or training.
C0	11	Modem error detected during V. 34 negotiation or training. (For modem error details, refer to the table below.)
C0	20	Modem error detected during sending of commands. (For modem error details, refer to the table below.)
C0	21	Modem error detected during receiving of commands. (For modem error details, refer to the table below.)
C0	22	Control channel connection time-out.
C0	30	Modem error detected during sending of video signals. (For modem error details, refer to the table below.)
C0	31	Modem error detected during receiving of video signals. (For modem error details, refer to the table below.)

**Modem error details (Code 3)**

Code 3	Causes
21	Timeout waiting for INFO0.
22	Checksum error in INFO0.
23	Timeout waiting for tone A or B.
24	Timeout waiting for first phase reverse.
25	Timeout waiting for probing cut-off tone.
26	Timeout waiting for second phase reverse.
27	Timeout waiting for end of probing.
28	Timeout waiting for third phase reverse.
29	Timeout waiting for INFO1.
2A	Checksum error in INFO1.
2B	Tone detected preceding INFO0.
2C	Unexpected INFO0 detected.
31	Timeout waiting for turning off the receive control channel.
91	Error occurred in the first CC train.
92	Timeout waiting for PPh.
93	Tone A/B detected in the CC retrain.
94	Timeout waiting for ALT.
95	ACh found.
96	FED turned off during reception of CC data.
97	Timeout waiting for turning off the CC.
A1	Retraining forced for problems not fixed in phase 2.
B0	Problem with S-sequence of HDX-resync.
B1	FED turned off in the S-sequence of HDX-resync.
B2	S-sequence finished before prediction in HDX-resync.
B3	Timeout waiting for S-Sbar in HDX-resync.
B4	Timeout waiting for S-Sbar in HDX-resync.
B5	Timeout waiting for S in HDX-resync.
B6	Timeout waiting for synchronization with PP.
C0	Problem with S-sequence in phase 3.
C1	FED turned off in the S-sequence in phase 3.

Code 3	Causes
C2	S-sequence finished before prediction in phase 3.
C3	Timeout waiting for S-Sbar in phase 3.
C4	Timeout waiting for S-Sbar in phase 3.
C5	Timeout waiting for S in phase 3.
C7	Training after TRN failure.
D0	Problem with S-sequence in phase 4.
D1	FED turned off in S-sequence in phase 4.
D2	S-sequence finished before prediction in phase 4.
D3	Timeout waiting for S-Sbar in phase 4.
D4	Timeout waiting for S-Sbar in phase 4.
D5	Timeout waiting for S in phase 4.
D6	Timeout waiting for MP.
D8	Timeout waiting for E.
DA	Timed out in re-negotiation of the transmitter rate.
DB	Timed out in the transmitter MPh.
E2	Retraining detected in phase 2.
E3	Retraining detected in phase 3.
E4	Retraining detected in phase 4.
FE	DTR turned off during retraining.
FF	Tx set-abort flag.
71	Did not write onto the first mapping frame.

**(13) Maintenance mode**

Code 1	Code 2	Causes
E0	01	Failed to detect 1300 Hz signal in burn-in operation.
E0	02	Failed to detect PB signals in burn-in operation.
E0	03	Failed to detect commands from the RS-232C in burn-in operation.

**(14) Equipment error**

Code 1	Code 2	Causes
FF	00	Burn-in operation canceled by pressing the <b>Stop</b> key.
FF	FF	Unrecoverable MODEM error.

## 2. TROUBLESHOOTING

### 2.1 Introduction

This section gives the service personnel some of the troubleshooting procedures to be followed if an error or malfunction occurs with the facsimile equipment. It is impossible to anticipate all of the possible problems which may occur in future and determine the troubleshooting procedures, so this section covers some sample problems. However, those samples will help service personnel pinpoint and repair other defective elements if he/she analyzes and examines them well.

### 2.2 Precautions

Be sure to observe the following to prevent the secondary troubles from happening:

- (1) Always unplug the AC power cord from the outlet when removing the covers and PCBs, adjusting the mechanisms, or conducting continuity testing with a circuit tester.
- (2) When disconnecting the connectors, do not pull the lead wires but hold the connector housings.
- (3)
  - Before handling the PCBs, touch a metal portion of the machine to discharge static electricity charged in your body.
  - When repairing the PCBs, handle them with extra care.

After repairing the defective section, be sure to check again if the repaired section works correctly. Also record the troubleshooting procedure so that it would be of use for future trouble occurrence.

### 2.3 Checking prior to Troubleshooting

Prior to proceeding to the troubleshooting procedures given in Subsection 2.4, make the following initial checks:

#### Environmental conditions

Check that:

- (1) The machine is placed on a flat, firm surface.
- (2) The machine is used in a clean environment at or near normal room temperature (10°C to 32.5°C) with normal relative humidity (20 to 80%).
- (3) The machine is not subjected to rapid change of the ambient temperature. (Moving the machine from a cold place to warm place will cause condensation inside the machine. If it takes place, leave the machine in the warm place for approx. two hours before turning on the power.) Powering on the machine with dew condensation will result in damaged electronic devices.
- (4) The machine is not exposed to direct sunlight or harmful gases.

#### Power requirements

Check that:

- (1) The power supply specified on the rating plate located on the bottom of the machine is used. The supply voltage stays within the rating  $\pm 10\%$ .
- (2) Each voltage level on AC input lines and DC lines is correct.



- (3) All cables and harnesses are firmly connected.
- (4) None of the fuses are blown.

Recording paper

Check that:

- (1) A recommended type of recording paper is used.
- (2) The recording paper is not dampened.

## 2.4 Troubleshooting Procedures

### [ 1 ] Control panel related

Trouble	Check:
(1) LCD shows nothing.	<ul style="list-style-type: none"> <li>● Panel-main harness between the main PCB and the control panel PCB</li> <li>● Control panel PCB</li> <li>● Low-voltage power supply PCB</li> <li>● Main PCB</li> <li>● LCD</li> </ul>
(2) Control panel inoperative.	<ul style="list-style-type: none"> <li>● Panel-main harness between the main PCB and the control panel PCB</li> <li>● Control panel PCB</li> <li>● FPC key</li> <li>● Main PCB</li> </ul>

### [ 2 ] Telephone related

Trouble	Check:
(1) No phone call can be made.	<ul style="list-style-type: none"> <li>● FPC key</li> <li>● Control panel PCB</li> <li>● NCU PCB</li> <li>● Main PCB</li> </ul>
(2) Speed dialing or one-touch dialing will not work.	<ul style="list-style-type: none"> <li>● Ordinary dialing function (other than the speed and one-touch dialing)</li> </ul> <p>If it works normally, check the main PCB; if not, refer to item (1) above.</p>
(3) Speaker silent during on-hook dialing.	<ul style="list-style-type: none"> <li>● Ordinary dialing function (other than the on-hook dialing with the hook key)</li> </ul> <p>If it works normally, proceed to the following checks; if not, refer to item (1) above.</p>
(4) Dial does not switch between tone and pulse.	<ul style="list-style-type: none"> <li>● Main PCB</li> </ul>
(5) Telephone does not ring.	<ul style="list-style-type: none"> <li>● Speaker</li> <li>● NCU PCB</li> <li>● Main PCB</li> </ul>

**[ 3 ] Communications related**

Trouble	Check:
(1) No tone is transmitted.	<ul style="list-style-type: none"> <li>● Main PCB</li> <li>● NCU PCB</li> </ul>

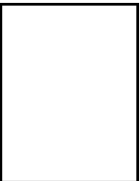

**[ 4 ] Paper/document feeding related**


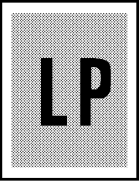
Trouble	Check:
(1) Neither "COPY: PRESS COPY" nor "FAX: NO. & START" message appears although documents are set.	<ul style="list-style-type: none"> <li>● Sensors by using the maintenance-mode function code 32. (Refer to Chapter V, Subsection 3.9.)</li> <li>● Document front sensor actuator and document rear sensor actuator</li> <li>● Main PCB</li> </ul>
(2) Document not fed.	<ul style="list-style-type: none"> <li>● ADF and its related sections</li> <li>● Scanner motor and its harness</li> <li>● Document feed roller and its related gears</li> <li>● Main PCB</li> </ul>
(3) Document double feeding	<ul style="list-style-type: none"> <li>● ADF parts</li> <li>● Nip-related parts</li> </ul>
(4) Recording paper not fed.	<ul style="list-style-type: none"> <li>● Paper loaded in the paper cassette(s)</li> <li>● Paper cassette(s)</li> <li>● Drum unit</li> <li>● Heat-fixing unit</li> <li>● Drive gear ASSY</li> <li>● Engine PCB</li> <li>● Main PCB</li> </ul>
(5) Recording paper double feeding	<ul style="list-style-type: none"> <li>● Separation pad on the paper cassette(s)</li> </ul>

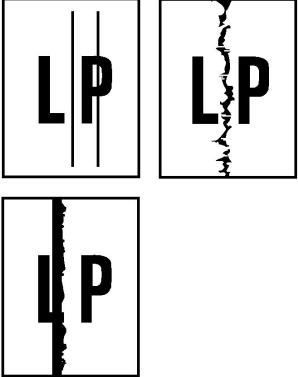
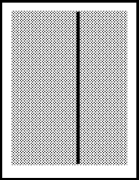

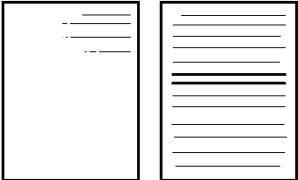
**[ 5 ] Print-image related**

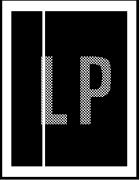
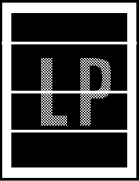
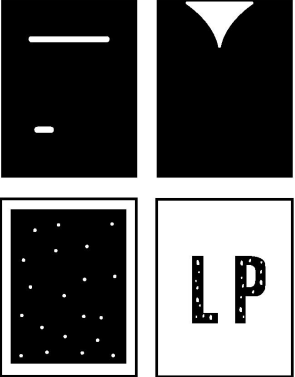
If the received or sent image has any problem, first make a copy with the facsimile equipment.

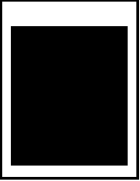
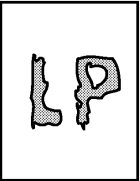

If the copied image is normal, the problem may be due to the remote terminal; if it is abnormal, proceed to the following checks:

Trouble	Action to be taken
<p>(1) Completely blank</p> 	<p><u>At the scanner</u></p> <p>Check the following components:</p> <ul style="list-style-type: none"> <li>- CIS harness</li> <li>- Main PCB</li> <li>- CIS unit</li> </ul> <p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Clean the high-voltage contacts for the developer roller on the drum unit, main cover, and high-voltage power supply PCB. (Contacts in the illustration given on page VI-27)</li> <li>• Clean the grounding contacts on the drum unit, main cover, and high-voltage power supply PCB. (Contacts in the illustration given on page VI-27)</li> <li>• Replace the toner cartridge.</li> <li>• Replace the drum unit.</li> <li>• Check the connection of the laser flat cable on the main PCB.</li> <li>• Replace the main PCB.</li> <li>• Replace the laser unit.</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>
<p>(2) All black</p> 	<p><u>At the scanner</u></p> <p>Check the following components:</p> <ul style="list-style-type: none"> <li>- CIS harness</li> <li>- CIS unit</li> <li>- Main PCB</li> </ul> <p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Clean the high-voltage contacts for the grid and charger on the drum unit, main cover, and high-voltage power supply PCB. (Contacts and in the illustration given on page VI-27)</li> <li>• Clean the charger (corona wires) itself.</li> <li>• Check the connection of the laser flat cable on the main PCB.</li> <li>• Replace the drum unit.</li> <li>• Replace the high-voltage power supply PCB.</li> <li>• Replace the main PCB.</li> </ul>


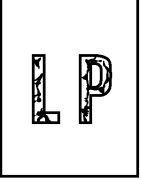
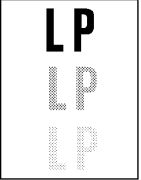

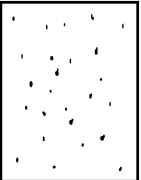
Trouble	Action to be taken
<p>(3) Light</p> 	<p><u>At the scanner</u></p> <p>Check the following components:</p> <ul style="list-style-type: none"> <li>- CIS unit</li> <li>- Main PCB</li> </ul> <p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Replace the toner cartridge with a new one and print 4 to 5 pages. If the problem persists, proceed to the next step.</li> <li>• Remove the toner cartridge and start printing. If printing takes place, clean the toner sensors (LED and light-receiver), check the sensor harnesses, and then replace the toner sensor PCBs.</li> <li>• Clean the high-voltage contacts for the transfer roller on the drum unit, main cover, and high-voltage power supply PCB. (Contacts in the illustration given on page VI-27)</li> <li>• Clean the high-voltage contacts for the developer roller on the drum unit, main cover, and high-voltage power supply PCB. (Contacts in the illustration given on page VI-27)</li> <li>• Clean the grounding contacts on the drum unit and main cover. (Contacts in the illustration given on page VI-27)</li> <li>• Check the connection of the main PCB and high-voltage power supply PCB.</li> <li>• Replace the drum unit.</li> <li>• Replace the high-voltage power supply PCB.</li> <li>• Replace the engine PCB.</li> <li>• Replace the main PCB.</li> <li>• Replace the laser unit.</li> </ul>
<p>(4) Dark</p> 	<p><u>At the scanner</u></p> <p>Check the following components:</p> <ul style="list-style-type: none"> <li>- CIS unit</li> <li>- Main PCB</li> </ul> <p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Slide the wire cleaner to clean the corona wire inside the drum unit.</li> <li>• Clean the high-voltage contacts for the grid and charger on the drum unit, main cover, and high-voltage power supply PCB. (Contacts and in the illustration given on page VI-27)</li> <li>• Replace the toner cartridge.</li> <li>• Replace the drum unit.</li> <li>• Replace the high-voltage power supply PCB.</li> <li>• Replace the main PCB.</li> <li>• Replace the engine PCB.</li> </ul>

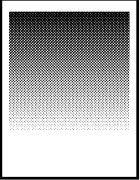


Trouble	Action to be taken
<p>(5) Black and blurred vertical stripes or band</p> 	<p><u>At the scanner</u></p> <p>Check the following components:</p> <ul style="list-style-type: none"> <li>- CIS unit</li> </ul> <p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Clean the paper path which may be contaminated with toner.</li> <li>• Slide the wire cleaner to clean the corona wire inside the drum unit.</li> <li>• Make sure that the wire cleaner is returned to its home position.</li> <li>• Replace the toner cartridge.</li> <li>• Replace the drum unit.</li> <li>• Replace the heat-fixing unit.</li> </ul>
<p>(6) Black vertical streaks on gray background</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Clean the laser beam window (glass) on the laser unit.</li> <li>• Replace the laser unit.</li> </ul>
<p>(7) Black and blurred horizontal stripes</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Slide the wire cleaner to clean the corona wire inside the drum unit.</li> <li>• If the horizontal stripes appear at 39-mm intervals, replace the toner cartridge.</li> <li>• If they appear at 94-mm intervals, replace the drum unit.</li> <li>• If they appear at 79-mm intervals, replace the heat-fixing unit.</li> <li>• Clean the grounding contacts. (Contacts in the illustration given on page VI-27.)</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>
<p>(8) Horizontal lines</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Check the connection between the right end of the paper feed roller and the grounding wire. (Contact in the illustration given on page VI-28.)</li> </ul>

Trouble	Action to be taken
<p>(9) White vertical streaks</p> 	<p><u>At the scanner</u></p> <p>Check the following components:</p> <ul style="list-style-type: none"> <li>- CIS unit</li> </ul> <p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Clean the laser beam window on the laser unit.</li> <li>• Replace the toner cartridge.</li> <li>• Replace the drum unit.</li> </ul>
<p>(10) White horizontal stripes</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Replace the drum unit.</li> </ul>
<p>(11) Dropout, white spots, or hollow print</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Check the connection of the main PCB and high-voltage power supply PCB.</li> <li>• Replace the toner cartridge.</li> <li>• Gently wipe off the surface of the photo-sensitive drum with a cotton swab.</li> <li>• Replace the drum unit.</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>

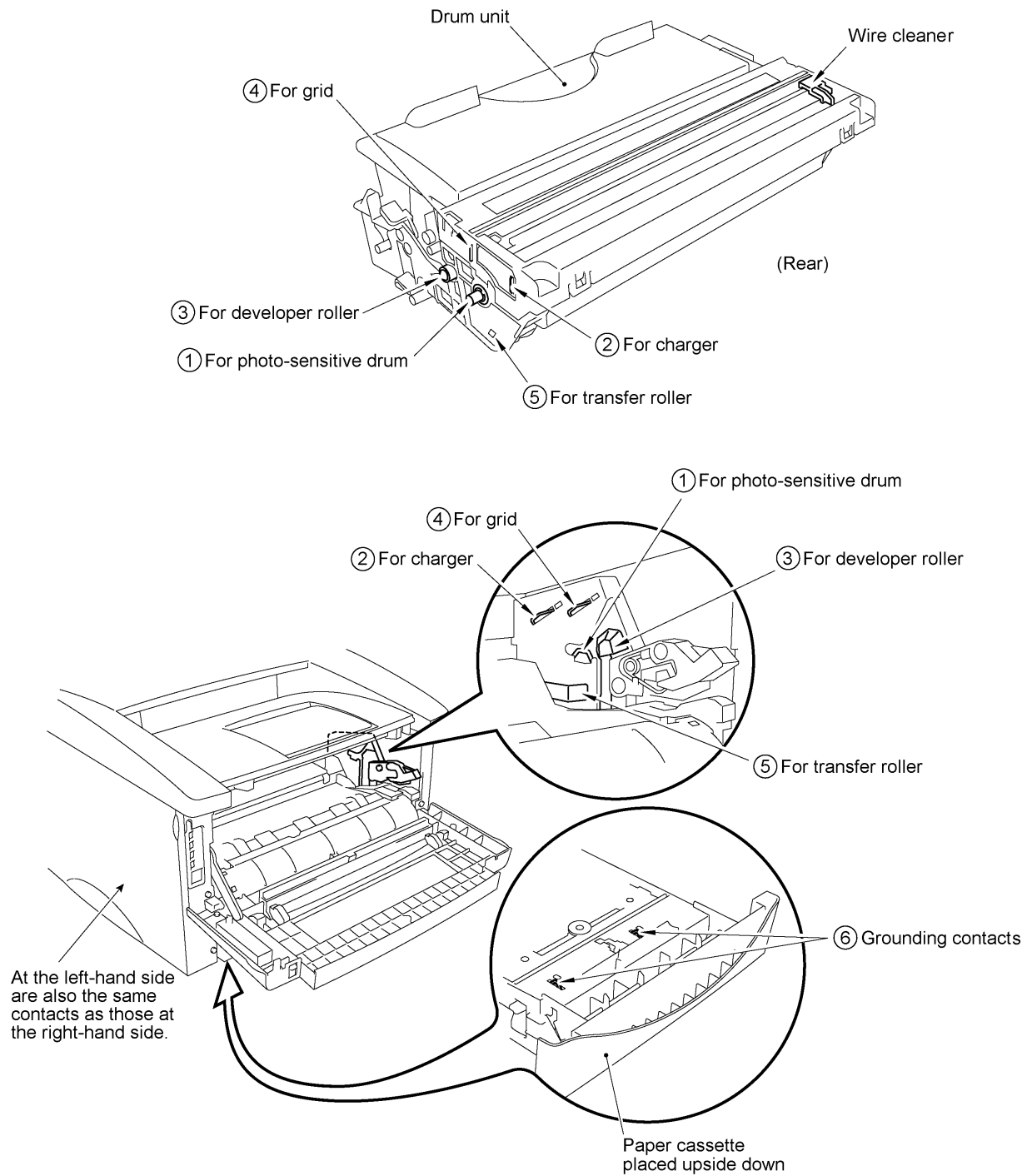
Trouble	Action to be taken
<p>(12) Faulty image registration (Leading edge of image starts too late on paper)</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Instruct the user not to load paper exceeding the limit on the paper cassette(s).</li> <li>• Instruct the user to use the recommended types of paper.</li> <li>• Replace the paper cassette(s).</li> <li>• Check the position of the registration sensor.</li> <li>• Replace the drive gear ASSY.</li> </ul>
<p>(13) Image distortion or improper image alignment</p> 	<p><u>In communications</u></p> <p>Check the following components:</p> <ul style="list-style-type: none"> <li>- Error code displayed. (Refer to Section 1, "ERROR INDICATION" in this chapter.)</li> <li>- NCU PCB</li> <li>- Main PCB</li> </ul> <p><u>At the scanner</u></p> <p>Check the following components:</p> <ul style="list-style-type: none"> <li>- Document take-in roller, separation roller, and their related sections</li> <li>- Document feed roller and its related gears</li> <li>- Scanner motor and its harness</li> <li>- Main PCB</li> </ul> <p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Check that the laser unit is secured with the screws without looseness.</li> <li>• Check the connection of the polygon motor harness on the engine PCB.</li> <li>• Check the connection of the laser flat cable on the main PCB.</li> <li>• Replace the laser unit.</li> </ul>
<p>(14) Blurred at either side</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Check that the equipment is placed on a flat surface.</li> <li>• Shake the toner cartridge horizontally. If the problem persists, replace it.</li> <li>• Clean the laser beam window (glass) on the laser unit.</li> <li>• Replace the laser unit.</li> </ul>

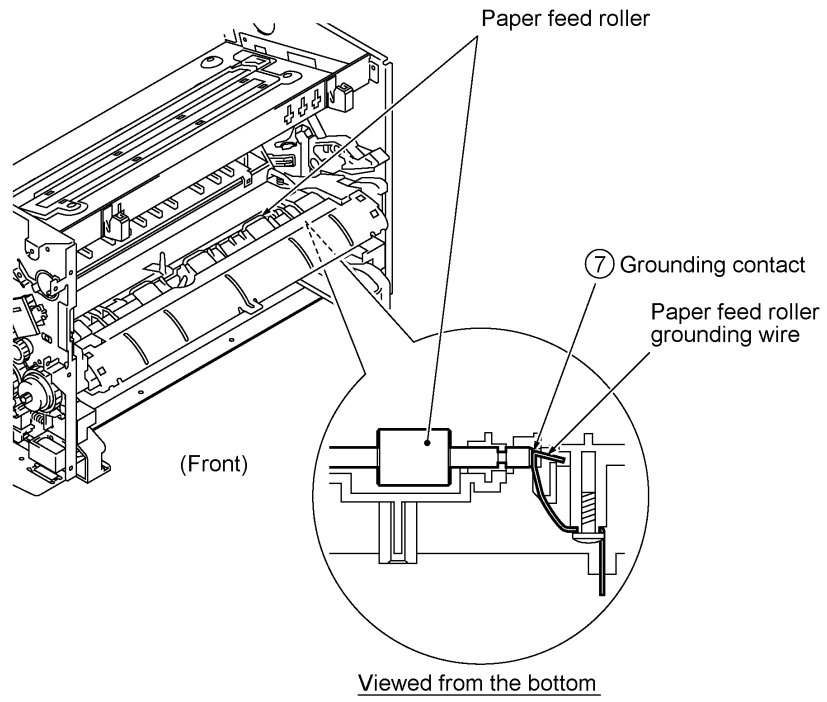


Trouble	Action to be taken
<p>(15) Dirt back of paper</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Clean the pressure roller in the heat-fixing unit. Replace the heat-fixing unit.</li> <li>• Replace the drum unit.</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>
<p>(16) Poor fixing</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Instruct the user to use paper of the recommended weight (less than 36 lb./m<sup>2</sup>).</li> <li>• Clean the toner sensors (LED and light-receiver).</li> <li>• Replace the toner cartridge.</li> <li>• Replace the drum unit.</li> <li>• Check the fitting of the heater thermistor. Replace the heat-fixing unit.</li> <li>• Replace the low-voltage power supply PCB.</li> </ul>
<p>(17) Ghost</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Instruct the user to use paper of the recommended weight (less than 36 lb./m<sup>2</sup>).</li> <li>• Replace the drum unit.</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>
<p>(18) Black spots</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Gently wipe off the surface of the photo-sensitive drum with a cotton swab.</li> <li>• Replace the drum unit.</li> <li>• Replace the heat-fixing unit.</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>
<p>(19) Light rain</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Replace the drum unit.</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>

Trouble	Action to be taken
<p>(20) Fading (black to white)</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Replace the toner cartridge.</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>
<p>(21) Gray background</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Instruct the user to use paper of the recommended weight (less than 36 lb./m<sup>2</sup>).</li> <li>• Clean the toner sensors (LED and light-receiver).</li> <li>• Check the toner sensor harnesses.</li> <li>• Replace the toner cartridge.</li> <li>• Replace the drum unit.</li> <li>• Replace the high-voltage power supply PCB.</li> </ul>
<p>(22) Toner specks</p> 	<p><u>At the printer side</u></p> <ul style="list-style-type: none"> <li>• Instruct the user to use paper of the recommended weight (less than 36 lb./m<sup>2</sup>).</li> <li>• Replace the toner cartridge.</li> <li>• Replace the drum unit..</li> </ul>

## Location of High-voltage Contacts and Grounding Contacts





**brother**®

Jul. '99  
SM8X5401①  
Printed in Japan

**FAX4750  
MFC8300/8600**

**Appendix 1. EEPROM Customizing Codes**

## EEPROM Customizing Codes

This function allows you to customize the EEPROM according to language, function settings, and firmware switch settings.

### ■ Operating Procedure

- (1) American models: To make the equipment enter the maintenance mode, press the **Function**, **\***, **2**, **8**, **6**, and **4** keys in this order.

← Within 2 seconds →

European models: To make the equipment enter the maintenance mode, press the **Menu**, **\***, **2**, **8**, **6**, and **4** keys in this order.

← Within 2 seconds →

The equipment beeps for approx. one second and displays “■■ MAINTENANCE ■■■” on the LCD.

- (2) Press the **7** and **4** keys in this order in the initial stage of the maintenance mode.  
The current customizing code (e.g., 1001 in the case of FAX4750 USA version) appears.
- (3) Enter the desired customizing code (e.g., 0002 in the case of FAX4750 Canadian version).  
The newly entered code appears.

**NOTE:** *If a wrong 4-digit code is entered, the equipment will malfunction.*

- (4) Press the **Start** key.

The equipment saves the setting and returns to the initial stage of the maintenance mode.

If you press the **Stop** key or no keys are pressed for one minute in the above procedure, the equipment stops the procedure and returns to the initial stage of the maintenance mode.

### EEPROM Customizing Codes List

Versions	Model				
	FAX4750	MFC8300	MFC8600	MFC8700	FAX5750
U.S.A.	1001	1101	1201	-	-
CANADA	0002	0102	0202	-	-
AUSTRALIA	0006	-	0006	-	-
NEW ZEALAND	0027	-	0227	-	-
CHINA	-	0020	0020	-	-
TAIWAN	-	-	-	-	-
HONG KONG	-	-	-	-	-
ARGENTINA	-	-	-	-	-
THAILAND	-	-	-	-	-
CHILLE	-	-	-	-	-
SOUTH AMERICA	-	-	-	-	-
ASIA	0040	-	0240	-	-
GULF	0001	-	0201	-	-
BRAZIL	-	-	-	-	-
INDONESIA	-	-	-	-	-
INDIA	-	-	-	-	-
MEXICO	-	-	-	-	-
RUSSIA	-	-	-	-	-

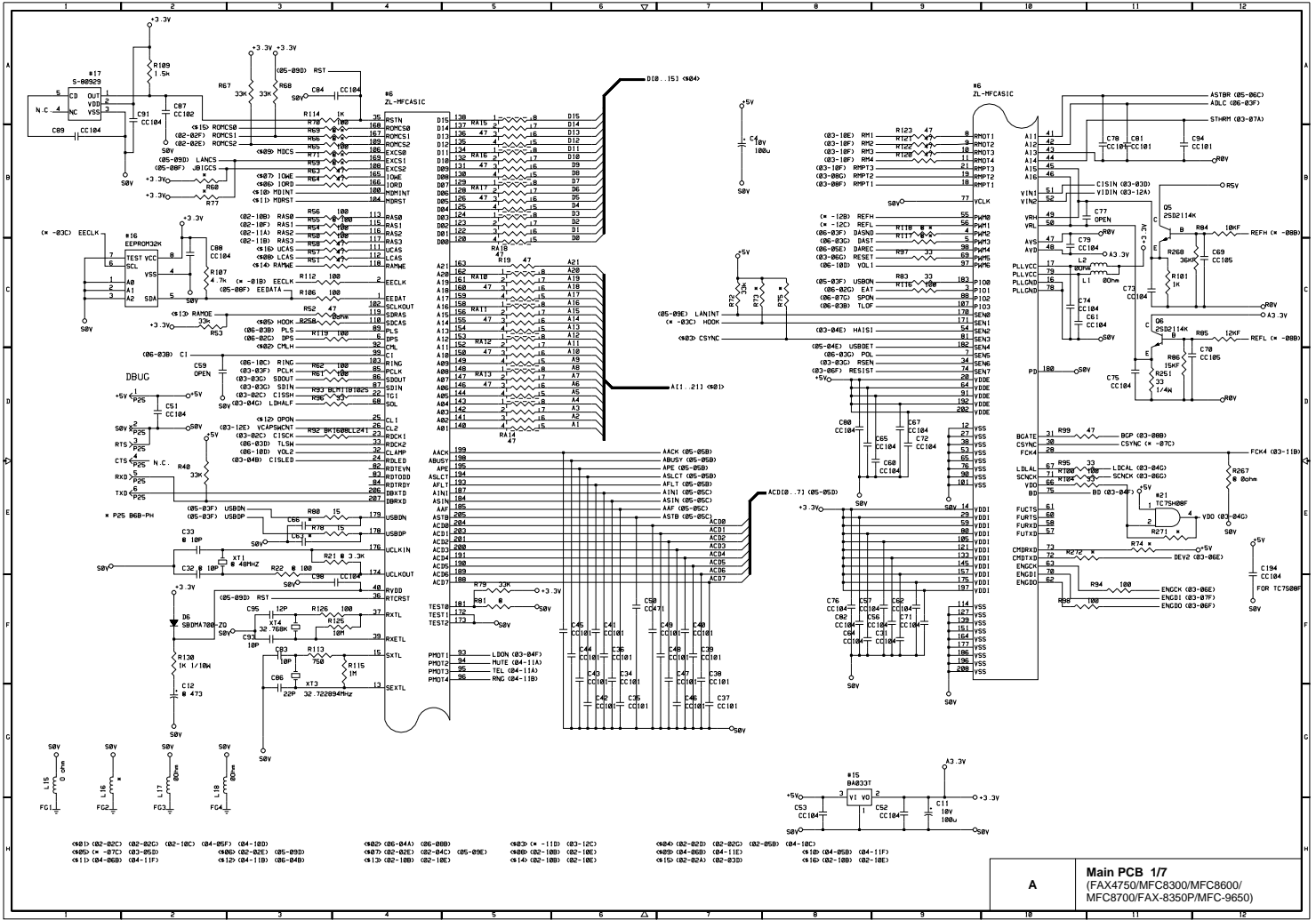
Versions	Model		
	FAX-8350P	MFC-9650	FAX8750P
GERMANY	0003	0003	-
U.K.	0004	0004	-
FRANCE	0005	0005	-
NORWAY	0007	0007	-
BELGIUM	0008	0008	-
NETHERLANDS	0009	0009	-
SWITZERLAND	0010	0010	-
IRELAND	0011	-	-
FINLAND	-	0012	-
DENMARK	0013	0013	-
AUSTRIA	0014	-	-
SPAIN	-	0015	-
ITALY	-	0016	-
ISRAEL	-	-	-
POTUGAL	-	-	-
SWEDEN	0026	0026	-



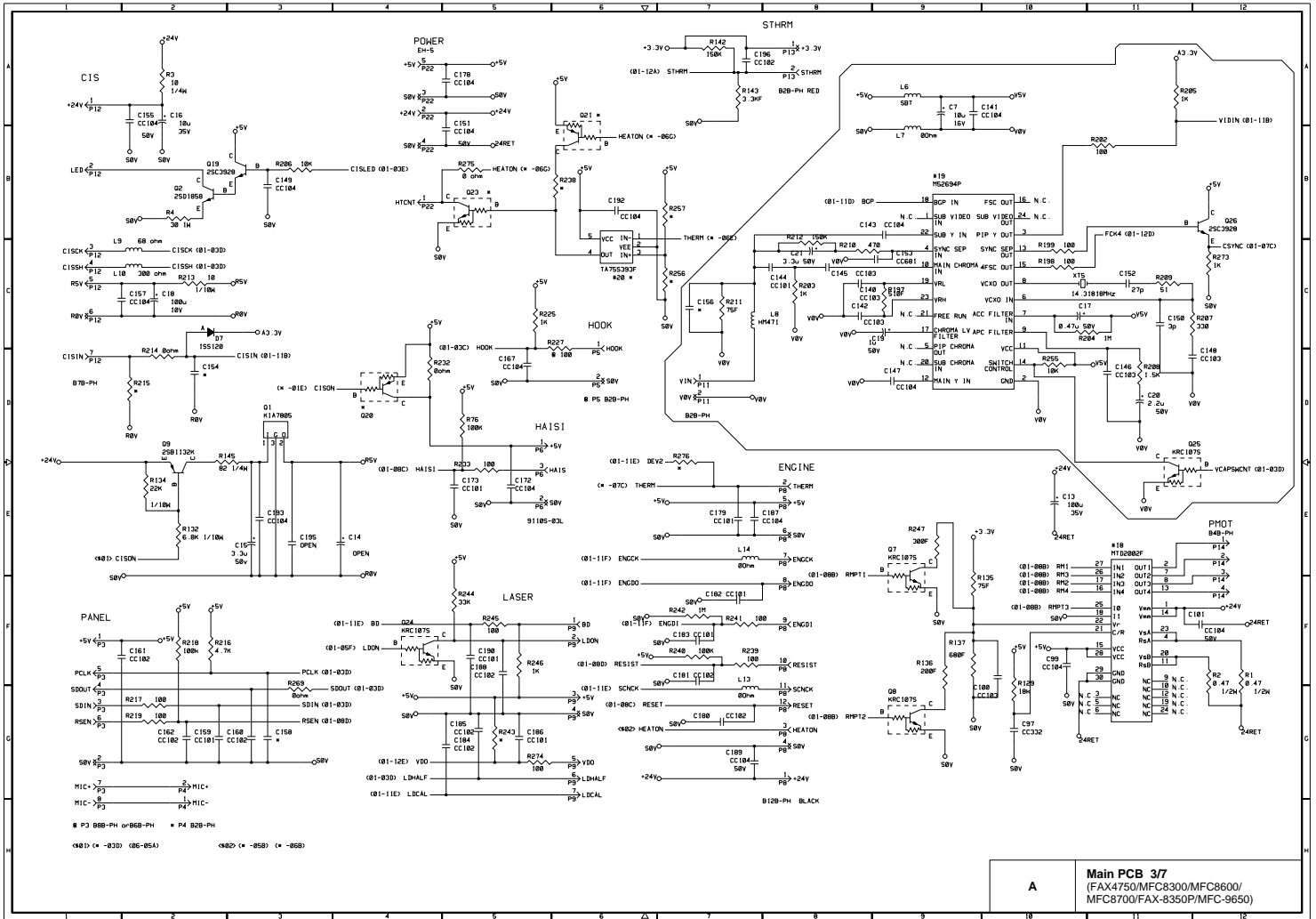
# **FAX4750 MFC8300/8600**

## **Appendix 2. Circuit Diagrams**

- A. Main PCB
- B. Engine PCB
- C. Network Control Unit (NCU) PCB
- D. Control Panel PCB
- E. Power Supply PCBs

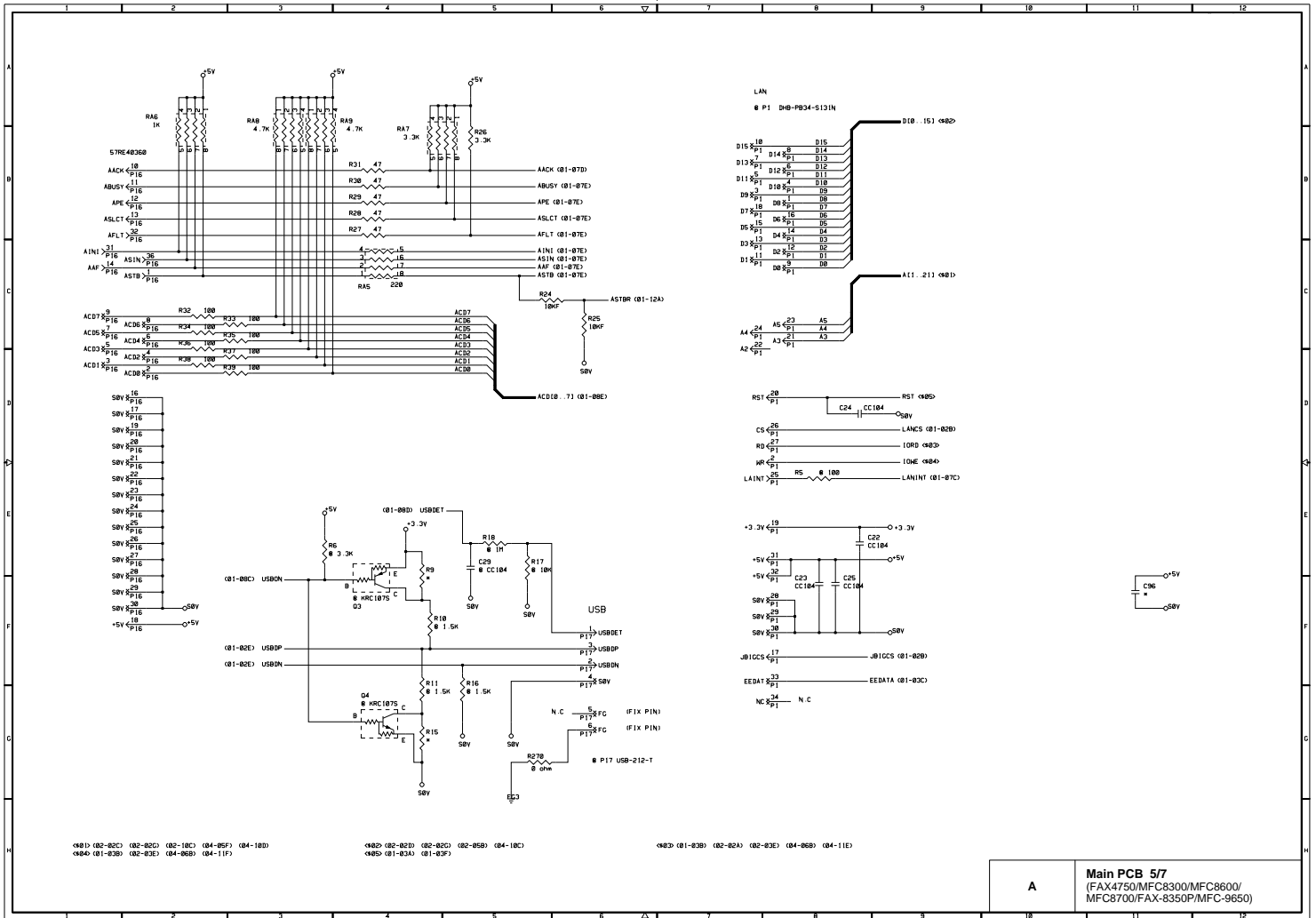


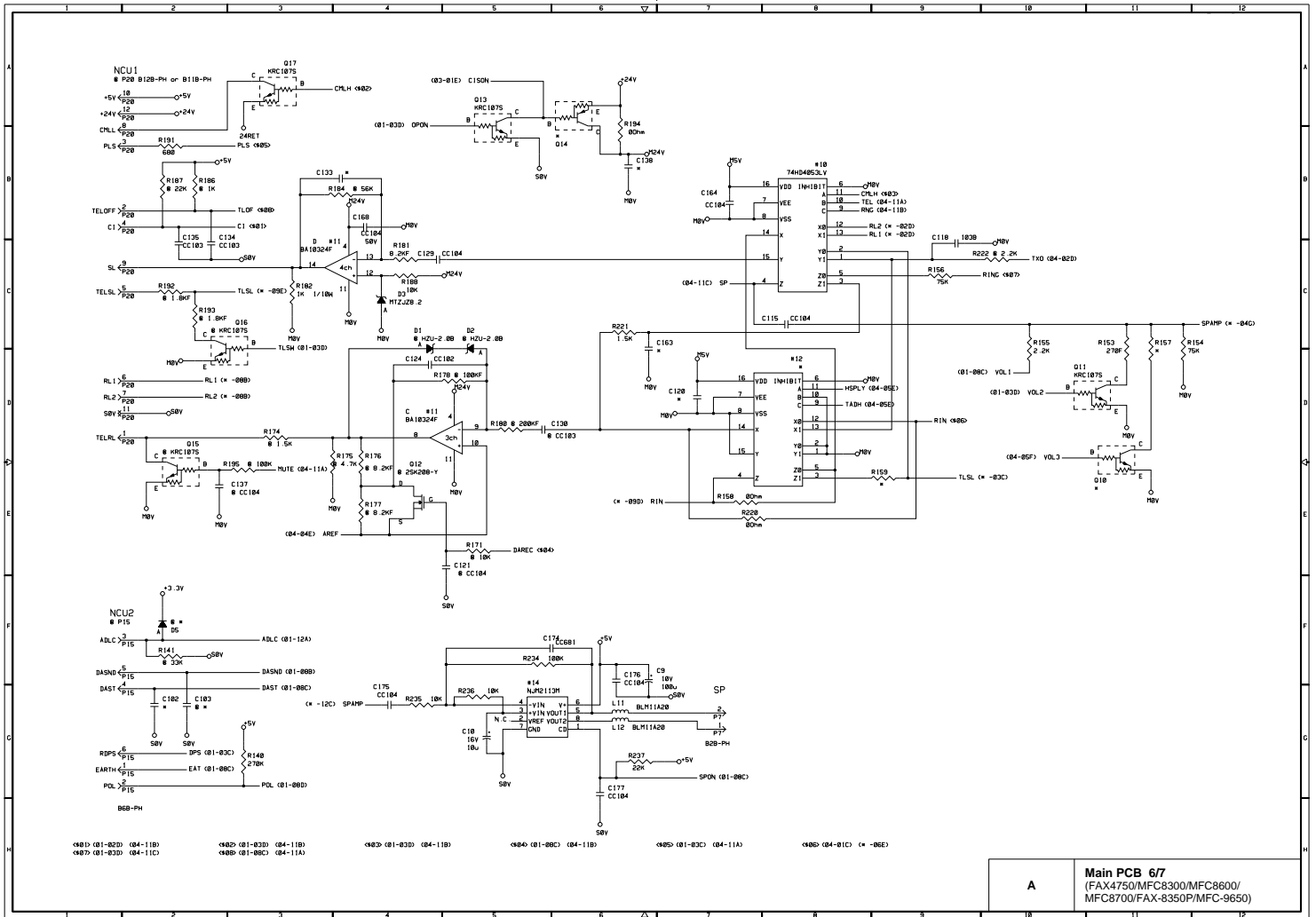




A Main PCB 3/7  
 (FAX4750/MFC8300/MFC8600/  
 MFC8700/FAX-8350P/MFC-9650)



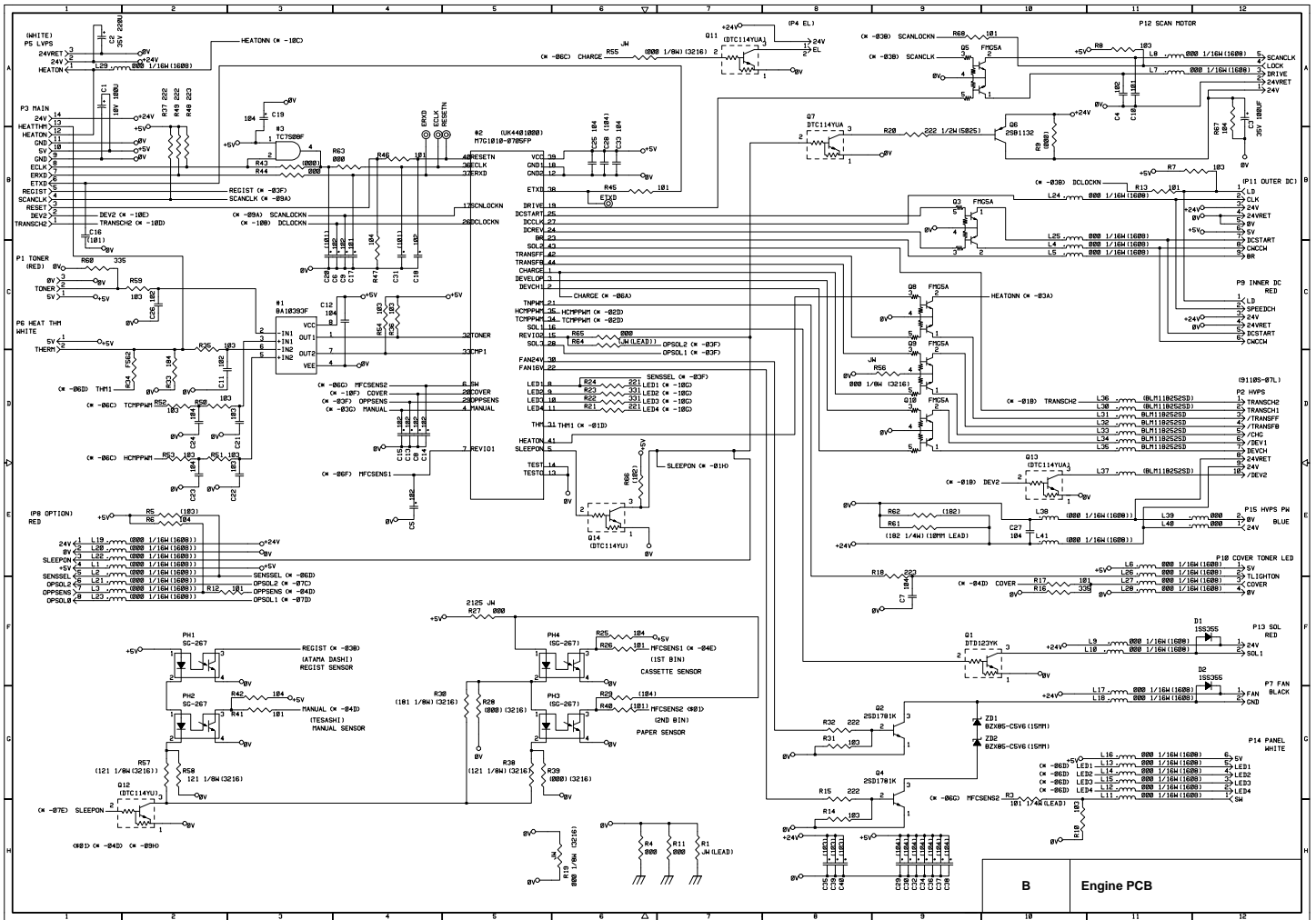




		US				EUR				ASA/OCE					
	No.	FAX4750 ASSY: 1 UG6224001	MFC8300 ASSY: 2 UG6225001	MFC8600 ASSY: 3 UG6226001	MFC8700 ASSY: 4 LG2192001	FAX8350P ASSY: 21 LG2082001	MFC8650 ASSY: 31 LG2252001	FAX4750 ASSY: 22 LG2250001	MFC8600 ASSY: 32 LG2251001						
USB	XT1	NOT ASSY	XTAL48.00MHZ	XTAL48.00MHZ	XTAL48.00MHZ	NOT ASSY	XTAL48.00MHZ	NOT ASSY	XTAL48.00MHZ	NOT ASSY	XTAL48.00MHZ				
	C32	NOT ASSY	Cera C 50C100CH	Cera C 50C100CH	Cera C 50C100CH	NOT ASSY	Cera C 50C100CH	NOT ASSY	Cera C 50C100CH	NOT ASSY	Cera C 50C100CH				
	C33	0 Ω	Cera C 50C100CH	Cera C 50C100CH	Cera C 50C100CH	0 Ω	Cera C 50C100CH	0 Ω	Cera C 50C100CH	0 Ω	Cera C 50C100CH				
	R21	NOT ASSY	3.3K Ω	3.3K Ω	3.3K Ω	NOT ASSY	3.3K Ω	NOT ASSY	3.3K Ω	NOT ASSY	3.3K Ω				
	R22	NOT ASSY	100 Ω	100 Ω	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
LAN	R59	NOT ASSY	NOT ASSY	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
	R71	NOT ASSY	NOT ASSY	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
	R69	NOT ASSY	100 Ω	100 Ω	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
ROMCS1	R69	NOT ASSY	100 Ω	100 Ω	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
ROMCS2	R66	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	100 Ω	100 Ω	100 Ω	100 Ω	100 Ω	100 Ω				
RAS1	R55	100 Ω	NOT ASSY	100 Ω	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
DAS1	R117	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
DASND	R118	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	10KΩ	10KΩ	10KΩ				
FCK4	R267	0 Ω	0 Ω	NOT ASSY	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
SUPER CAP.	C12	5.5V/47000µ	5.5V/47000µ	5.5V/47000µ	5.5V/47000µ	5.5V/220000µ	5.5V/220000µ	5.5V/220000µ	5.5V/220000µ	5.5V/220000µ	5.5V/220000µ				
FLASH	#1	NOT ASSY	4MbitFLASH	4MbitFLASH	16MbitFLASH	16MbitFLASH	32MbitFLASH	16MbitFLASH	32MbitFLASH	32MbitFLASH	32MbitFLASH				
	R7	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	R12	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	3.3KΩ	NOT ASSY	3.3KΩ	NOT ASSY	3.3KΩ				
	R14	NOT ASSY	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ				
	R248	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	R250	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	NOT ASSY	0 Ω	NOT ASSY	0 Ω				
EXROM	P18	NOT ASSY	NOT ASSY	NOT ASSY	52340-0501	52340-0501	52340-0501	52340-0501	52340-0501	52340-0501	52340-0501				
	C1	10V/100µ	10V/100µ	10V/100µ	10V/100µ	10V/100µ	10V/100µ	10V/100µ	10V/100µ	10V/100µ	10V/100µ				
	#5	EDODRAM: 16Mb	NOT ASSY	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb				
	C105	CC25C104	NOT ASSY	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104				
	C108	CC25C104	NOT ASSY	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104				
	C110	CC25C104	NOT ASSY	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104				
EXRAM	P2	DHB-PB40	DHB-PB40	DHB-PB40	DHB-PB40	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
VIDEO CAPTURE BLOCK	A	NOT ASSY	NOT ASSY	ASSY	ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
HOOK	P5	B2B-PH	B2B-PH	B2B-PH	B2B-PH	NOT ASSY	NOT ASSY	CONNECTOR B2B-PH	CONNECTOR B2B-PH	CONNECTOR B2B-PH	CONNECTOR B2B-PH				
	R227	100 Ω	100 Ω	100 Ω	100 Ω	NOT ASSY	NOT ASSY	100 Ω	100 Ω	100 Ω	100 Ω				
MODEL DETEC- TION	R165	NOT ASSY	NOT ASSY	33KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R168	0 Ω	0 Ω	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	R164	NOT ASSY	NOT ASSY	NOT ASSY	33KΩ	NOT ASSY	NOT ASSY	33KΩ	33KΩ	33KΩ	33KΩ				
	R167	0 Ω	0 Ω	0 Ω	NOT ASSY	0 Ω	0 Ω	0 Ω	NOT ASSY	NOT ASSY	NOT ASSY				
	R163	NOT ASSY	33KΩ	33KΩ	33KΩ	NOT ASSY	33KΩ	NOT ASSY	33KΩ	NOT ASSY	33KΩ				
	R166	0 Ω	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	NOT ASSY	0 Ω	NOT ASSY	NOT ASSY	NOT ASSY				
	R173	56KΩ	56KΩ	56KΩ	56KΩ	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)				
	R229	56KΩ	56KΩ	56KΩ	56KΩ	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)				
	R230	75KΩ	75KΩ	75KΩ	75KΩ	75KΩ (F)	75KΩ (F)	75KΩ (F)	75KΩ (F)	75KΩ (F)	75KΩ (F)				
USB	P17	NOT ASSY	USB-212-T	USB-212-T	USB-212-T	NOT ASSY	USB-212-T	NOT ASSY	USB-212-T	NOT ASSY	USB-212-T				
	Q3	NOT ASSY	KRA107S	KRA107S	KRA107S	NOT ASSY	KRA107S	NOT ASSY	KRA107S	NOT ASSY	KRA107S				
	Q4	NOT ASSY	KRC107S	KRC107S	KRC107S	NOT ASSY	KRC107S	NOT ASSY	KRC107S	NOT ASSY	KRC107S				
	R8	NOT ASSY	3.3KΩ	3.3KΩ	3.3KΩ	NOT ASSY	3.3KΩ	NOT ASSY	3.3KΩ	NOT ASSY	3.3KΩ				
	R10	NOT ASSY	1.5KΩ	1.5KΩ	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ				
	R11	NOT ASSY	1.5KΩ	1.5KΩ	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ				
	R16	NOT ASSY	1.5KΩ	1.5KΩ	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ				
	R17	NOT ASSY	10KΩ	10KΩ	10KΩ	NOT ASSY	10KΩ	NOT ASSY	10KΩ	NOT ASSY	10KΩ				
	R18	NOT ASSY	1MΩ	1MΩ	1MΩ	NOT ASSY	1MΩ	NOT ASSY	1MΩ	NOT ASSY	1MΩ				
	C29	0 Ω	CC25C104	CC25C104	CC25C104	0 Ω	CC25C104	0 Ω	CC25C104	0 Ω	CC25C104				
LAN	P1	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	DHB-PB34	DHB-PB34	NOT ASSY	DHB-PB34	NOT ASSY	DHB-PB34				
	R5	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	0 Ω	NOT ASSY	0 Ω	NOT ASSY	0 Ω				
NCU1	P20	B12B-PH	B12B-PH	B12B-PH	B12B-PH	B11B-PH	B11B-PH	B12B-PH	B12B-PH	B12B-PH	B12B-PH				
NCU2	P15	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	86B-PH	86B-PH	86B-PH	86B-PH	86B-PH	86B-PH				
TLOF	R188	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	22KΩ	22KΩ	22KΩ	22KΩ				
CI	R187	22KΩ	22KΩ	22KΩ	22KΩ	120KΩ	120KΩ	120KΩ	120KΩ	120KΩ	120KΩ				
DASND	C103	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	CC25C104	CC25C104	CC25C104	CC25C104				

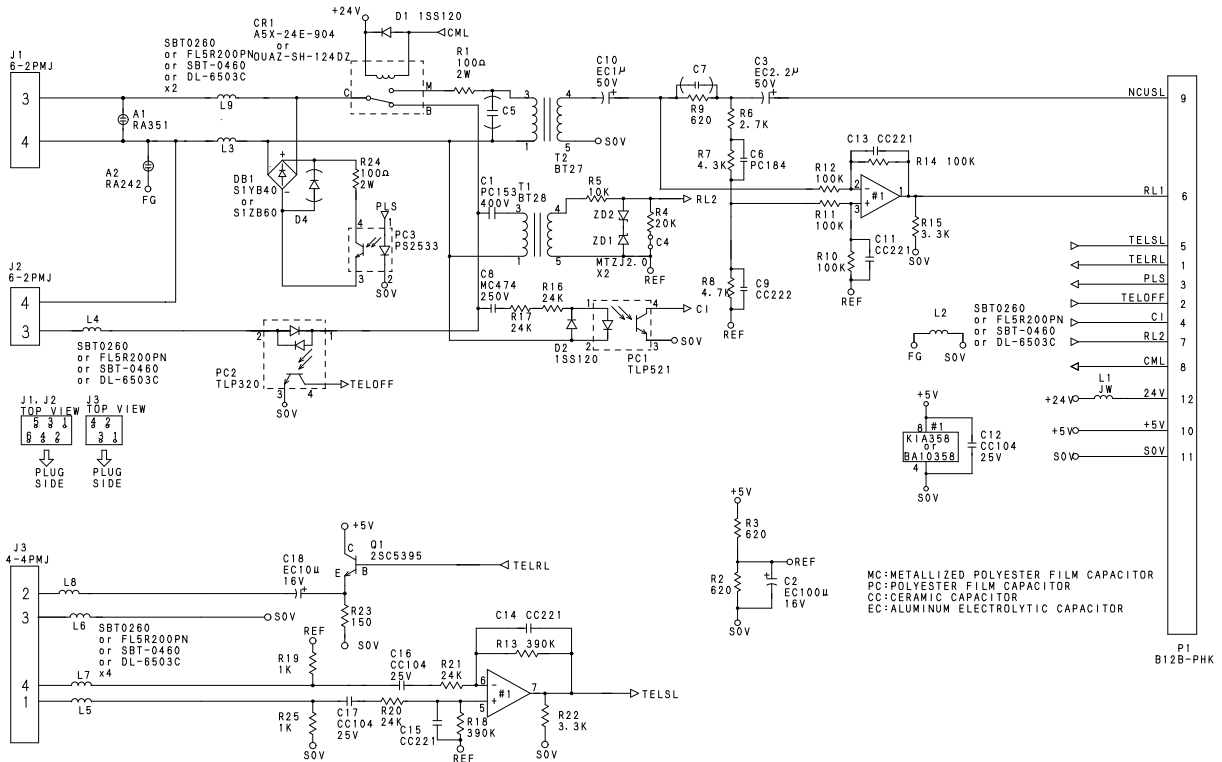
		US				EUR				ASA/OCE					
	No.	FAX4750 ASSY: 1 UG6224001	MFC8300 ASSY: 2 UG6225001	MFC8600 ASSY: 3 UG6226001	MFC8700 ASSY: 4 LG2192001	FAX8350P ASSY: 21 LG2082001	MFC8650 ASSY: 31 LG2252001	FAX4750 ASSY: 22 LG2250001	MFC8600 ASSY: 32 LG2251001						
ADLC	D5	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R141	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ				
TXO	R222	3.3KΩ	3.3KΩ	3.3KΩ	3.3KΩ	3.3KΩ (F)	3.3KΩ (F)	3.3KΩ (F)	3.3KΩ (F)	3.3KΩ (F)	3.3KΩ (F)				
TX AMP	R184	56KΩ	56KΩ	56KΩ	56KΩ	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)				
TLSL	R192	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)				
	R193	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)				
	Q16	KRC107S	KRC107S	KRC107S	KRC107S	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	D1	ZDHZU-2.0B	ZDHZU-2.0B	ZDHZU-2.0B	ZDHZU-2.0B	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	D2	ZDHZU-2.0B	ZDHZU-2.0B	ZDHZU-2.0B	ZDHZU-2.0B	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	C124	CC50C102B	CC50C102B	CC50C102B	CC50C102B	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R178	100KΩ (F)	100KΩ (F)	100KΩ (F)	100KΩ (F)	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	C130	CC50C103B	CC50C103B	CC50C103B	CC50C103B	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R180	200KΩ (F)	200KΩ (F)	200KΩ (F)	200KΩ (F)	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R174	1.5KΩ	1.5KΩ	1.5KΩ	1.5KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R175	4.7KΩ	4.7KΩ	4.7KΩ	4.7KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R176	8.2KΩ (F)	8.2KΩ (F)	8.2KΩ (F)	8.2KΩ (F)	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	R177	8.2KΩ (F)	8.2KΩ (F)	8.2KΩ (F)	8.2KΩ (F)	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	Q12	25K208-Y	25K208-Y	25K208-Y	25K208-Y	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R171	10KΩ	10KΩ	10KΩ	10KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	C121	CC25C104	CC25C104	CC25C104	CC25C104	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	Q15	KRC107S	KRC107S	KRC107S	KRC107S	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R195	100KΩ	100KΩ	100KΩ	100KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	C137	CC25C104	CC25C104	CC25C104	CC25C104	NOT ASSY</									



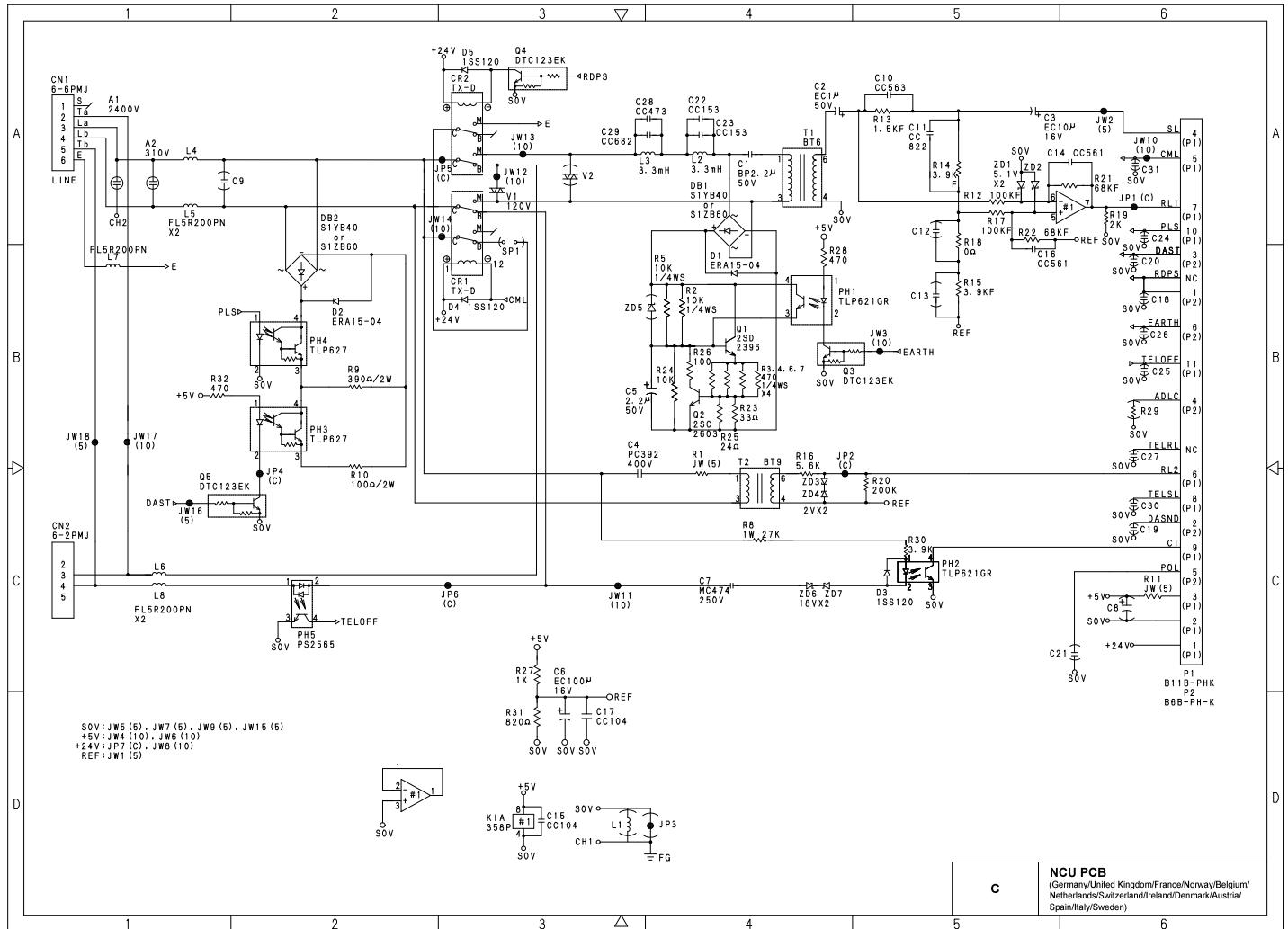


**B Engine PCB**

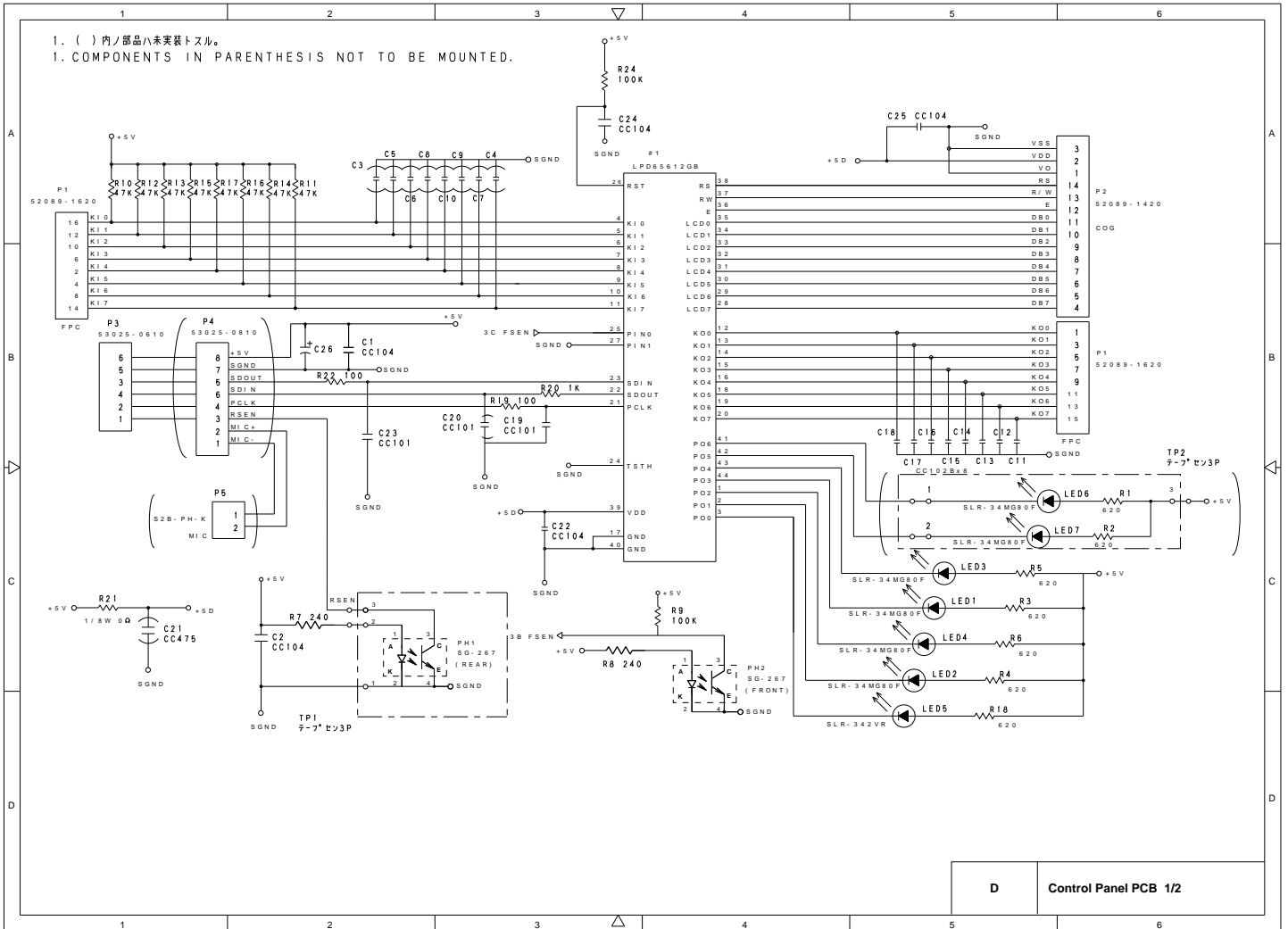
1. 指示ナキ抵抗ノ消費電力ハ1/4Wトスル。
1. UNLESS OTHERWISE SPECIFIED, POWER CONSUMPTION OF RESISTORS IS 1/4W.
2. 指示ナキコンデンサノ耐圧ハ25V又ハ50Vトスル。
2. UNLESS OTHERWISE SPECIFIED, THE VOLTAGE RESISTANCE OF CAPACITORS IS 25V OR 50V.
3. ( ) 内ノ部品ハ未実装トスル。
3. COMPONENTS IN PARENTHESIS NOT TO BE MOUNTED.



C NCU PCB  
(U.S.A./Canada)



1. ( )内ノ部品ハ未実装トスル。  
 1. COMPONENTS IN PARENTHESIS NOT TO BE MOUNTED.



**D** Control Panel PCB 1/2

ZL PANEL KEY MATRIX REFERENCE TABLE 1

KEY NO.	KEY NAME	KEY CODE
1/63		25
2/62		2D
3/64		2E
4		2C
5	1TOUCH-01/17	0D
6	1TOUCH-02/18	05
7	1TOUCH-03/19	26
8	1TOUCH-04/20	24
9	1TOUCH-05/21	35
10	1TOUCH-06/22	0E
11	1TOUCH-07/23	06
12	1TOUCH-08/24	04
13	1TOUCH-09/25	15
14	1TOUCH-10/26	36
15	1TOUCH-11/27	16
16	1TOUCH-12/28	34
17		0C
18	1TOUCH-13/29	1D
19	1TOUCH-14/30	1E
20	1TOUCH-15/31	1C
21	1TOUCH-16/32	14
22	Shift	3C
23	Function	2F
24	←	27
25	SET	22
26	→	23
27	Clear	28
28	Hook	07
29	10KEY-1	37
30	10KEY-2	2A
31	10KEY-3	33
32	Hold	0F
33	10KEY-4	02
34	10KEY-5	32
35	10KEY-6	03
36	Redial/Pause	17

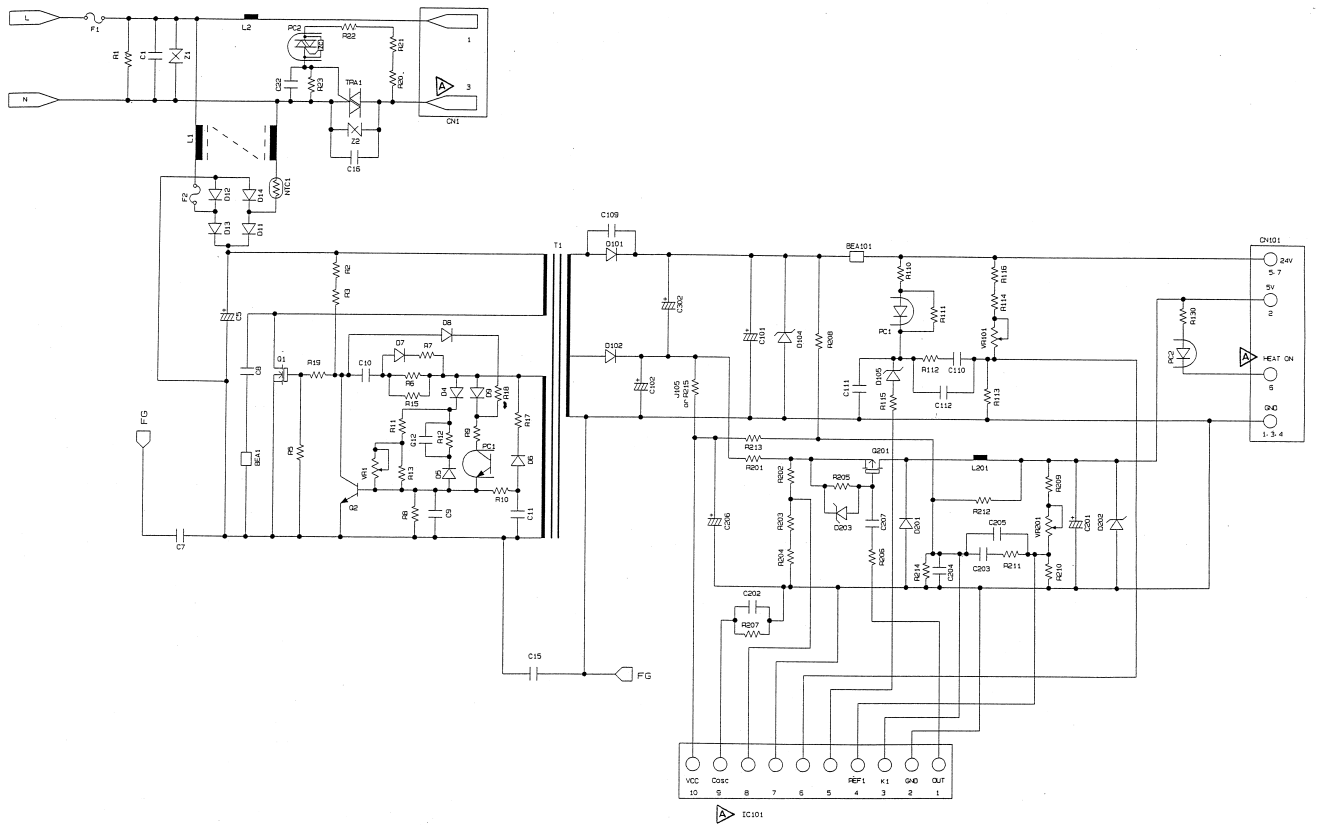
KEY NO.	KEY NAME	KEY CODE
37	10KEY-7	0A
38	10KEY-8	12
39	10KEY-9	13
40	Volume High	0B
41	Speed Dial	1F
42	10KEY-0	1A
43	10KEY-0	3A
44	10KEY-#	1B
45	Volume Low	3B
46	Tel-index	29
47	Resolution	21
48	Mode	28
49	Hold/Broadcast	30
50	On/Off Line	19
51	FF/Cont	11
52	Print Priority	18
53	Test/Reset	20
54	Enlarge	01
55	Reduce	31
56	Copy	38
57	Sort	39
58	Photo	09
59	Stop	10
60	Star1	08
61		3D

ZL PANEL KEY MATRIX REFERENCE TABLE 2

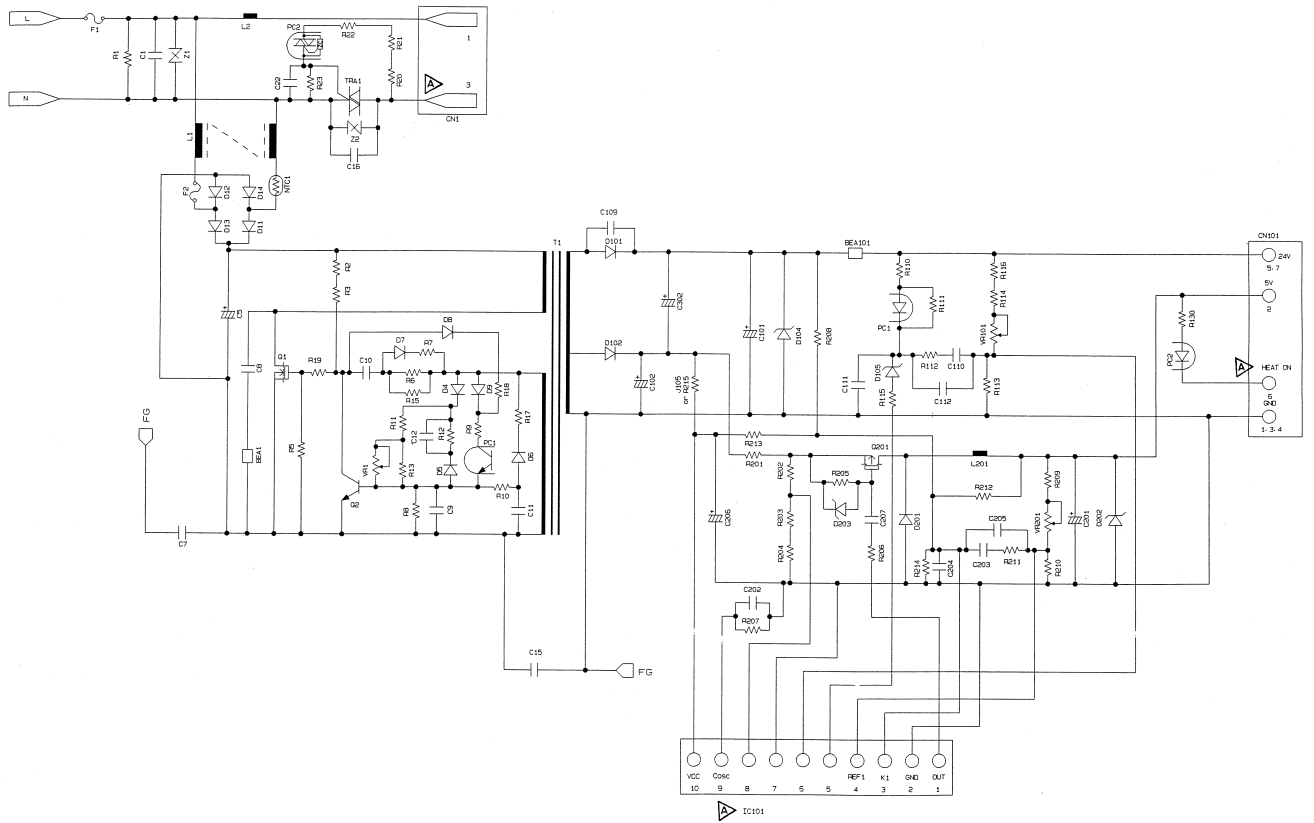
	KO0 P1-1P	KO1 P1-3P	KO2 P1-5P	KO3 P1-7P	KO4 P1-9P	KO5 P1-11P	KO6 P1-13P	KO7 P1-15P
KI 0 P1-16P	54	58	51	50	47	46	55	57
KI 1 P1-12P	33	37	38	42	25	30	34	43
KI 2 P1-10P	35	40	39	44	26	27	31	45
KI 3 P1-6P	12	17	21	20	8	4	16	22
KI 4 P1-2P	6	5	13	18	1/63	2/62	9	61
KI 5 P1-4P	11	10	15	19	7	3/64	14	
KI 6 P1-8P	28	32	36	41	24	23	29	
KI 7 P1-14P	60	59	52	53	48	49	56	

D

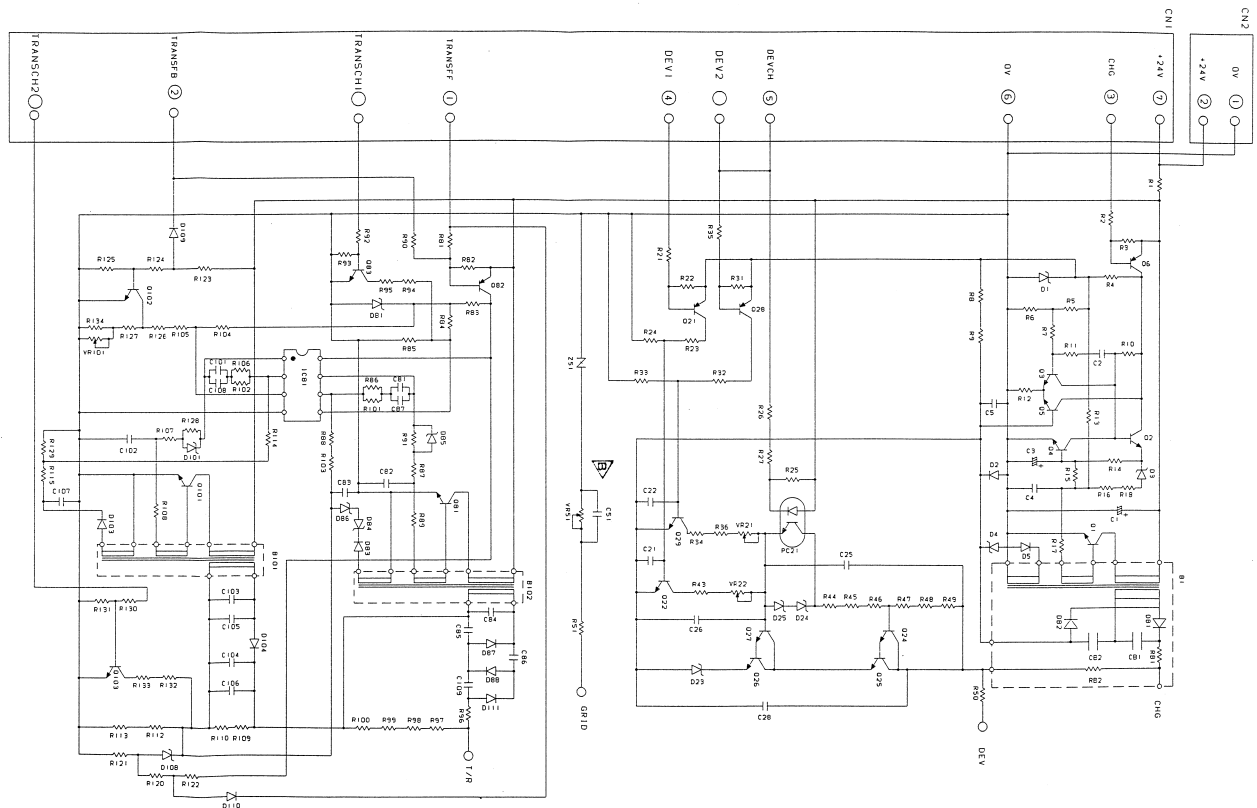
Control Panel PCB 2/2



**E** Power Supply PCB (100-120V)  
Low-voltage power supply



E	<b>Power Supply PCB (200-240V)</b> Low-voltage power supply
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<b>E</b>	<b>Power Supply PCB</b> High-voltage power supply
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**FAX4750  
MFC8300/8600**

**Appendix 1. EEPROM Customizing Codes**

## EEPROM Customizing Codes

This function allows you to customize the EEPROM according to language, function settings, and firmware switch settings.

### Operating Procedure

- (1) American models: To make the equipment enter the maintenance mode, press the **Function**, \*, **2**, **8**, **6**, and **4** keys in this order.

Within 2 seconds ← →

European models: To make the equipment enter the maintenance mode, press the **Menu**, \*, **2**, **8**, **6**, and **4** keys in this order.

Within 2 seconds ← →

The equipment beeps for approx. one second and displays “ ■■ MAINTENANCE ■■■ “ on the LCD.

- (2) Press the **7** and **4** keys in this order in the initial stage of the maintenance mode.  
The current customizing code (e.g., 1001 in the case of FAX4750 USA version) appears.
- (3) Enter the desired customizing code (e.g., 0002 in the case of FAX4750 Canadian version).  
The newly entered code appears.

**NOTE:** If a wrong 4-digit code is entered, the equipment will malfunction.

- (4) Press the **Start** key.

The equipment saves the setting and returns to the initial stage of the maintenance mode.

If you press the **Stop** key or no keys are pressed for one minute in the above procedure, the equipment stops the procedure and returns to the initial stage of the maintenance mode.

### EEPROM Customizing Codes List

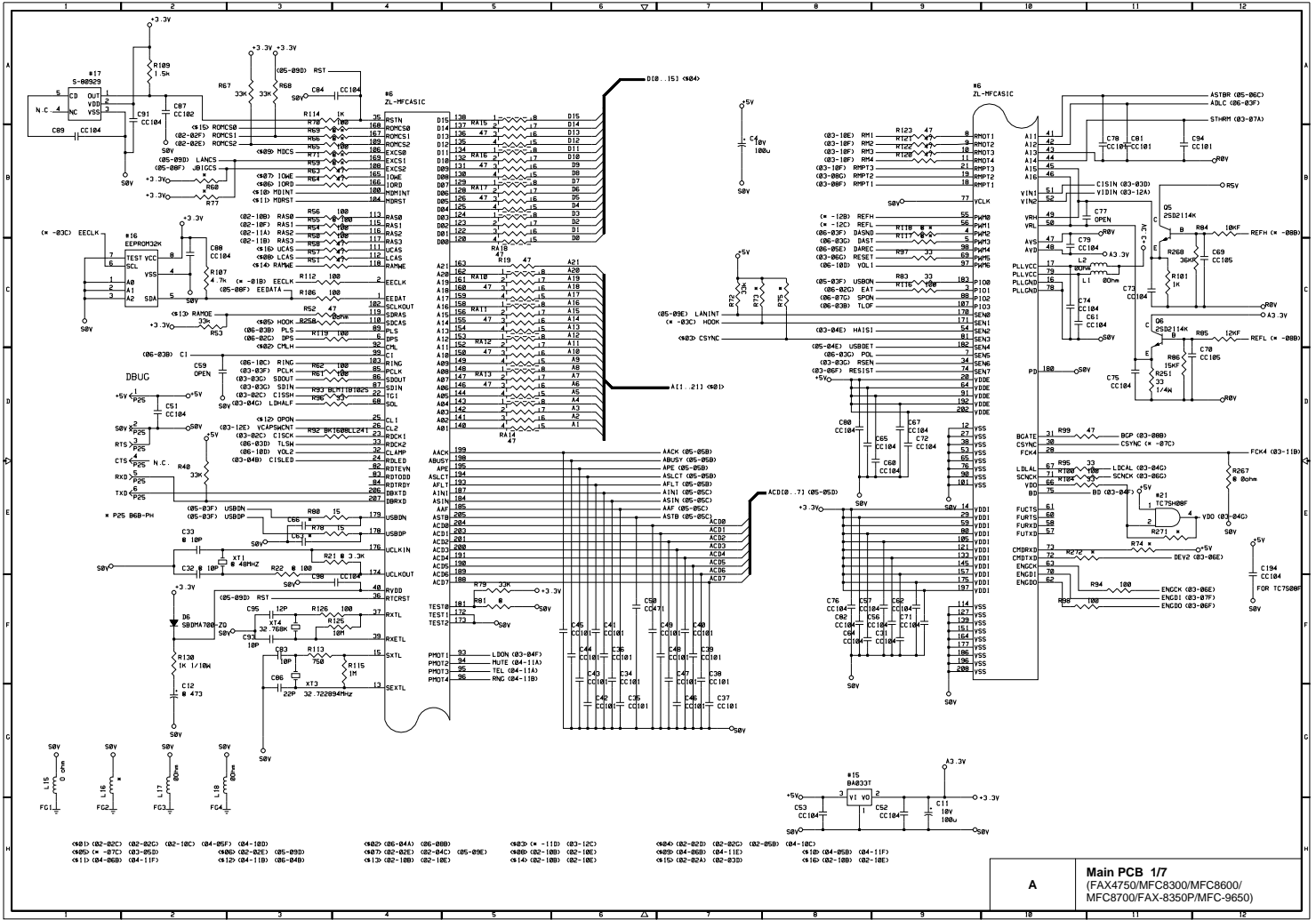
Versions	Model				
	FAX4750	MFC8300	MFC8600	MFC8700	FAX5750
U.S.A.	1001	1101	1201	-	-
CANADA	0002	0102	0202	-	-
AUSTRALIA	0006	-	0006	-	-
NEW ZEALAND	0027	-	0227	-	-
CHINA	-	0020	0020	-	-
TAIWAN	-	-	-	-	-
HONG KONG	-	-	-	-	-
ARGENTINA	-	-	-	-	-
THAILAND	-	-	-	-	-
CHILLE	-	-	-	-	-
SOUTH AMERICA	-	-	-	-	-
ASIA	0040	-	0240	-	-
GULF	0001	-	0201	-	-
BRAZIL	-	-	-	-	-
INDONESIA	-	-	-	-	-
INDIA	-	-	-	-	-
MEXICO	-	-	-	-	-
RUSSIA	-	-	-	-	-

Versions	Model		
	FAX-8350P	MFC-9650	FAX8750P
GERMANY	0003	0003	-
U.K.	0004	0004	-
FRANCE	0005	0005	-
NORWAY	0007	0007	-
BELGIUM	0008	0008	-
NETHERLANDS	0009	0009	-
SWITZERLAND	0010	0010	-
IRELAND	0011	-	-
FINLAND	-	0012	-
DENMARK	0013	0013	-
AUSTRIA	0014	-	-
SPAIN	-	0015	-
ITALY	-	0016	-
ISRAEL	-	-	-
POTUGAL	-	-	-
SWEDEN	0026	0026	-

# **FAX4750 MFC8300/8600**

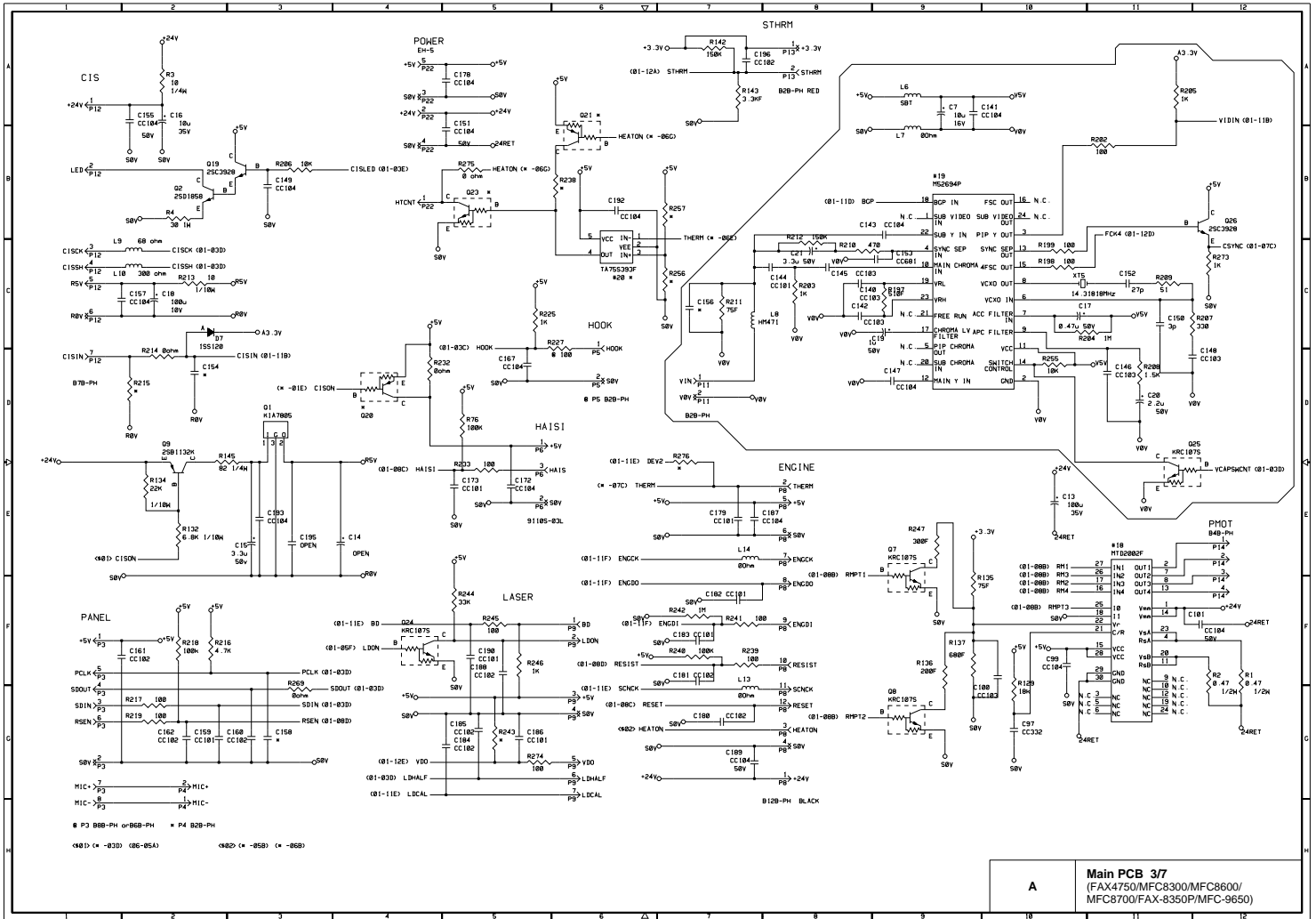
## **Appendix 2. Circuit Diagrams**

- A. Main PCB
- B. Engine PCB
- C. Network Control Unit (NCU) PCB
- D. Control Panel PCB
- E. Power Supply PCBs



**A** Main PCB 1/7  
(FAX4750/MFC8300/MFC8600/  
MFC8700/FAX-8350P/MFC-9650)



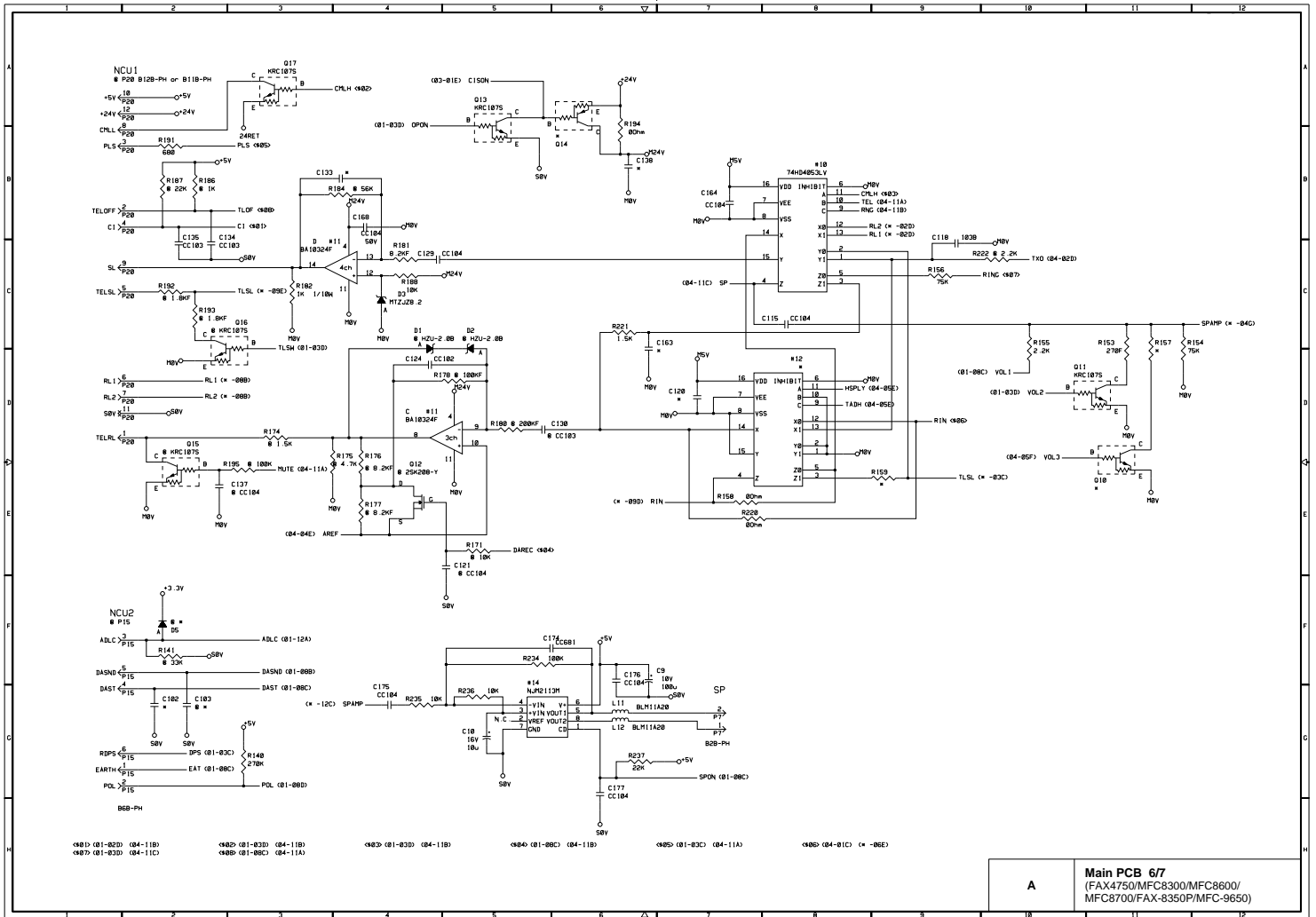


A Main PCB 3/7  
 (FAX4750/MFC8300/MFC8600/  
 MFC8700/FAX-8350P/MFC-9650)





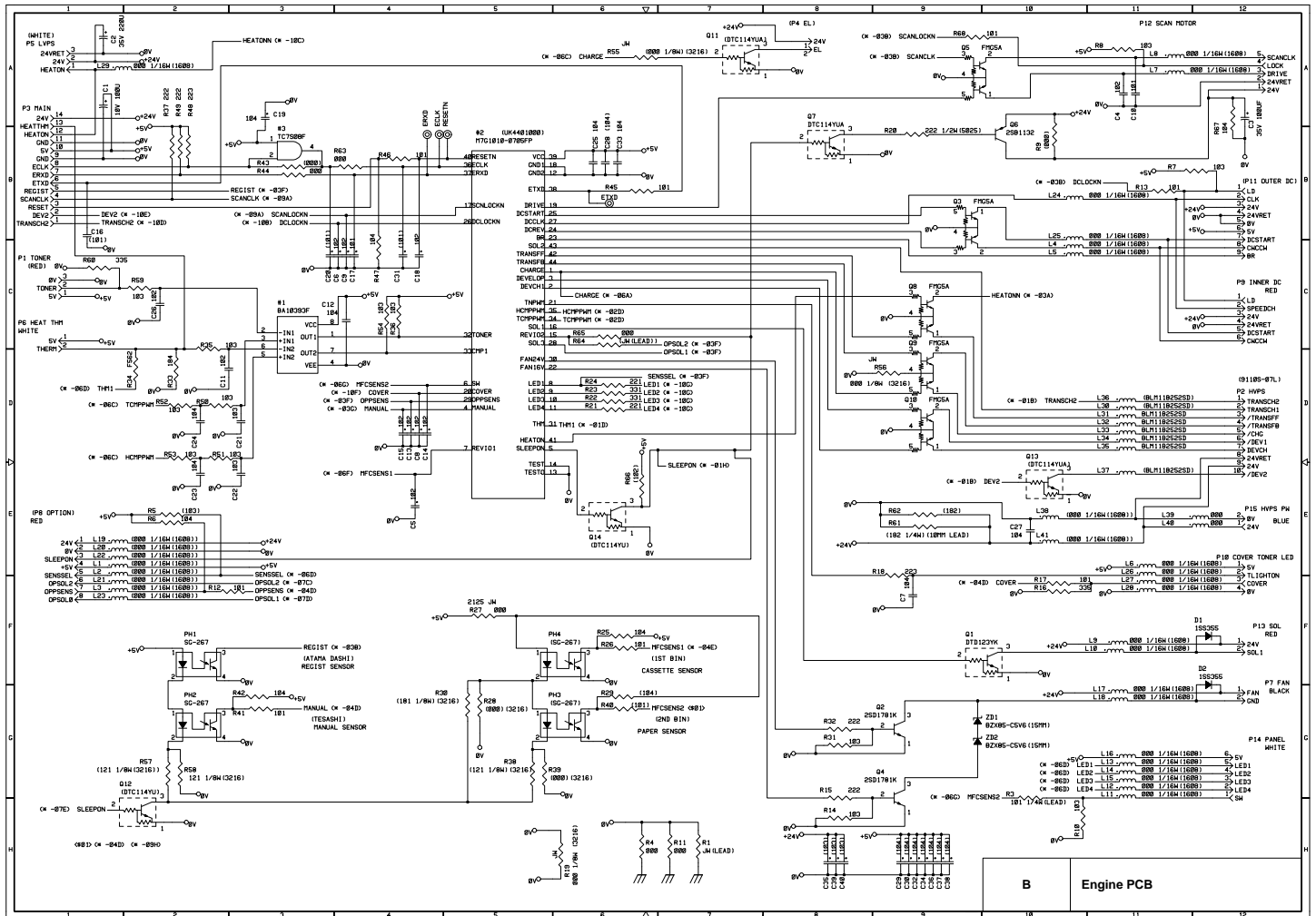




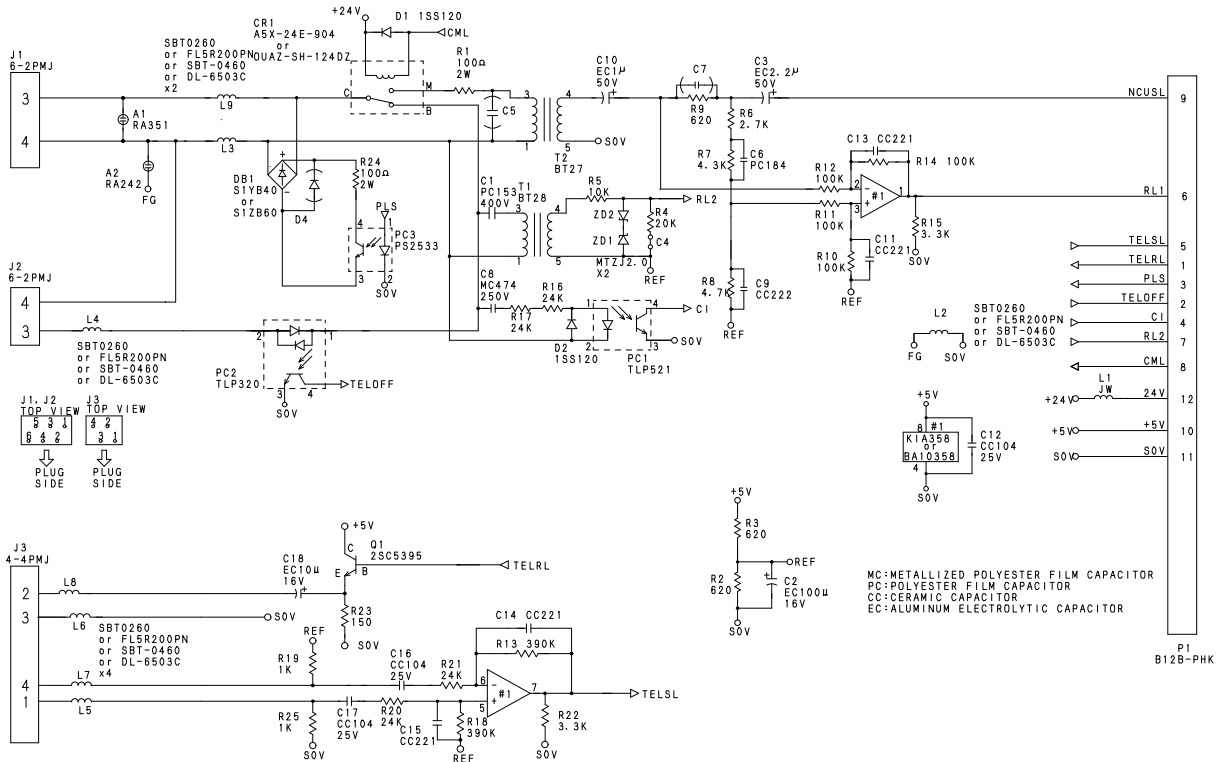
A	<b>Main PCB 6/7</b> (FAX4750/MFC8300/MFC8600/ MFC8700/FAX-B350P/MFC-9650)
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		US				EUR				ASA/OCE					
	No.	FAX4750 ASSY. 1 UG6224001	MFC8300 ASSY. 2 UG6225001	MFC8600 ASSY. 3 UG6226001	MFC8700 ASSY. 4 LG2192001	FAX8350P ASSY. 21 LG2082001	MFC8650 ASSY. 31 LG2252001	FAX4750 ASSY. 22 LG2250001	MFC8600 ASSY. 32 LG2251001						
USB	XT1	NOT ASSY	XTAL48.00MHZ	XTAL48.00MHZ	XTAL48.00MHZ	NOT ASSY	XTAL48.00MHZ	NOT ASSY	XTAL48.00MHZ	NOT ASSY	XTAL48.00MHZ				
	C32	NOT ASSY	Cera C 50C100CH	Cera C 50C100CH	Cera C 50C100CH	NOT ASSY	Cera C 50C100CH	NOT ASSY	Cera C 50C100CH	NOT ASSY	Cera C 50C100CH				
	C33	0 Ω	Cera C 50C100CH	Cera C 50C100CH	Cera C 50C100CH	0 Ω	Cera C 50C100CH	0 Ω	Cera C 50C100CH	0 Ω	Cera C 50C100CH				
	R21	NOT ASSY	3.3K Ω	3.3K Ω	3.3K Ω	NOT ASSY	3.3K Ω	NOT ASSY	3.3K Ω	NOT ASSY	3.3K Ω				
	R22	NOT ASSY	100 Ω	100 Ω	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
LAN	R59	NOT ASSY	NOT ASSY	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
	R71	NOT ASSY	NOT ASSY	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
	R69	NOT ASSY	100 Ω	100 Ω	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω	NOT ASSY	100 Ω				
ROMCS1	R66	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	100 Ω	100 Ω	100 Ω	100 Ω	100 Ω	100 Ω				
ROMCS2	R55	100 Ω	NOT ASSY	100 Ω	100 Ω	100 Ω	100 Ω	100 Ω	100 Ω	100 Ω	100 Ω				
RAS1	R117	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
DAS1	R118	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	10KΩ	10KΩ	10KΩ	10KΩ				
DASND	R18	NOT ASSY	0 Ω	0 Ω	0 Ω	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
FCK4	R267	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
SUPER CAP.	C12	5.5V/47000μ	5.5V/47000μ	5.5V/47000μ	5.5V/47000μ	5.5V/220000μ	5.5V/220000μ	5.5V/220000μ	5.5V/220000μ	5.5V/220000μ	5.5V/220000μ				
FLASH	#1	NOT ASSY	4MbitFLASH	4MbitFLASH	16MbitFLASH	16MbitFLASH	32MbitFLASH	16MbitFLASH	32MbitFLASH	16MbitFLASH	32MbitFLASH				
	R7	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	R12	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	3.3KΩ	NOT ASSY	3.3KΩ	NOT ASSY	3.3KΩ				
	R14	NOT ASSY	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ				
	R248	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	R250	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	NOT ASSY	0 Ω	NOT ASSY	0 Ω				
EXROM	P18	NOT ASSY	NOT ASSY	NOT ASSY	52340-0501	52340-0501	52340-0501	52340-0501	52340-0501	52340-0501	52340-0501				
	C1	10V/100μ	10V/100μ	10V/100μ	10V/100μ	10V/100μ	10V/100μ	10V/100μ	10V/100μ	10V/100μ	10V/100μ				
DRAM	#5	EDODRAM: 16Mb	NOT ASSY	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb	EDODRAM: 16Mb				
	C105	CC25C104	NOT ASSY	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104				
	C108	CC25C104	NOT ASSY	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104				
	C110	CC25C104	NOT ASSY	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104	CC25C104				
EXRAM	P2	DHB-PB40	DHB-PB40	DHB-PB40	DHB-PB40	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
VIDEO CAPTURE BLOCK	A	NOT ASSY	NOT ASSY	ASSY	ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
HOOK	P5	B2B-PH	B2B-PH	B2B-PH	B2B-PH	NOT ASSY	NOT ASSY	CONNECTOR B2B-PH	CONNECTOR B2B-PH	CONNECTOR B2B-PH	CONNECTOR B2B-PH				
	R227	100 Ω	100 Ω	100 Ω	100 Ω	NOT ASSY	NOT ASSY	100 Ω	100 Ω	100 Ω	100 Ω				
MODEL DETEC- TION	R165	NOT ASSY	NOT ASSY	33KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R168	0 Ω	0 Ω	NOT ASSY	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	R164	NOT ASSY	NOT ASSY	NOT ASSY	33KΩ	NOT ASSY	NOT ASSY	33KΩ	33KΩ	33KΩ	33KΩ				
	R167	0 Ω	0 Ω	0 Ω	NOT ASSY	0 Ω	0 Ω	0 Ω	NOT ASSY	NOT ASSY	NOT ASSY				
	R163	NOT ASSY	33KΩ	33KΩ	33KΩ	NOT ASSY	33KΩ	NOT ASSY	33KΩ	NOT ASSY	33KΩ				
	R166	0 Ω	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	NOT ASSY	0 Ω	NOT ASSY	0 Ω	NOT ASSY				
	R173	56KΩ	56KΩ	56KΩ	56KΩ	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)				
	R229	56KΩ	56KΩ	56KΩ	56KΩ	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)				
	R230	75KΩ	75KΩ	75KΩ	75KΩ	75KΩ (F)	75KΩ (F)	75KΩ (F)	75KΩ (F)	75KΩ (F)	75KΩ (F)				
USB	P17	NOT ASSY	USB-212-T	USB-212-T	USB-212-T	NOT ASSY	USB-212-T	NOT ASSY	USB-212-T	NOT ASSY	USB-212-T				
	Q3	NOT ASSY	KRA107S	KRA107S	KRA107S	NOT ASSY	KRA107S	NOT ASSY	KRA107S	NOT ASSY	KRA107S				
	Q4	NOT ASSY	KRC107S	KRC107S	KRC107S	NOT ASSY	KRC107S	NOT ASSY	KRC107S	NOT ASSY	KRC107S				
	R8	NOT ASSY	3.3KΩ	3.3KΩ	3.3KΩ	NOT ASSY	3.3KΩ	NOT ASSY	3.3KΩ	NOT ASSY	3.3KΩ				
	R10	NOT ASSY	1.5KΩ	1.5KΩ	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ				
	R11	NOT ASSY	1.5KΩ	1.5KΩ	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ				
	R16	NOT ASSY	1.5KΩ	1.5KΩ	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ	NOT ASSY	1.5KΩ				
	R17	NOT ASSY	10KΩ	10KΩ	10KΩ	NOT ASSY	10KΩ	NOT ASSY	10KΩ	NOT ASSY	10KΩ				
	R18	NOT ASSY	1MΩ	1MΩ	1MΩ	NOT ASSY	1MΩ	NOT ASSY	1MΩ	NOT ASSY	1MΩ				
	C29	0 Ω	CC25C104	CC25C104	CC25C104	0 Ω	CC25C104	0 Ω	CC25C104	0 Ω	CC25C104				
LAN	P1	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	DHB-PB34	DHB-PB34	NOT ASSY	DHB-PB34	NOT ASSY	DHB-PB34				
	R5	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	0 Ω	0 Ω	NOT ASSY	0 Ω	NOT ASSY	0 Ω				
NCU1	P20	B12B-PH	B12B-PH	B12B-PH	B12B-PH	B11B-PH	B11B-PH	B12B-PH	B12B-PH	B12B-PH	B12B-PH				
NCU2	P15	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	86B-PH	86B-PH	86B-PH	86B-PH	86B-PH	86B-PH				
TLOF	R188	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	22KΩ	22KΩ	22KΩ	22KΩ				
CI	R187	22KΩ	22KΩ	22KΩ	22KΩ	120KΩ	120KΩ	120KΩ	120KΩ	120KΩ	120KΩ				
DASND	C103	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	CC25C104	CC25C104	CC25C104	CC25C104				

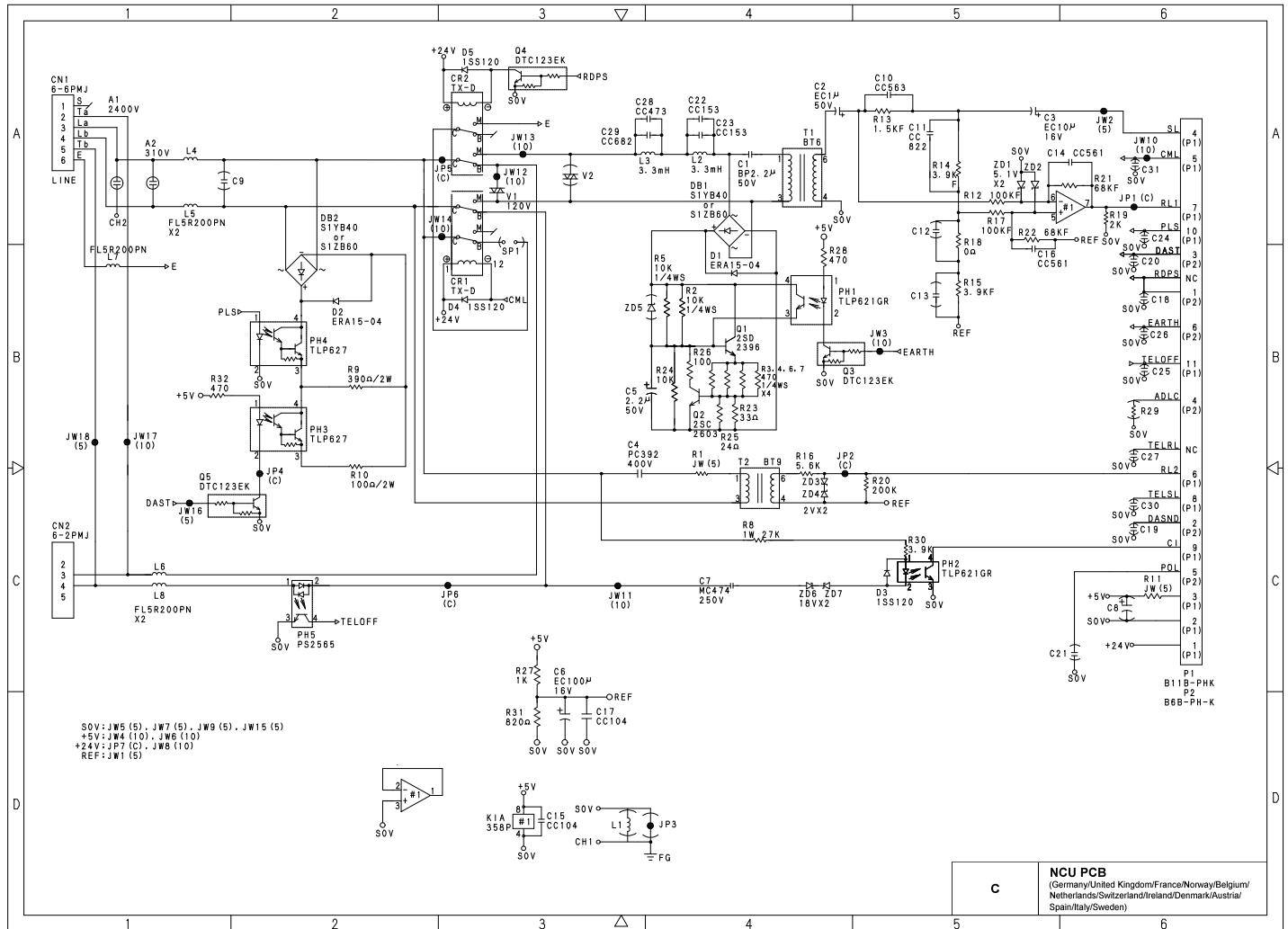
		US				EUR				ASA/OCE					
	No.	FAX4750 ASSY. 1 UG6224001	MFC8300 ASSY. 2 UG6225001	MFC8600 ASSY. 3 UG6226001	MFC8700 ASSY. 4 LG2192001	FAX8350P ASSY. 21 LG2082001	MFC8650 ASSY. 31 LG2252001	FAX4750 ASSY. 22 LG2250001	MFC8600 ASSY. 32 LG2251001						
ADLC	D5	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R141	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ	33KΩ				
TXO	R222	3.3KΩ	3.3KΩ	3.3KΩ	3.3KΩ	3.3KΩ (F)	3.3KΩ (F)	3.3KΩ (F)	3.3KΩ (F)	3.3KΩ (F)	3.3KΩ (F)				
TX AMP	R184	56KΩ	56KΩ	56KΩ	56KΩ	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)	56KΩ (F)				
TLSL	R192	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R193	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	1.8KΩ (F)	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	Q16	KRC107S	KRC107S	KRC107S	KRC107S	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	D1	ZDHZU-2.0B	ZDHZU-2.0B	ZDHZU-2.0B	ZDHZU-2.0B	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	D2	ZDHZU-2.0B	ZDHZU-2.0B	ZDHZU-2.0B	ZDHZU-2.0B	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	C124	CC50C102B	CC50C102B	CC50C102B	CC50C102B	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R178	100KΩ (F)	100KΩ (F)	100KΩ (F)	100KΩ (F)	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω	0 Ω				
	C130	CC50C103B	CC50C103B	CC50C103B	CC50C103B	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R180	200KΩ (F)	200KΩ (F)	200KΩ (F)	200KΩ (F)	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R174	1.5KΩ	1.5KΩ	1.5KΩ	1.5KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R175	4.7KΩ	4.7KΩ	4.7KΩ	4.7KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R176	8.2KΩ (F)	8.2KΩ (F)	8.2KΩ (F)	8.2KΩ (F)	0 Ω	0 Ω	1KΩ (F)	1KΩ (F)	1KΩ (F)	1KΩ (F)				
	R177	8.2KΩ (F)	8.2KΩ (F)	8.2KΩ (F)	8.2KΩ (F)	NOT ASSY	NOT ASSY	880 Ω (F)	880 Ω (F)	880 Ω (F)	880 Ω (F)				
	Q12	25K208-Y	25K208-Y	25K208-Y	25K208-Y	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R171	10KΩ	10KΩ	10KΩ	10KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	C121	CC25C104	CC25C104	CC25C104	CC25C104	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	Q15	KRC107S	KRC107S	KRC107S	KRC107S	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	R195	100KΩ	100KΩ	100KΩ	100KΩ	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY				
	C137	CC25C104	CC25C104	CC25C104	CC25C104	NOT ASSY	NOT ASSY	NOT ASSY	NOT ASSY</						

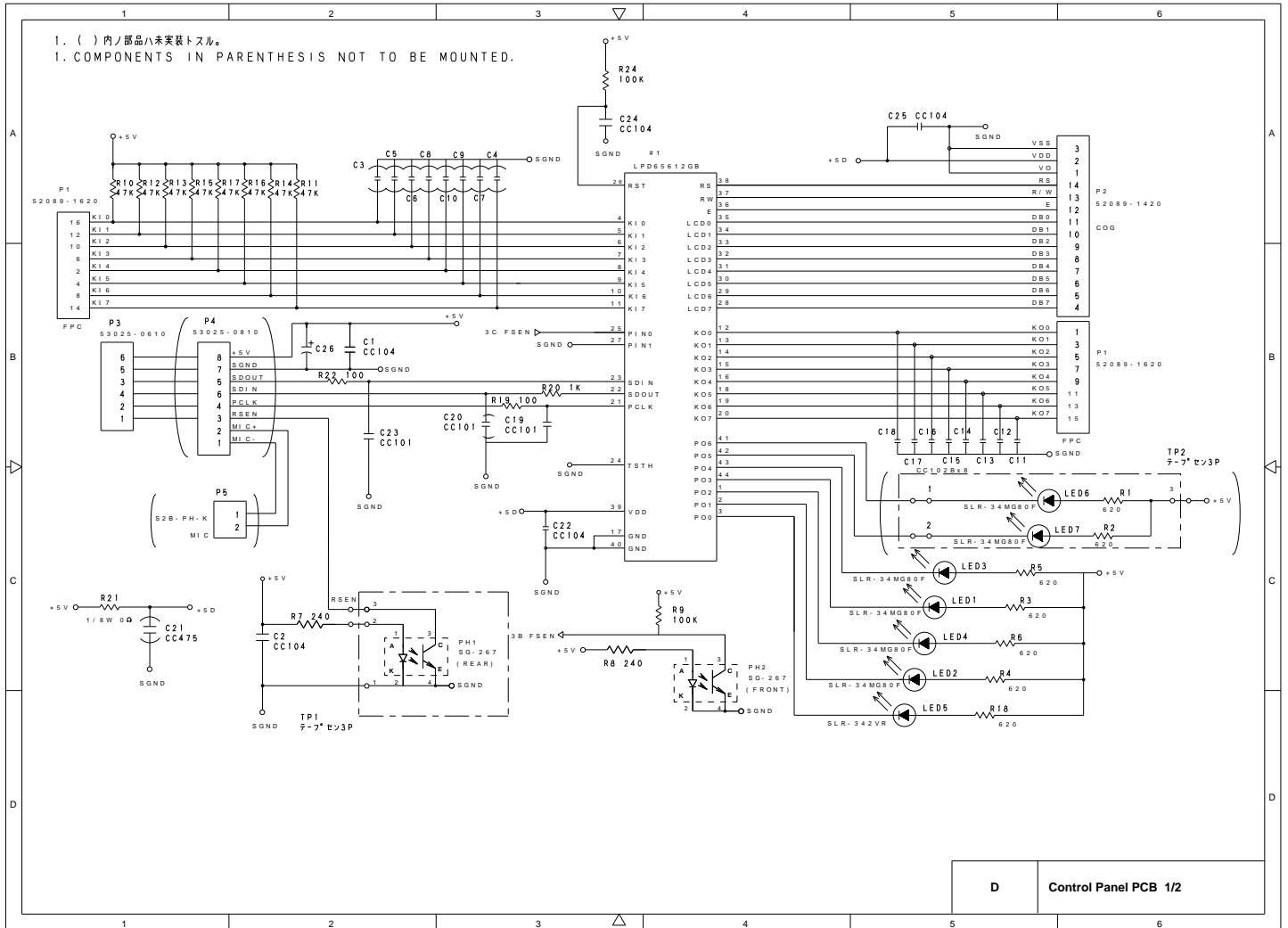


1. 指示ナキ抵抗ノ消費電力ハ1/4Wトスル。
1. UNLESS OTHERWISE SPECIFIED, POWER CONSUMPTION OF RESISTORS IS 1/4W.
2. 指示ナキコンデンサノ耐圧ハ25V又ハ50Vトスル。
2. UNLESS OTHERWISE SPECIFIED, THE VOLTAGE RESISTANCE OF CAPACITORS IS 25V OR 50V.
3. ( ) 内ノ部品ハ未実装トスル。
3. COMPONENTS IN PARENTHESIS NOT TO BE MOUNTED.



C NCU PCB  
(U.S.A./Canada)





D Control Panel PCB 1/2

ZL PANEL KEY MATRIX REFERENCE TABLE 1

KEY NO.	KEY NAME	KEY CODE
1/63		25
2/62		2D
3/64		2E
4		2C
5	1TOUCH-01/17	0D
6	1TOUCH-02/18	05
7	1TOUCH-03/19	26
8	1TOUCH-04/20	24
9	1TOUCH-05/21	35
10	1TOUCH-06/22	0E
11	1TOUCH-07/23	06
12	1TOUCH-08/24	04
13	1TOUCH-09/25	15
14	1TOUCH-10/26	36
15	1TOUCH-11/27	16
16	1TOUCH-12/28	34
17		0C
18	1TOUCH-13/29	1D
19	1TOUCH-14/30	1E
20	1TOUCH-15/31	1C
21	1TOUCH-16/32	14
22	Shift	3C
23	Function	2F
24	←	27
25	SET	22
26	→	23
27	Clear	28
28	Hook	07
29	10KEY-1	37
30	10KEY-2	2A
31	10KEY-3	33
32	Hold	0F
33	10KEY-4	02
34	10KEY-5	32
35	10KEY-6	03
36	Redial/Pause	17

KEY NO.	KEY NAME	KEY CODE
37	10KEY-7	0A
38	10KEY-8	12
39	10KEY-9	13
40	Volume High	08
41	Speed Dial	1F
42	10KEY-0	1A
43	10KEY-0	3A
44	10KEY-#	1B
45	Volume Low	3B
46	Tel-index	29
47	Resolution	21
48	Mode	28
49	Hold/Broadcast	30
50	On/Off Line	19
51	FF/Cont	11
52	Print Priority	18
53	Test/Reset	20
54	Enlarge	01
55	Reduce	31
56	Copy	38
57	Sort	39
58	Photo	09
59	Stop	10
60	Star1	08
61		3D

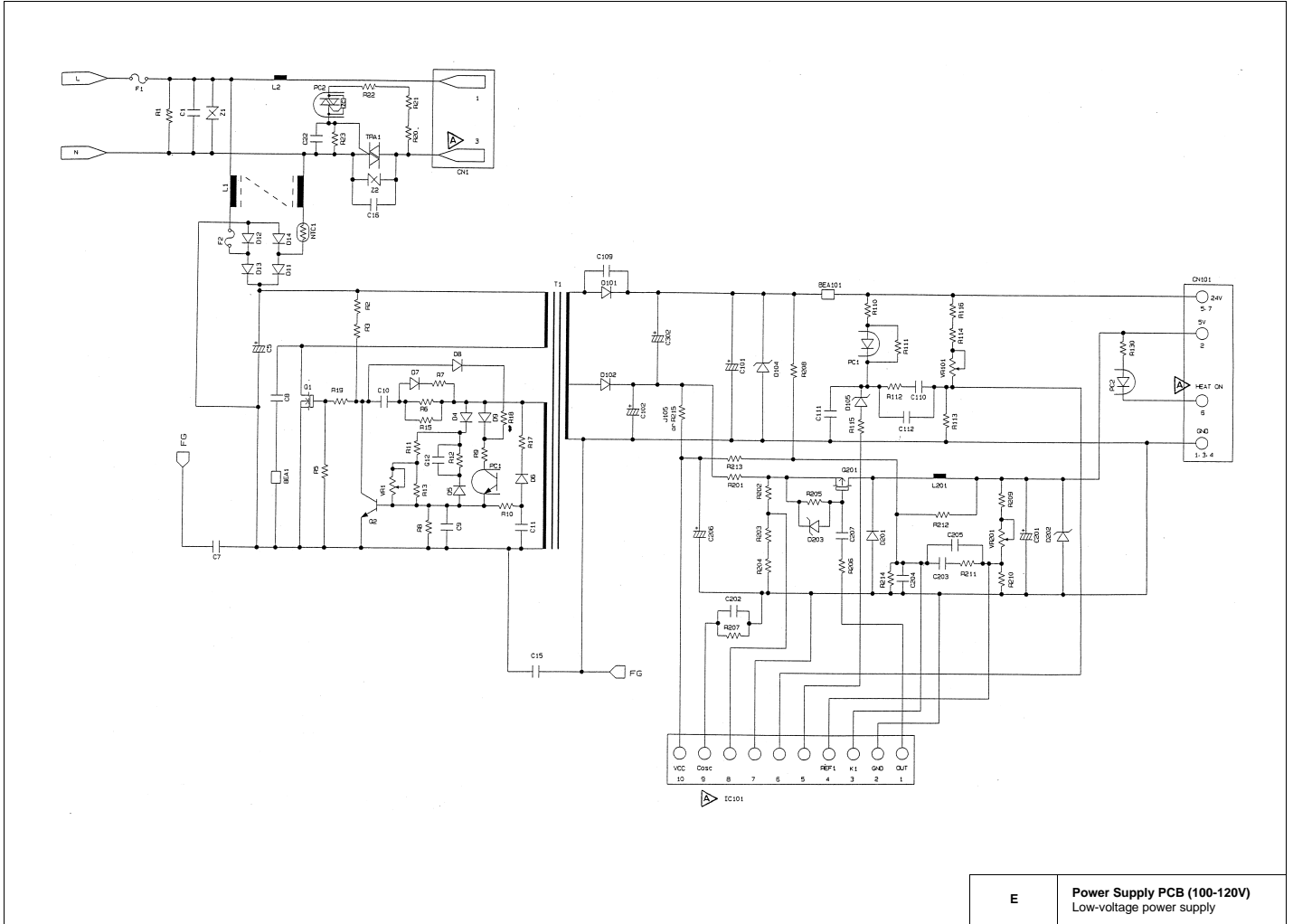
ZL PANEL KEY MATRIX REFERENCE TABLE 2

	KO0 P1-1P	KO1 P1-3P	KO2 P1-5P	KO3 P1-7P	KO4 P1-9P	KO5 P1-11P	KO6 P1-13P	KO7 P1-15P
KI 0 P1-16P	54	58	51	50	47	46	55	57
KI 1 P1-12P	33	37	38	42	25	30	34	43
KI 2 P1-10P	35	40	39	44	26	27	31	45
KI 3 P1-6P	12	17	21	20	8	4	16	22
KI 4 P1-2P	6	5	13	18	1/63	2/62	9	61
KI 5 P1-4P	11	10	15	19	7	3/64	14	
KI 6 P1-8P	28	32	36	41	24	23	29	
KI 7 P1-14P	60	59	52	53	48	49	56	

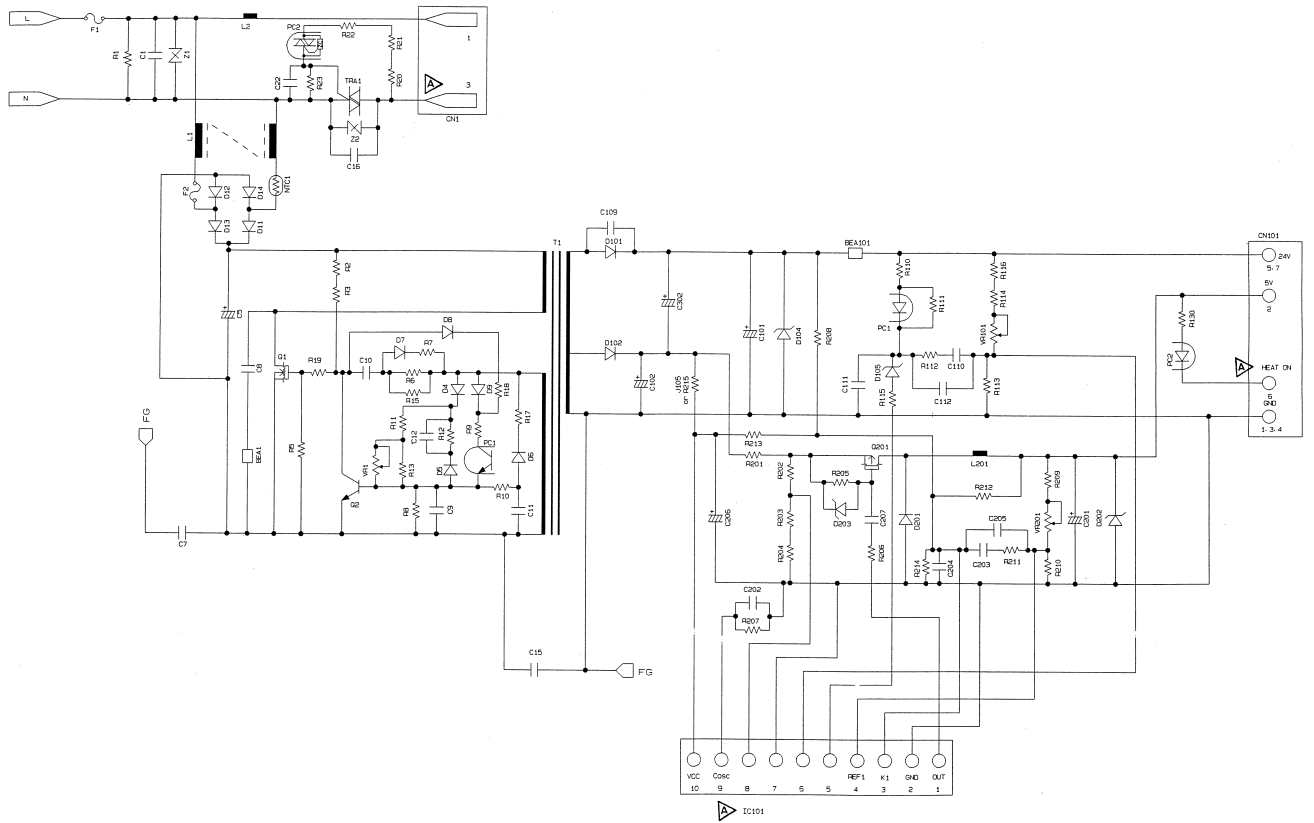
D

Control Panel PCB 2/2

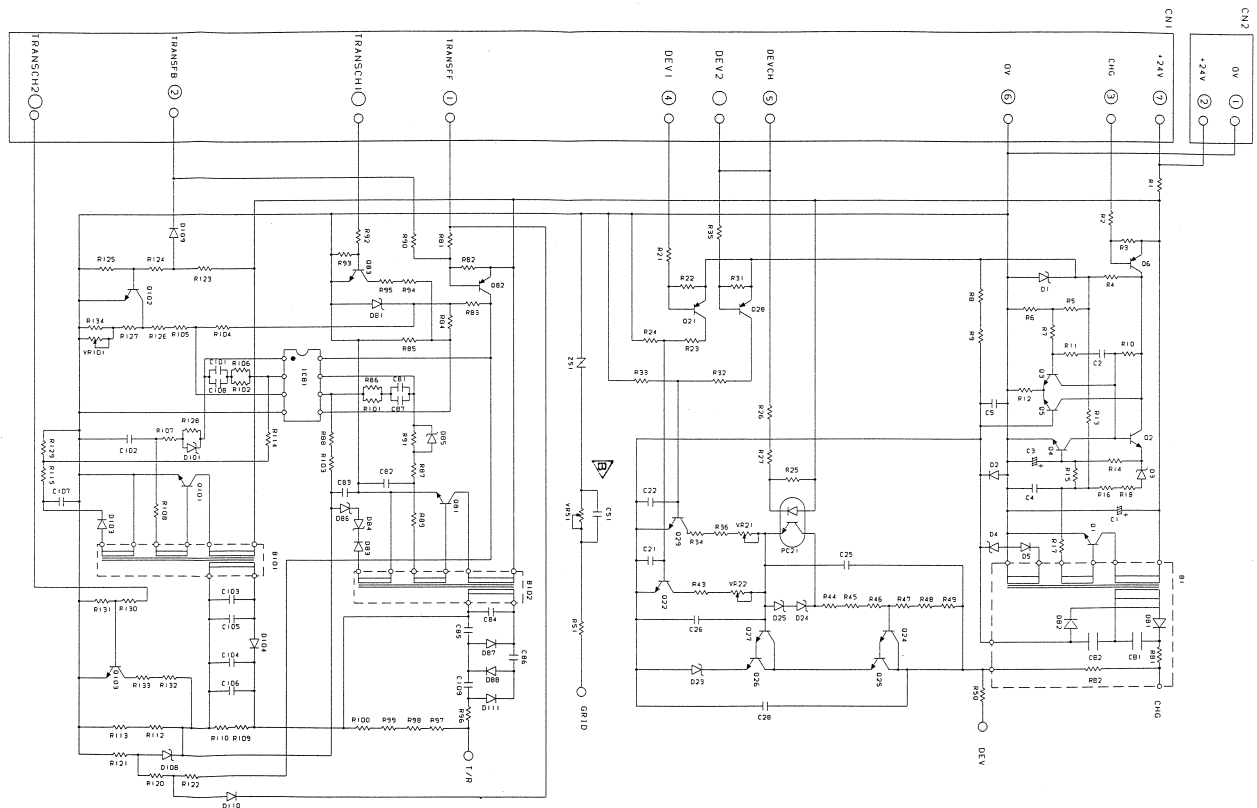




<b>E</b>	<b>Power Supply PCB (100-120V)</b> Low-voltage power supply
----------	--



E	<b>Power Supply PCB (200-240V)</b> Low-voltage power supply
---	--

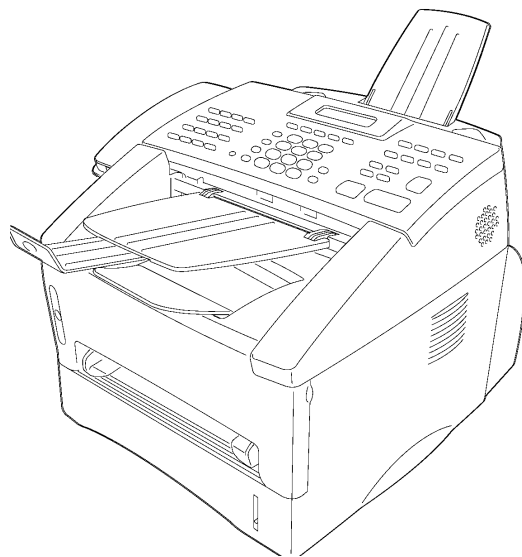


<b>E</b>	<b>Power Supply PCB</b> High-voltage power supply
----------	--



**FACSIMILE EQUIPMENT  
PARTS REFERENCE LIST**

**MODEL: FAX4750 / MFC8300 / MFC8600**  
**(For U.S.A / Canada**  
**/ Australia / New Zealand**  
**/ Asia / Gulf)**



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Specifications are subject to change without prior notice.

## NOTES FOR USING THIS PARTS REFERENCE LIST

1. In the case of ordering parts, it needs mentioning the following items:

- (1) Code
- (2) Q' ty
- (3) Description

Note: No orders without Parts Code or Tool No. can be accepted.

[Example]

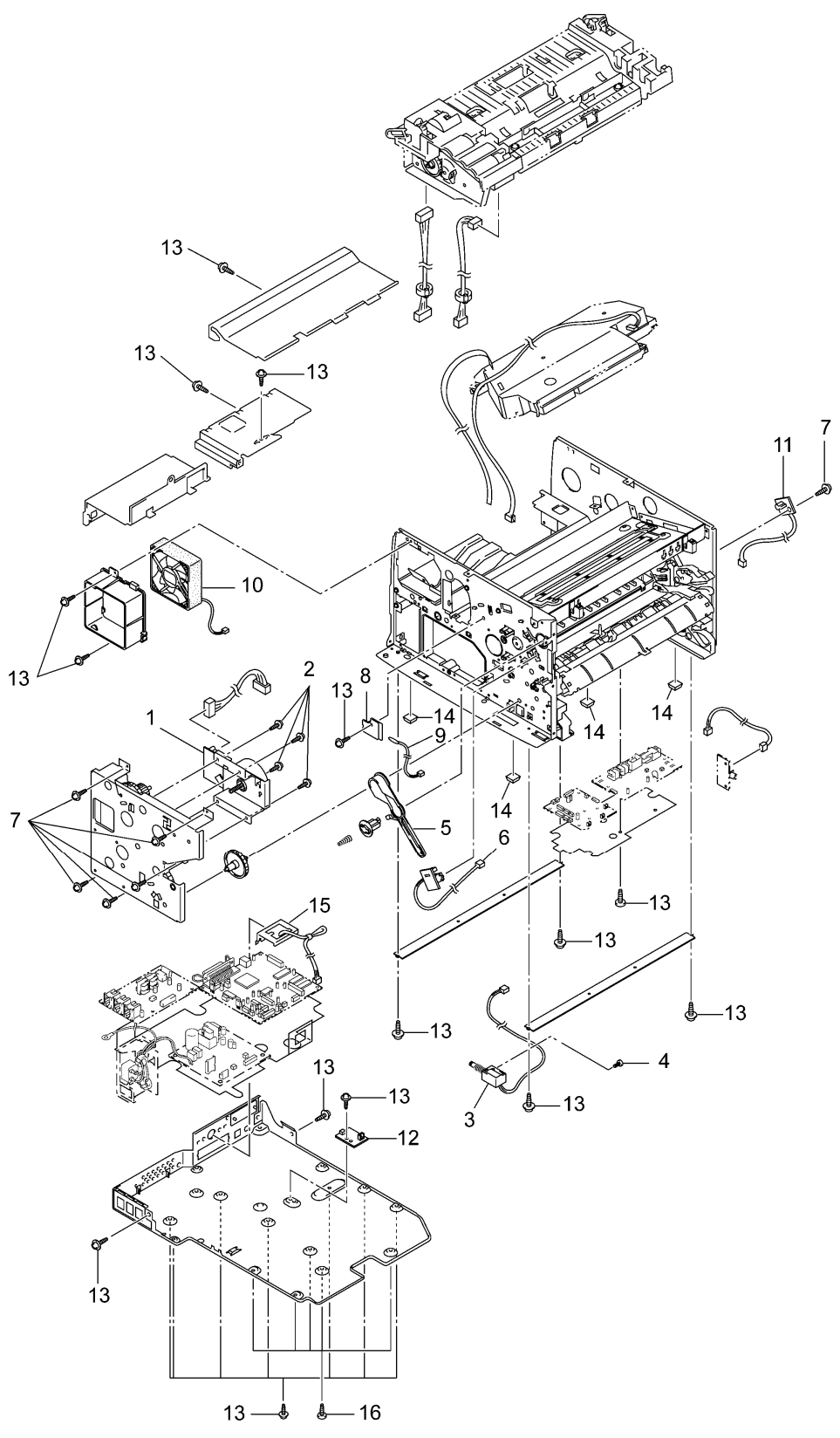
REF.NO.	CODE	Q' TY	DESCRIPTION	REMARKS

(1) points to CODE, (2) points to Q' TY, and (3) points to DESCRIPTION.

2. Parts change will be informed by the technical information.

## COUNTRIES

U.S.A. ----- US  
Canada ----- CAN  
Australia ----- ARL  
New Zealand ----- NZ  
Asia ----- ASA  
Gulf ----- GUL

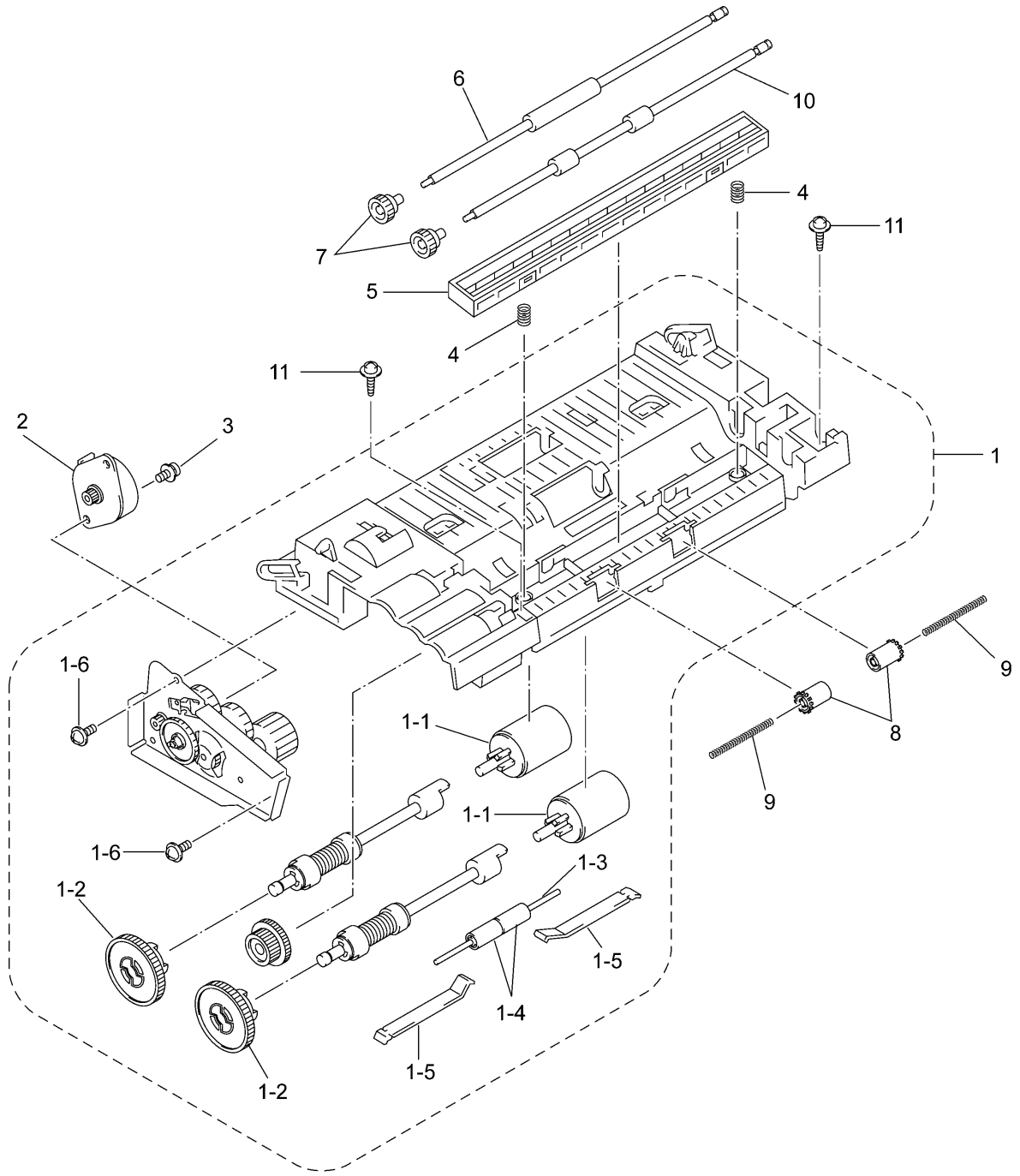


## List1(MAIN FRAME)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	UL9311001	1	MAIN MOTOR ASSY	
2	087320616	4	TAPTITE, CUP S M3X6	
3	LJ4069001	1	SOLENOID	
4	000300415	1	SCREW, BIND M3X4	
5	UL8984001	1	FRONT COVER LINK	
6	UL9099001	1	TONER SENSOR (LED) PCB	
7	087320616	6	TAPTITE, CUP S M3X6	
8	LE1166001	1	THERMISTOR FILM	
9	LE1168001	1	IN CASING TEMPERATURE THERMISTOR	
10	LJ4015001	1	FAN	
11	UL9104001	1	TONER SENSOR (RECEIVER) PCB	
12	UG6217001	1	PAPER EJECTION SENSOR PCB	
13	087320616	21	TAPTITE, CUP S M3X6	
14	UL8507001	4	RUBBER FOOT	
15	LJ8031001	1	2ND CASSETTE RELAY PCB, FAX4750/MFC8600/MFC8700	
16	085411215	5	SCREW, BIND B TITE M4X12	

FAX4750, MFC8300, MFC8600, MFC8700

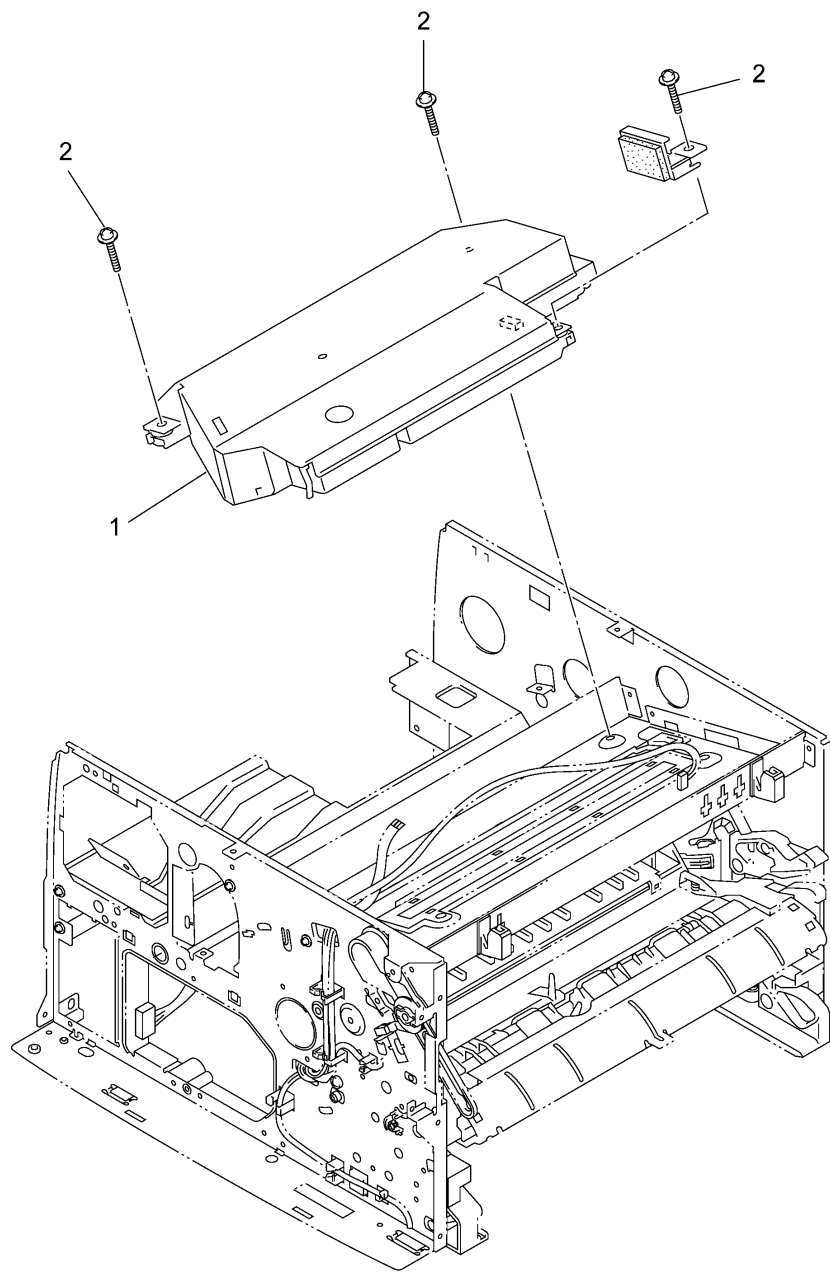




## List2(DOCUMENT SCANNER)

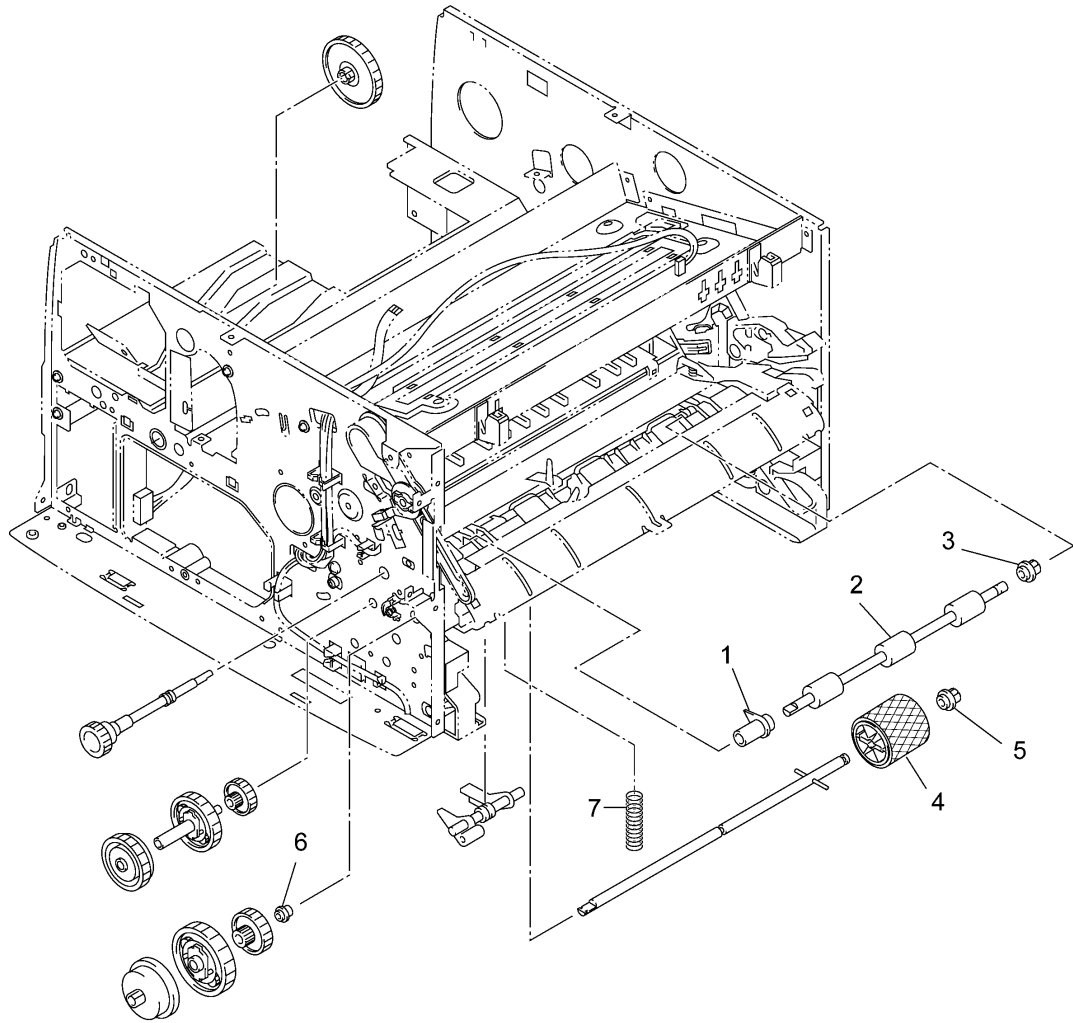
REF.NO.	CODE	Q'TY	DESCRIPTION	REMARKS
1	LE1164001	1	SCANNER FRAME ASSY	
1-1	LE1072001	2	DOCUMENT SEPARATION ROLLER	
1-2	UL5632000	2	DOCUMENT SEPARATION ROLLER GEAR	
1-3	UF4369000	1	PRESSURE ROLLER SHAFT	
1-4	UF9009001	2	PRESSER ROLLER	
1-5	UU7032001	2	PRESSER ROLLER LEAF SPRING	
1-6	087310815	2	TAPTITE, CUP B M3X8	
2	UU2027001	1	SCANNER MOTOR	
3	0A4300605	1	SCREW, PAN (WASHER) M3X6DA	
4	UU2028001	2	CIS SPRING	
5	LE1160001	1	CIS UNIT SUPPLY ASSY	
6	UU2029001	1	DOCUMENT FEED ROLLER	
7	LE1196001	2	DOCUMENT FEED ROLLER ROLLER GEAR	
8	UL6244002	2	PINCH ROLLER	
9	UU2009001	2	PINCH ROLLER SPRING	
10	UU2031001	1	DOCUMENT EJECTION ROLLER	
11	087311016	2	TAPTITE, CUP B M3X10	

FAX4750, MFC8300, MFC8600, MFC8700



List3(LASER UNIT)

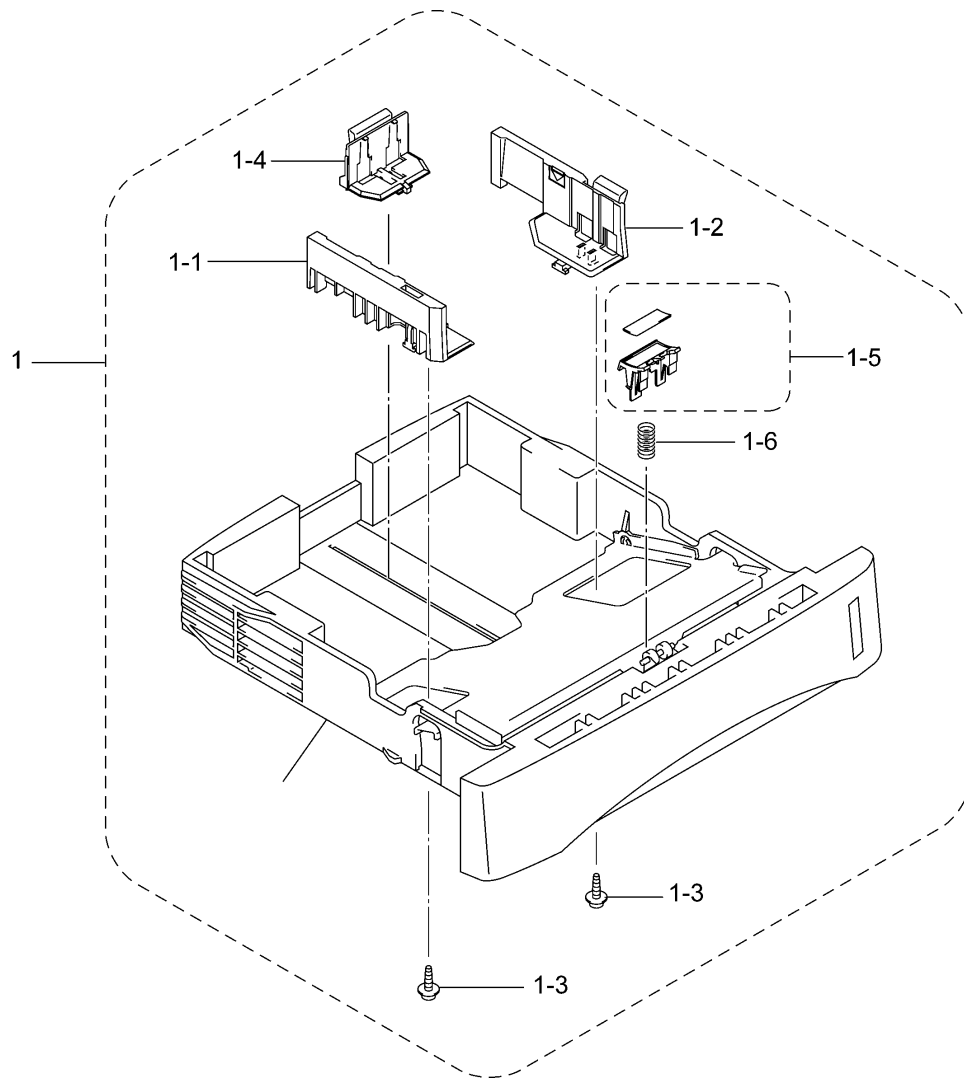
REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	LJ4157001	1	LASER UNIT SUPPLY ASSY	
2	087321615	3	TAPTITE, CUP S M3X16	



## List4(PAPER TRANSPORT)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	UL9059001	1	JOINT	
2	UL9060001	1	PAPER FEED ROLLER ASSY	
3	UL9062001	1	PAWLED BUSHING	
4	UL9066001	1	PAPER PICKUP ROLLER	
5	UL9062001	1	PAWLED BUSHING	
6	UL9069001	1	CONDUCTIVE BUSHING	
7	UL9071001	1	ELECTRODE SPRING	

FAX4750, MFC8300, MFC8600, MFC8700

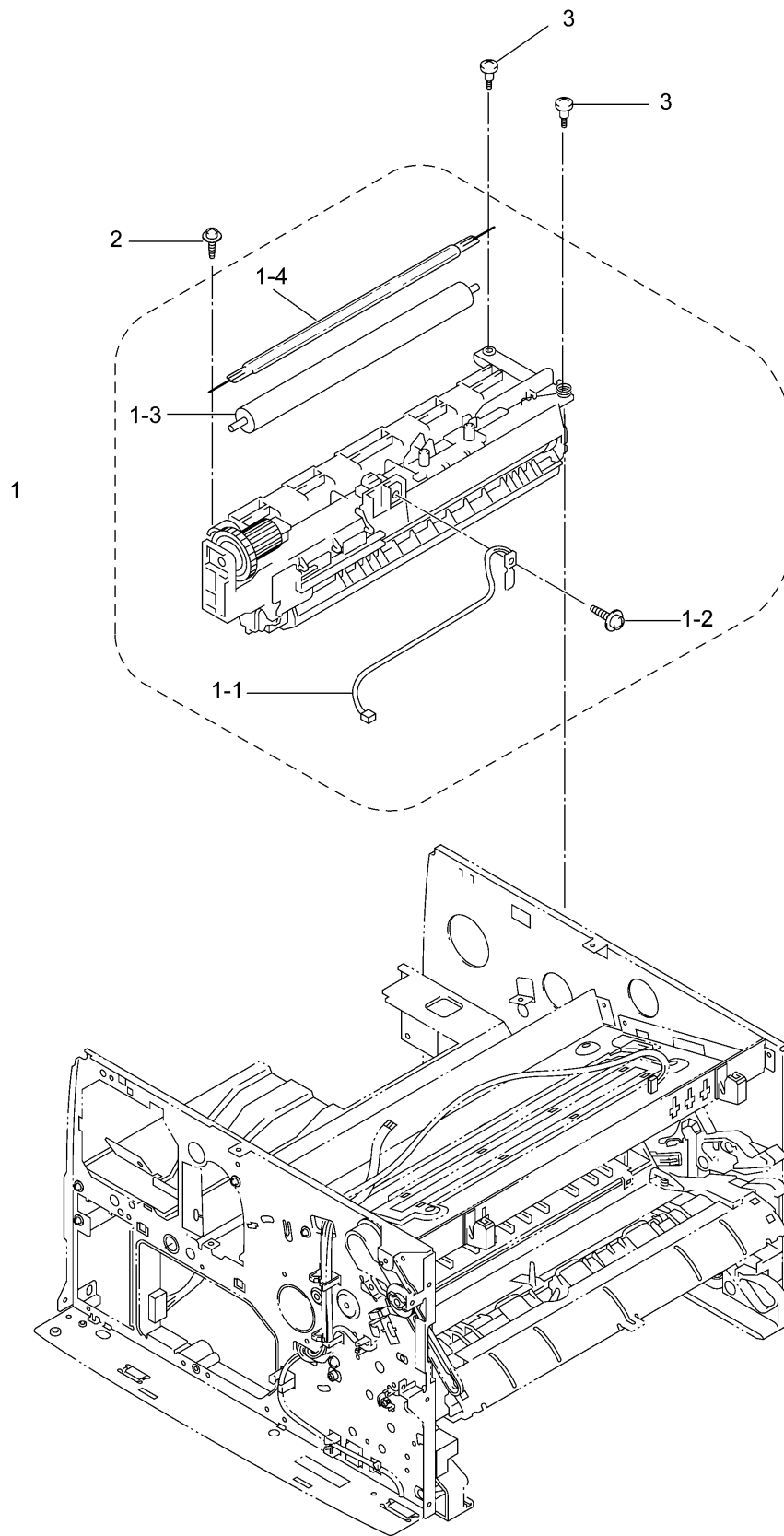


## List5(PAPER CASSETTE)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	LE1162001	1	PAPER CASSETTE, LEGAL SUPPLY ASSY	
1-1	UL9078001	1	SIDE GUIDE L	
1-2	UL9079001	1	SIDE GUIDE R	
1-3	U73515001	2	SCREW, PAN CUP B M2.6X5	
1-4	UL9083001	1	PAPER REAR GUIDE	
1-5	UL9084001	1	SEPARATION PAD SUPPORT ASSY	
1-6	UL9090001	1	SEPARATION PAD SPRING	

FAX4750, MFC8300, MFC8600, MFC8700

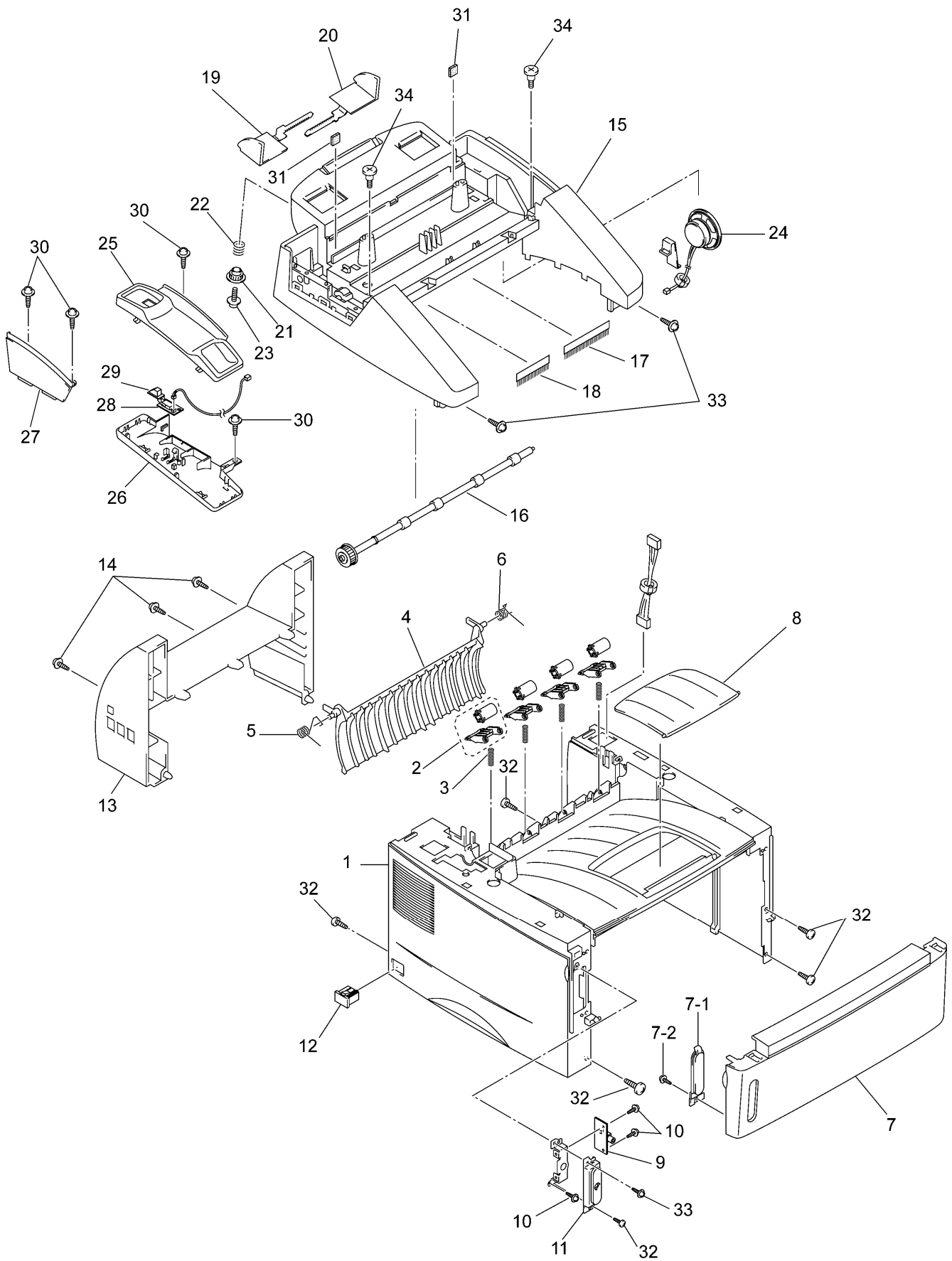




## List6(HEAT FIXING UNIT)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	LJ4164001	1	HEAT FIXING UNIT, 115V SUPPLY ASSY FOR US/CAN	
1	LJ4168001	1	HEAT FIXING UNIT, 230V SUPPLY ASSY FOR ARL/NZ/ASA/GUL	
1-1	UL8902001	1	THERMISTOR ASSY	
1-2	087311215	1	TAPTITE, CUP B M3X12	
1-3	LJ4169001	1	HEAT ROLLER SUPPLY ASSY	
1-4	LJ4160001	1	FUSER LAMP, 115V SUPPLY ASSY FOR US/CAN	
1-4	LJ4163001	1	FUSER LAMP, 230V SUPPLY ASSY FOR ARL/NZ/ASA/GUL	
2	087320815	1	TAPTITE, CUP S M3X8	
3	UF0060001	2	SHOULDER SCREW FOR US/CAN	
3	087320815	2	TAPTITE, CUP S M3X8 FOR ARL/NZ/CHN/GUL	

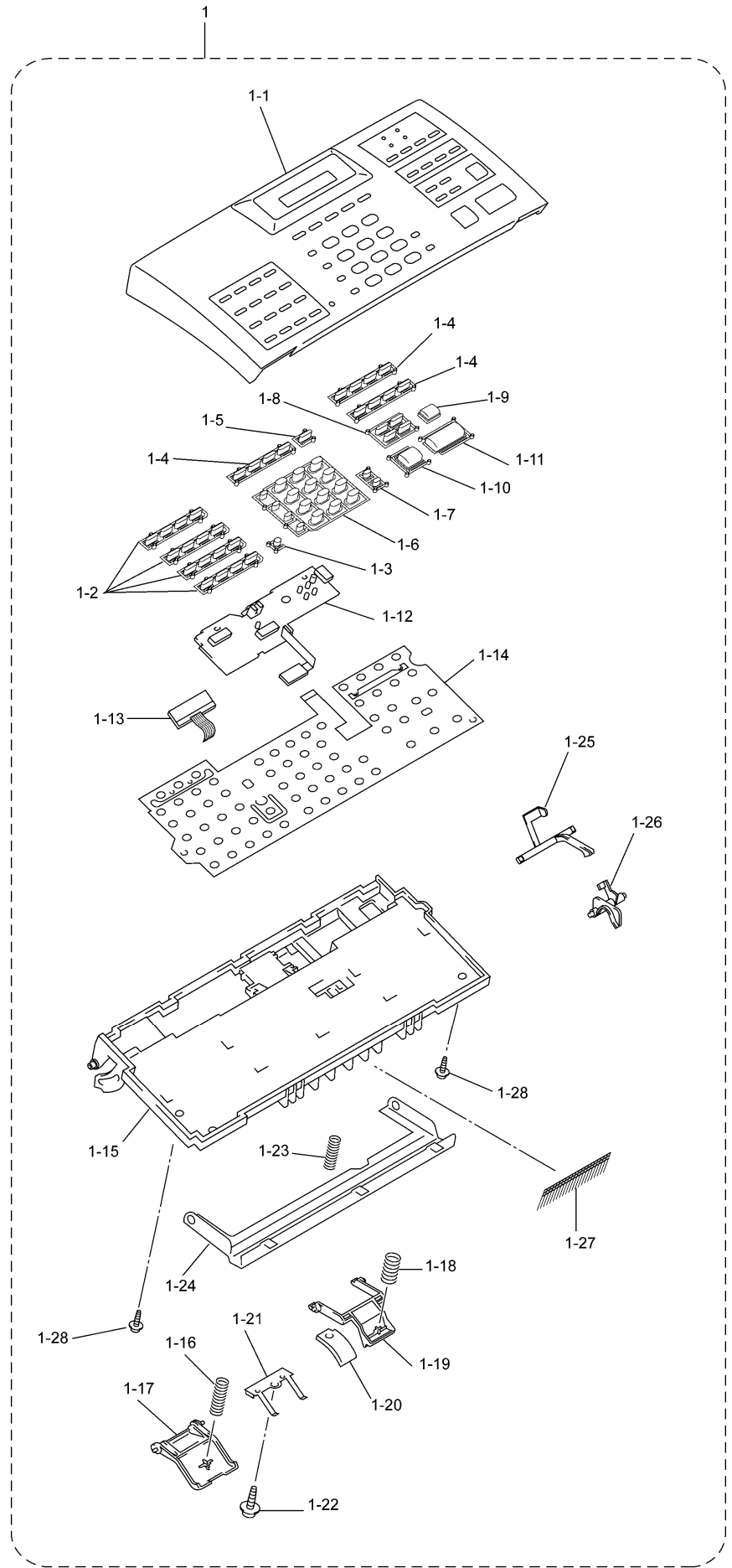
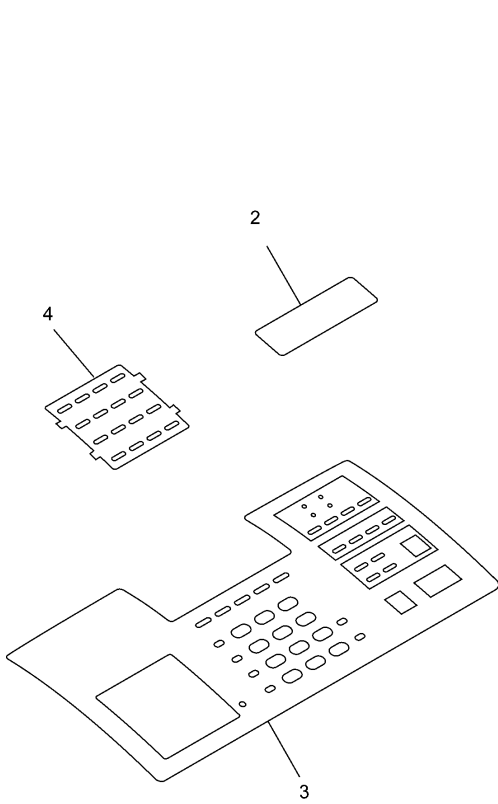
FAX4750, MFC8300, MFC8600, MFC8700



## List7(COVER)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	LE1240001	1	MAIN COVER ASSY, WHITE(1495), MFC8600/8700 FOR US/CAN	
1	LJ4122001	1	MAIN COVER ASSY, WHITE(1495), FAX4750/MFC8300, MFC8600 FOR ARL/NZ/ASA/GUL	
2	UL9122001	4	PINCH ROLLER ASSY	
3	UL9125001	4	PINCH ROLLER SPRING	
4	UL9126001	1	OUTER CHUTE, WHITE(1495)	
5	UL9127001	1	CHUTE SPRING L	
6	UL9128001	1	CHUTE SPRING R	
7	UU2074001	1	FRONT COVER ASSY, WHITE(1495), MFC8600/8700 FOR US/CAN	
7	UU2102001	1	FRONT COVER ASSY, WHITE(1495), FAX4750/MFC8300, MFC8600 FOR ARL/NZ/ASA/GUL	
7-1	UU2094001	1	FRONT SUB COVER, WHITE(1495), FAX4750/MFC8300, MFC8600 FOR ARL/NZ/ASA/GUL	
7-2	087310815	1	TAPTITE, CUP B M3X8, FAX4750/MFC8300, MFC8600 FOR ARL/NZ/ASA/GUL	
8	UL9140001	1	PAPER SUB TRAY, WHITE(1495)	
9	UG6219001	1	VIDEO CAPTURE PCB ASSY, MFC8600/8700 FOR US/CAN	
10	087320616	3	TAPTITE, CUP S M3X6, MFC8600 FOR US/CAN	
11	UU2044001	1	VC COVER, WHITE(1495), MFC8600 FOR US/CAN	
12	UU2045001	1	SWITCH COVER	
13	UU2002001	1	REAR COVER, WHITE(1495)	
14	0A5401006	2	SCREW, PAN (S/P WASHER) M4X10, MFC8300	
14	0A5401006	3	SCREW, PAN (S/P WASHER) M4X10, FAX4750/MFC8600/MFC8700	
15	UU2003001	1	TOP COVER, WHITE(1495)	
16	UL9142001	1	EXIT ROLLER ASSY	
17	LJ4125001	1	ANTI-STATIC BRUSH (LONG)	
18	LE1242001	1	ANTI-STATIC BRUSH (SHORT)	
19	UF6114008	1	DOCUMENT GUIDE, L, WHITE(1495)	
20	UF6115008	1	DOCUMENT GUIDE, R, WHITE(1495)	
21	UF4417000	1	GUIDE GEAR	
22	UF4418001	1	SPRING, COMPRESSION	
23	UF5034001	1	TAPTITE, B 3X6	
24	LG2210001	1	SPEAKER UNIT	
25	UF8165008	1	UPPER HANDSET HOLDER, WHITE(1495)	
26	UF8166008	1	LOWER HANDSET HOLDER, WHITE(1495)	
27	----		NOT USED	
28	UG5030001	1	HOOK SWITCH PCB ASSY	
29	UF8167008	1	ACTUATOR HOOK	
30	087311016	2	TAPTITE, CUP B M3X10	
31	LE1126001	2	HOOK RUBBER	
32	085320816	6	TAPTITE, BIND S M3X8	
33	087321015	3	TAPTITE, CUP S M3X10, MFC8600/8700 FOR US/CAN	
33	087321015	2	TAPTITE, CUP S M3X10, FAX4750/MFC8300, MFC8600 FOR ARL/NZ/ASA/GUL	
34	UF9823001	2	SHOULDER SCREW	

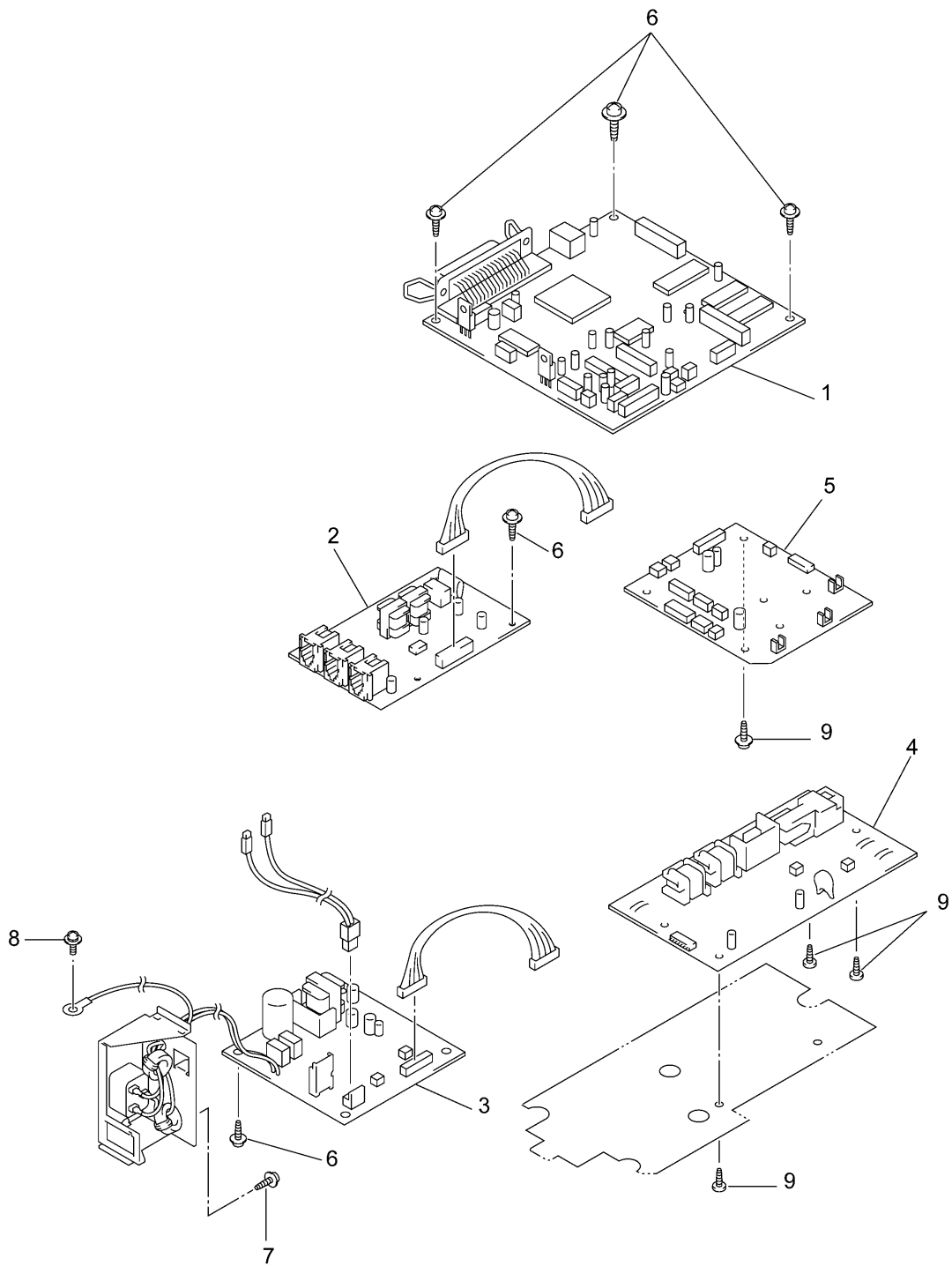
FAX4750, MFC8300, MFC8600, MFC8700



## List8(CONTROL PANEL)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	LE1250001	1	CONTROL PANEL SUPPLY ASSY, WHITE(1495), FAX4750	
1	LE1158001	1	CONTROL PANEL SUPPLY ASSY, WHITE(1495), MFC8300/8600/8700	
1-1	UU2004001	1	CONTROL PANEL, WHITE(1495)	
1-2	UF8176008	4	KEY, ONE TOUCH, WHITE(1495)	
1-3	UF4576008	1	KEY, SHIFT, WHITE(1495)	
1-4	UF9118006	2	KEY, FUNCTION4, WHITE(1495), FAX4750	
1-4	UF9118006	3	KEY, FUNCTION4, WHITE(1495), MFC8300/8600/8700	
1-5	UF5581010	1	KEY, FUNCTION1, WHITE(1495)	
1-6	UF4393007	1	KEY, TEN, WHITE(1495)	
1-7	UU7099008	1	KEY, VOLUME, WHITE(1495)	
1-8	UU7100008	1	KEY, COPY AREA, WHITE(1495)	
1-9	UF8174008	1	KEY, COPY, WHITE(1495)	
1-10	UF8173004	1	KEY, STOP, PINK(2205)	
1-11	UF8172006	1	KEY, START, PURPLE(6255)	
1-12	LE1156001	1	CONTROL PANEL PCB SUPPLY ASSY	
1-13	UG4552000	1	LCD	
1-14	LE1155001	1	FPC KEY SUPPLY ASSY	
1-15	UU2005001	1	PANEL REAR COVER	
1-16	UU2051001	1	DOCUMENT NIP SPRING	
1-17	UU2052001	1	DOCUMENT NIP PIECE	
1-18	UU2053001	1	ADF SPRING	
1-19	UU2054001	1	SPRING PLATE B	
1-20	UU2055001	1	SEPARATION RUBBER	
1-21	UU2056001	1	SPRING PLATE A	
1-22	UF5034001	1	TAPTITE, B 3X6	
1-23	UU2057001	1	DOCUMENT PRESSURE SPRING	
1-24	UU2058001	1	DOCUMENT PRESSURE BAR ASSY	
1-25	UU2061001	1	DOCUMENT FRONT SENSOR ACTUATOR	
1-26	UU2062001	1	DOCUMENT REAR SENSOR ACTUATOR	
1-27	LE1071001	1	ANTI-STATIC BRUSH	
1-28	087310815	2	TAPTITE, CUP B M3X8	
2	UU2063001	1	LCD SHEET, FAX4750	
2	LE1002001	1	LCD SHEET, MFC8300	
2	UU2104001	1	LCD SHEET, MFC8600	
2	LE1139001	1	LCD SHEET, MFC8700	
3	UU2106001	1	PANEL SHEET, FAX4750 FOR US/CAN/ASA/GUL	
3	LE1074001	1	PANEL SHEET, FAX4750 FOR ARL/NZ	
3	UU2100001	1	PANEL SHEET, MFC8300 FOR US/CAN	
3	UU2065001	1	PANEL SHEET, MFC8600 FOR US/CAN	
3	LE1085001	1	PANEL SHEET, MFC8600 FOR ARL/NZ	
3	LE1091001	1	PANEL SHEET, MFC8600 FOR ASA/GUL	
3	LE1140001	1	PANEL SHEET, MFC8700 FOR US/CAN	
4	UU2067001	1	ADDRESS LABEL	

FAX4750, MFC8300, MFC8600, MFC8700

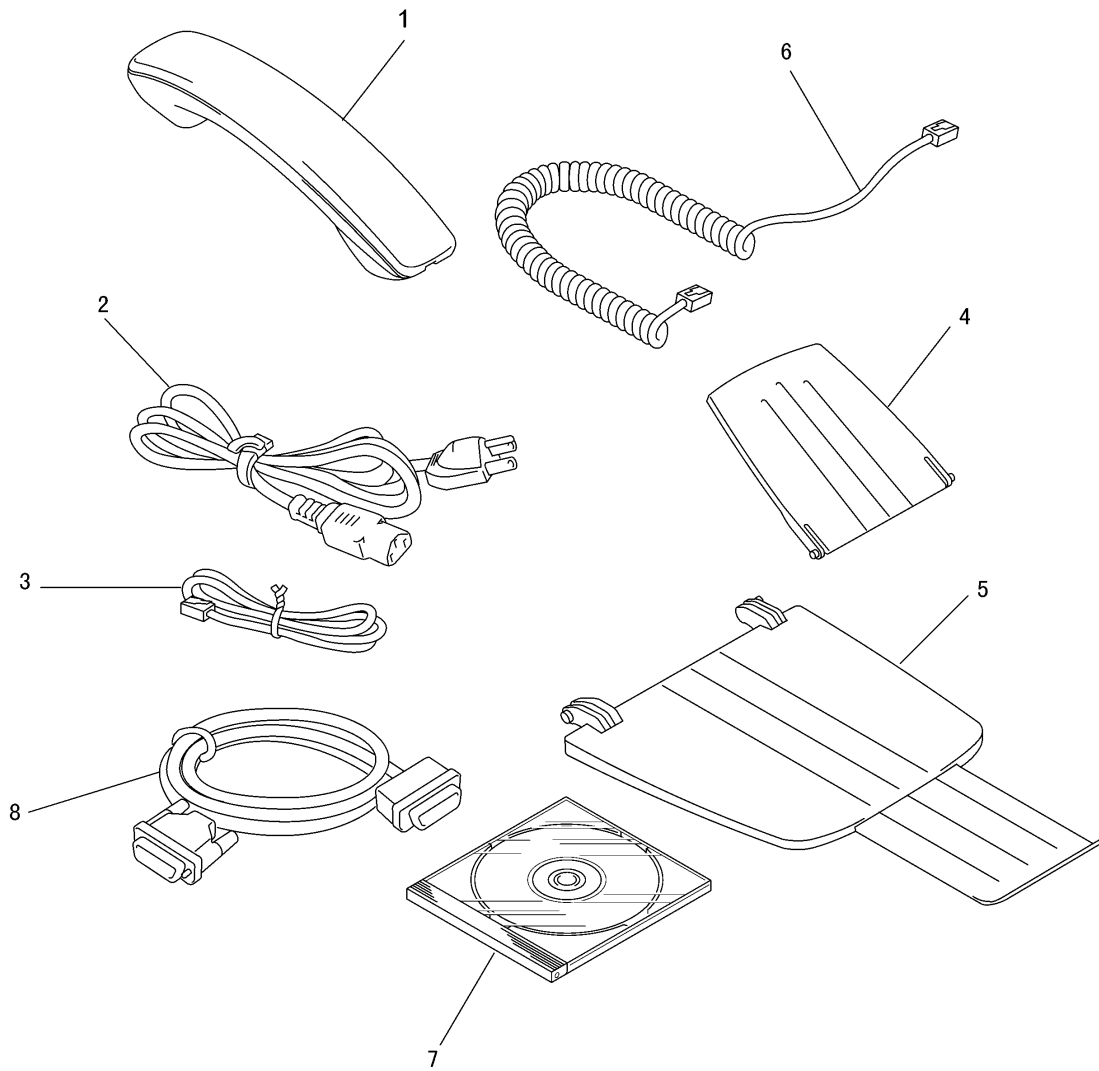


## List9(PCB ASSY)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	LE1251001	1	MAIN PCB SUPPLY ASSY, FAX4750 FOR US/CAN/GUL	
1	LE1256001	1	MAIN PCB SUPPLY ASSY, FAX4750 FOR ARL/NZ/ASA	
1	LE1258001	1	MAIN PCB SUPPLY ASSY, MFC8300 FOR US/CAN, MFC8600 FOR GUL	
1	LE1157001	1	MAIN PCB SUPPLY ASSY, MFC8600 FOR US/CAN	
1	LE1260001	1	MAIN PCB SUPPLY ASSY, MFC8600 FOR ARL/NZ/ASA	
1	LE1259001	1	MAIN PCB SUPPLY ASSY, MFC8700 FOR US/CAN	
2	LE1159001	1	NCU PCB SUPPLY ASSY FOR US/CAN/GUL	
2	LE1262001	1	NCU PCB SUPPLY ASSY FOR ARL/NZ	
2	LE1263001	1	NCU PCB SUPPLY ASSY FOR ASA	
3	LJ4172001	1	LOW VOLTAGE POWER SUPPLY PCB, 115V SUPPLY ASSY FOR US/CAN	
3	LJ4175001	1	LOW VOLTAGE POWER SUPPLY PCB, 230V SUPPLY ASSY FOR ARL/NZ	
3	LE1366001	1	LOW VOLTAGE POWER SUPPLY PCB, 230V SUPPLY ASSY FOR ASA/GUL	
4	LJ4176001	1	HIGH VOLTAGE POWER SUPPLY PCB, SUPPLY ASSY	
5	LE1163001	1	ENGINE PCB SUPPLY ASSY	
6	087320616	5	TAPTITE, CUP S M3X6	
7	084320815	1	SCREW, FLAT S M3X8	
8	0A5350606	1	SCREW, PAN (WASHER) M3.5X6	
9	085411215	4	SCREW, BIND B TITE M4X12	

FAX4750, MFC8300, MFC8600, MFC8700





## List10(Accessories)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
1	UF6857010	1	HANDSET, WHITE(1495)	
2	UG6121001	1	AC CORD FOR US/CAN	
2	LG2162001	1	AC CORD FOR ARL/NZ	
2	LG2086001	1	AC CORD FOR ASA	
2	LG2085001	1	AC CORD FOR GUL	
3	UG3565001	1	TELEPHONE LINE CORD FOR US/CAN/ASA/GUL	
3	UG3628001	1	TELEPHONE LINE CORD FOR ARL	
3	UG3290001	1	TELEPHONE LINE CORD FOR NZ	
4	UU2080001	1	DOCUMENT SUPPORT	
5	UU2069001	1	DOCUMENT TRAY	
6	UF7204008	1	HANDSET CURLED CORD	
7	LE1060001	1	CD-ROM ASSY, MFC8300 FOR US/CAN	
7	UU2081001	1	CD-ROM ASSY, MFC8600/8700 FOR US/CAN/ARL/NZ/ASA/GUL	
8	UG4558001	1	INTERFACE CABLE, MFC8300/8600/8700	

FAX4750, MFC8300, MFC8600, MFC8700

## List11(PRINTED MATERIAL)

REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
(1)	UU2084001	1	OWNER'S MANUAL ASSY, FAX4750 FOR US (INCLUDING OPERATIONS MANUAL(1-1), QUICK REFERENCE GUIDE, WARRANTY CARD, TEST SHEET AND REORDER FORM)	
(1)	UU2114001	1	OWNER'S MANUAL ASSY, MFC8300 FOR US (INCLUDING OPERATIONS MANUAL(1-1), QUICK REFERENCE GUIDE, LICENSE GUIDE, WARRANTY CARD, TEST SHEET AND REORDER FORM)	
(1)	LE1386001	1	OWNER'S MANUAL ASSY, MFC8600 FOR US (INCLUDING OPERATIONS MANUAL(1-1), MFL MANUAL(1-2), QUICK REFERENCE GUIDE, LICENSE GUIDE, WARRANTY CARD, TEST SHEET AND REORDER FORM)	
(1)	UU2085001	1	OWNER'S MANUAL ASSY, MFC8700 FOR US (INCLUDING OPERATIONS MANUAL(1-1), MFL MANUAL(1-2), QUICK REFERENCE GUIDE, LICENSE GUIDE, WARRANTY CARD, TEST SHEET AND REORDER FORM)	
(1)	LE1246001	1	OWNER'S MANUAL ASSY, FAX4750 FOR CAN (INCLUDING OPERATIONS MANUALS(1-1), QUICK REFERENCE GUIDE, WARRANTY CARD, PANEL STICKER AND REORDER FORM)	
(1)	LE1175001	1	OWNER'S MANUAL ASSY, MFC8300 FOR CAN (INCLUDING OPERATIONS MANUALS(1-1), QUICK REFERENCE GUIDE, LICENSE GUIDE, WARRANTY CARD, PANEL STICKER AND REORDER FORM)	
(1)	LE1187001	1	OWNER'S MANUAL ASSY, MFC8600 FOR CAN (INCLUDING OPERATIONS MANUALS(1-1), MFL MANUALS(1-2), QUICK REFERENCE GUIDE, LICENSE GUIDE, WARRANTY CARD, PANEL STICKER AND REORDER FORM)	
(1)	LE1379001	1	OWNER'S MANUAL ASSY, MFC8700 FOR CAN (INCLUDING OPERATIONS MANUALS(1-1), MFL MANUALS(1-2), QUICK REFERENCE GUIDE, LICENSE GUIDE, WARRANTY CARD, PANEL STICKER AND REORDER FORM)	
(1)	LE1075001	1	OWNER'S MANUAL ASSY, FAX4750 FOR ARL (INCLUDING OPERATIONS MANUAL(1-1))	
(1)	LE1086001	1	OWNER'S MANUAL ASSY, MFC8600 FOR ARL (INCLUDING OPERATIONS MANUAL(1-1), MFL MANUAL(1-2) AND LICENSE GUIDE)	
(1)	LE1078001	1	OWNER'S MANUAL ASSY, FAX4750 FOR NZ (INCLUDING OPERATIONS MANUAL(1-1) AND WARRANTY CARD)	
(1)	LE1089001	1	OWNER'S MANUAL ASSY, MFC8600 FOR NZ (INCLUDING OPERATIONS MANUAL(1-1), MFL MANUAL(1-2), LICENSE GUIDE AND WARRANTY CARD)	
(1)	LE1096001	1	OWNER'S MANUAL ASSY, FAX4750 FOR ASA (INCLUDING OPERATIONS MANUAL(1-1))	
(1)	LE1094001	1	OWNER'S MANUAL ASSY, MFC8600 FOR ASA (INCLUDING OPERATIONS MANUAL(1-1), MFL MANUAL(1-2) AND LICENSE GUIDE)	
(1)	LE1081001	1	OWNER'S MANUAL ASSY, FAX4750 FOR GUL (INCLUDING OPERATIONS MANUAL(1-1) AND QUICK REFERENCE GUIDE)	
(1)	LE1092001	1	OWNER'S MANUAL ASSY, MFC8600 FOR GUL (INCLUDING OPERATIONS MANUAL(1-1), MFL MANUAL(1-2), QUICK REFERENCE GUIDE AND LICENSE GUIDE)	
(1-1)	UU2086001	1	OPERATIONS MANUAL, FAX4750/MFC8300/8600/8700 FOR US	
(1-1)	LE1238001	1	OPERATIONS MANUAL, FAX4750/MFC8300/8600/8700 FOR US FOR CAN<ENGLISH>	
(1-1)	LE1176001	1	OPERATIONS MANUAL, FAX4750/MFC8300/8600/8700 FOR US FOR CAN<FRENCH>	
(1-1)	UU2086006	1	OPERATIONS MANUAL, FAX4750/MFC8600 FOR ARL	
(1-1)	UU2086027	1	OPERATIONS MANUAL, FAX4750/MFC8600 FOR NZ	
(1-1)	UU2086041	1	OPERATIONS MANUAL, FAX4750/MFC8600 FOR ASA/GUL	
(1-2)	UU2103001	1	MFL MANUAL, MFC8600/8700 FOR US/CAN<ENGLISH>	
(1-2)	LE1268001	1	MFL MANUAL, MFC8600/8700 FOR CAN<FRENCH>	
(1-2)	LE1087001	1	MFL MANUAL, MFC8600/8700 FOR ARL/NZ/ASA/GUL	

FAX4750, MFC8300, MFC8600, MFC8700

## List12(CARTON)

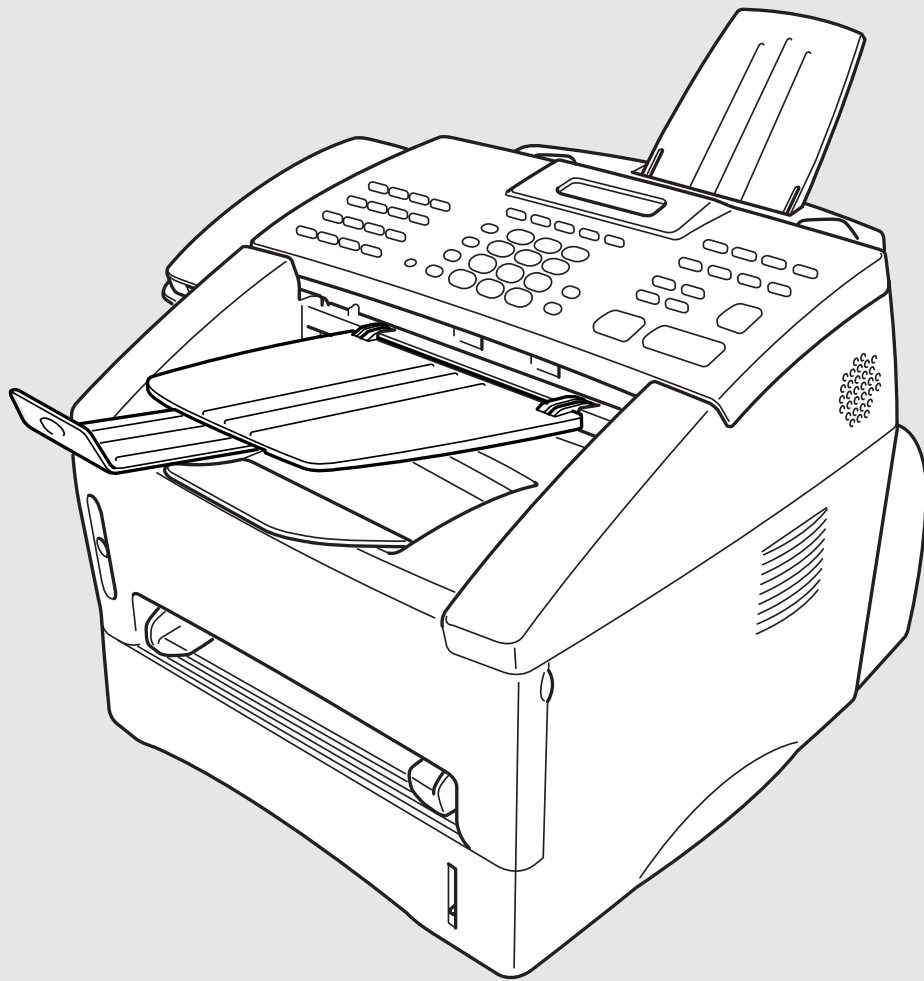
REF.NO.	CODE	QTY	DESCRIPTION	REMARKS
(1)	UE3126001	1	CARTON, BROTHER FAX4750 FOR US	
(1)	UE3125001	1	CARTON, BROTHER MFC8300 FOR US	
(1)	UE3118001	1	CARTON, BROTHER MFC8600 FOR US	
(1)	LE1141001	1	CARTON, BROTHER MFC8700 FOR US	
(1)	LE1247001	1	CARTON, BROTHER FAX4750 FOR CAN	
(1)	LE1180001	1	CARTON, BROTHER MFC8300 FOR CAN	
(1)	LE1188001	1	CARTON, BROTHER MFC8600 FOR CAN	
(1)	LE1377001	1	CARTON, BROTHER MFC8700 FOR CAN	
(1)	LE1076001	1	CARTON, BROTHER FAX4750 FOR ARL/NZ	
(1)	LE1088001	1	CARTON, BROTHER MFC8600 FOR ARL/NZ	
(1)	LE1083001	1	CARTON, BROTHER FAX4750 FOR ASA/GUL	
(1)	LE1093001	1	CARTON, BROTHER MFC8600 FOR ASA/GUL	
(2)	UE3119001	1	STYROFOAM ASSY	
(3)	UE1688001	1	POLY-ETHYLENE BAG FOR MACHINE, 1000X1000	
(4)	UE3122001	1	CARTON FOR MANUAL	
(5)	UU0456001	1	PROTECTION PAPER	
(6)	UL7932001	1	BAG FOR DRUM/TONER, 400X480	
(7)	LE1165001	1	INNER CARTON FOR MACHINE, MFC8700	
(8)	LE0018001	1	INNER CARTON FOR 2ND CASSETTE, MFC8700	

FAX4750, MFC8300, MFC8600, MFC8700

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PL8X5401 Ver. C

MANUALS  
LIBRARY



FAX 4750  
MFC 8300  
MFC 8600



brother.

## If You Need to Call Customer Service

Please complete the following information for future reference:

**Model Number:**    **FAX 4750**    **MFC 8300**    **MFC 8600**  
(Circle your model number)

**Serial Number:\*** \_\_\_\_\_

**Date of Purchase:** \_\_\_\_\_

**Place of Purchase:** \_\_\_\_\_

\* The serial number is on the back of the unit. Retain this manual with your *sales receipt* as a permanent record of your purchase, in the event of a theft, fire or warranty service.

## Year 2000 Compliant

Brother is addressing the Year 2000 related issues for all Brother fax machines and multi-function centers. Our focus is to ensure that our bundled third-party software will continue to properly process date/time data after January 1, 2000.

Brother fax machines and multi-function centers will function properly after January 1, 2000, *provided that* all non-Brother hardware, software and firmware used by our customers in connection or combination with Brother fax machines, MFCs and bundled software, accurately exchange date data with the Brother products.

Please continue to check our Web page for updates at **<http://www.brother.com>**. All remedies will be provided to individual customers via software patches through software download or from Brother Customer Service.

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# Brother Numbers

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## Fax-Back System

Brother Customer Service has installed an easy-to-use Fax-Back System, so you can get instant answers to common technical questions and product information for all Brother products. This system is available 24 hours a day, 7 days a week. You can use the system to send faxes to any fax machine, not just the one from which you are calling.

If you can't resolve a difficulty with your Brother machine using this manual, call our Fax-Back System, and follow the voice prompts to receive faxed instructions about using the system and an index of Fax-Back subjects.

**USA:** 1-800-521-2846

**From within Canada:** 1-800-681-9838

The Brother Fax-Back System number (USA only) has been preprogrammed on One Touch key **[01]**.

## Brother on the World Wide Web

You can find more information about Brother products, from product specification sheets to Frequently Asked Questions (FAQs), on the World Wide Web. Visit us at

**<http://www.brother.com>**

## Brother Bulletin Board

Brother's Bulletin Board numbers are

**USA:** 1-888-298-3616

**From within Canada:** 1-514-685-2040

## For Customer Service

**USA:** 1-800-284-4329 (voice)  
1-908-575-8790 (fax)

**From within Canada:** 1-800-853-6660 (voice)  
1-514-685-4898 (fax)

**From within Montreal:** 1-514-685-6464 (voice)



# Ordering Accessories and Supplies

For best quality results use only genuine Brother accessories, available at most Brother retailers. If you cannot find the accessory you need and you have a Visa, MasterCard, Discover or American Express credit card, you can order accessories directly from Brother. (In the USA, you can visit us online for a complete selection of Brother accessories and supplies available for purchase.)

**USA:** 1-888-879-3232 (voice)      **From within** 1-800-668-2768 (voice)  
 1-800-947-1445 (fax)      **Canada:**  
<http://www.brothermall.com>

Description	Item
Laser Fax Toner	TN-430 (Able to print 3000 pages) TN-460 (Able to print 6000 pages)
Laser Fax Drum	DR400
* 8 MB Expandable Memory Board (For FAX 4750, MFC 8300 and MFC 8600)	ME8000
* 16 MB Expandable Memory Board (For FAX 4750, MFC 8300 and MFC 8600)	ME16000
Telephone Line Cord	UG3565001
Telephone Handset	UF6857010
Handset Curled Cord	UF7204008
Document Tray and Extension	UU2069001
Document Support	UU2080001
IEEE-1284 Bi-directional Cable	F2A046-10
Multi-purpose Paper Cassette #2 (For FAX 4750 and MFC 8600 only)	LT400
Power Protector for A/C Power and Phone Line Surges and Voltage Spikes	QPD120
Quick Reference Card	UU2087001
Operations Manual	UU2086001
Software Manual	UU2103001
Bundled MFC 8300 Printer Driver is available on Floppy Disks	DSK8331 (Floppy Disks, Windows® 3.1x) DSK8395 (Floppy Disks, Windows® 95/98)
** Optional Multi-Function Link® Pro software on CD-ROM (or Floppy Disks) for FAX 4750 and MFC 8300 (Floppy Disks include MFL Pro and PaperPort® only)	PCI-3CD (For CD-ROM Drive) PCI3D31 (Floppy Disks, Windows® 3.1x) PCI3D95 (Floppy Disks, Windows® 95/98)

\* Before you install ME8000 or ME16000, be sure to read DISCLAIMER—USER INSTALLATION OF MEMORY BOARD(S), page iii.

\*\* Multi-Function Link® Pro software is not available on Floppy Disks for Windows NT® Workstation Version 4.0.

## **Notice – Disclaimer of Warranties (For USA and Canada)**

BROTHER'S LICENSOR(S), AND THEIR DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS (COLLECTIVELY BROTHER'S LICENSOR) MAKE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE SOFTWARE. BROTHER'S LICENSOR(S) DOES NOT WARRANT, GUARANTEE OR MAKE ANY REPRESENTATIONS REGARDING THE USE OR THE RESULTS OF THE USE OF THE SOFTWARE IN TERMS OF ITS CORRECTNESS, ACCURACY, RELIABILITY, CURRENTNESS OR OTHERWISE. THE ENTIRE RISK AS TO THE RESULTS AND PERFORMANCE OF THE SOFTWARE IS ASSUMED BY YOU. THE EXCLUSION OF IMPLIED WARRANTIES IS NOT PERMITTED BY SOME STATES IN THE USA AND SOME PROVINCES IN CANADA. THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

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## **Disclaimer—User Installation of Memory Board(s)**

In some cases, product may be modified by adding and/or replacing the memory board(s) with approved replacements. Any damage to the product, the memory board(s) to be inserted therein or otherwise, caused as a result of improper installation (including installation of other than approved memory boards(s)) is not covered by the Limited Warranty. If you do not feel comfortable with the installation of approved memory board(s), contact a Brother Authorized Service Center to perform the installation of the memory board(s) for you. If you elect to use a Brother Authorized Service Center, you will be responsible for a moderate service charge. For the name and location of a convenient Authorized Service Center, please call 1-800-521-2846.

# BROTHER 90 DAY LIMITED WARRANTY and EXCHANGE SERVICE

## (For FAX 4750 Only)

### (For USA Only)

This warranty gives you certain rights and you may also have other rights that may vary from state to state.

This warranty is given only to the end-use purchaser of the accompanying product (referred to in this warranty as "this Product").

**What is covered:** Brother warrants to you for the Warranty Period that there are no defects in the materials, workmanship or Year 2000 compliance of this Product. The "Warranty Period" is 90 days from the date you purchased this product. The "Warranty Period" for consumable items, such as Toner, Drums, Ribbons, etc. are 90 days from the date of purchase, or the rated life of the Consumable item, which ever is shorter.

**What is NOT covered:** This warranty is VOID — that is, this Product has no warranty — if: (1) you did not purchase this Product from an authorized Brother reseller within the United States, (2) this Product has been serviced, modified or tampered with by anyone other than an Authorized Service Representative of Brother, (3) the serial number has been modified, defaced or removed from this Product, (4) this Product has been abused or damaged, (5) non Brother®-brand or non Brother approved parts, supplies, power supplies or other accessories have been used with this Product, or (6) this Product has been transported without the proper preparation and packaging.

**What to do if you think your Product is defective:**

Call our Customer Service Hotline at 1-800-284-4329, or if you suspect a defect in materials or workmanship in this Product, you can report it to a Brother Authorized Service Center. During the Warranty Period, supply Brother's representative with a copy of your dated bill of sale showing that this Product was purchased within the United States.

For the name of your Brother Authorized Service Center, call 1-800-521-2846.

After contacting the Brother Authorized Service Center, you may be required to deliver or send the Product properly packaged, freight prepaid, to the Authorized Service Center together with a photocopy of your bill of sale.

**What Brother will do:** Brother (or its Authorized Service Center) will evaluate your report of a possible defect to determine whether a defect exists, and if it does exist, Brother (or its Authorized Service Center) will repair or (at Brother's option) replace the Product with a product that performs the same functions and performs as well as the original Product. Brother reserves the right to supply refurbished or remanufactured replacement products provided that the replacement products conform to the manufacturer's specifications for new products. The repaired or replacement product will be returned to you at no cost.

#### **Exchange Service:**

Exchange service will expedite, in most instances by the next business day, the exchange of your non working Product with a refurbished or remanufactured product that conforms to the manufacturer's specifications for new products. The refurbished or remanufactured Product you receive will be covered by the balance of the limited warranty period remaining on the original Product, plus an additional thirty (30) days. You will keep the replacement Product that is sent to you and must return (or be billed up to the cost of a new product) your original non working product, which shall become the property of Brother. You must call Brother Customer Service and if the representative cannot correct the product's malfunction over the telephone and you elect the exchange service, you must provide information pertaining to this Product and you must also provide a valid major credit card number. Your credit card will be charged up to the cost of a new

**BROTHER 90 DAY LIMITED WARRANTY and EXCHANGE SERVICE**  
**(For FAX 4750 Only)**  
**(For USA Only)**

Product if: (i) you do not return your original Product to Brother within five (5) business days; (ii) the malfunctions of your original Product are not covered by the limited warranty; (iii) the proper packaging instructions are not followed and has caused damage to the product; or (iv) the warranty period on your original Product has expired or has not been sufficiently validated with a copy of the proof of purchase (bill of sale). The Brother Customer Service Representative will ship the exchange Product via next business day delivery courier service, with return instructions and prepaid return airbill.

Follow the return instructions. You must return the original Product in the same shipping carton in which the exchanged Product was received and include a copy of proof of purchase (bill of sale). Retain your original accessory items and a copy of the return airbill, signed by the courier.

**Limitations:**

Repair or replacement as described above is your sole and exclusive (that is, your only) remedy if this Product is defective. Brother is not responsible for damage to or loss of any equipment, media, programs or data related to the use of this Product. Except for that repair or replacement, *Brother shall not be liable for any direct, indirect, incidental or consequential damages or specific relief. Because some states do not allow the exclusion or limitation of consequential or incidental damages, the above limitation may not apply to you.*

THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, WHETHER EXPRESSED BY AFFIRMATION, PROMISE, DESCRIPTION, DRAWING, MODEL OR SAMPLE. ANY AND ALL WARRANTIES OTHER THAN THIS ONE, WHETHER EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.

This Limited Warranty is the only warranty that Brother is giving for this Product. It is *the final expression and the exclusive and only statement* of Brother's obligations to you. It replaces all other agreements and understandings that you may have with Brother or its representatives.

This Limited Warranty (and Brother's obligation to you) may not be changed in any way unless you and Brother sign the same piece of paper in which we (1) refer to this Product and your bill of sale date, (2) describe the change to this warranty and (3) agree to make that change.

**Product Support:** Toll-free customer service and technical support is available for hardware operational assistance at [1-800-284-4329](tel:1-800-284-4329). At any time, free technical support in the form of Frequently Asked Questions, troubleshooting tips and service center locator is available through our fax back system at [1-800-521-2846](tel:1-800-521-2846) or Brother's Internet Web Site ([www.brother.com](http://www.brother.com)). Now you can visit us on-line ([www.brothermall.com](http://www.brothermall.com)), your complete source for genuine Brother Accessories and Supplies.

**BROTHER INTERNATIONAL CORPORATION  
100 SOMERSET CORPORATE BLVD.  
BRIDGEWATER, NEW JERSEY 08807-0911**

Please record your model and serial number and your date and location of Purchase below for your records. Keep this information with your proof of purchase (bill of sale) in case your Product is lost, stolen or requires service.

Model #

Serial #

Date of purchase:

Store where purchased:

Location of store:

**Important:** *We recommend that you keep all original packing materials, in the event that you ship this product.*

# BROTHER ONE YEAR LIMITED WARRANTY and EXCHANGE SERVICE (For MFC 8300 and MFC 8600 Only) (For USA Only)

This warranty gives you certain rights and you may also have other rights that may vary from state to state.

This warranty is given only to the end-use purchaser of the accompanying product (referred to in this warranty as "this Product").

**What is covered:** Brother warrants to you for the Warranty Period that there are no defects in the materials, workmanship or Year 2000 compliance of this Product. The "Warranty Period" is 1 year from the date you purchased this product. The "Warranty Period" for consumable items, such as Toner, Drums, Ribbons, etc. are 90 days from the date of purchase, or the rated life of the Consumable item, which ever is shorter.

**What is NOT covered:** This warranty is VOID — that is, this Product has no warranty — if: (1) you did not purchase this Product from an authorized Brother reseller within the United States, (2) this Product has been serviced, modified or tampered with by anyone other than an Authorized Service Representative of Brother, (3) the serial number has been modified, defaced or removed from this Product, (4) this Product has been abused or damaged, (5) non Brother®-brand or non Brother approved parts, supplies, power supplies or other accessories have been used with this Product, or (6) this Product has been transported without the proper preparation and packaging.

## **What to do if you think your Product is defective:**

Call our Customer Service Hotline at 1-800-284-4329, or if you suspect a defect in materials or workmanship in this Product, you can report it to a Brother Authorized Service Center. During the Warranty Period, supply Brother's representative with a copy of your dated bill of sale showing that this Product was purchased within the United States.

For the name of your Brother Authorized Service Center, call 1-800-521-2846. After contacting the Brother Authorized Service Center, you may be required to deliver or send the Product properly packaged, freight prepaid, to the Authorized Service Center together with a photocopy of your bill of sale.

**What Brother will do:** Brother (or its Authorized Service Center) will evaluate your report of a possible defect to determine whether a defect exists, and if it does exist, Brother (or its Authorized Service Center) will repair or (at Brother's option) replace the Product with a product that performs the same functions and performs as well as the original Product. Brother reserves the right to supply refurbished or remanufactured replacement products provided that the replacement products conform to the manufacturer's specifications for new products. The repaired or replacement product will be returned to you at no cost.

## **Exchange Service:**

Exchange service will expedite, in most instances by the next business day, the exchange of your non working Product with a refurbished or remanufactured product that conforms to the manufacturer's specifications for new products. The refurbished or remanufactured Product you receive will be covered by the balance of the limited warranty period remaining on the original Product, plus an additional thirty (30) days. You will keep the replacement Product that is sent to you and must return (or be billed up to the cost of a new product) your original non working product, which shall become the property of Brother. You must call Brother Customer Service and if the representative cannot correct the product's malfunction over the telephone and you elect the exchange service, you must provide information pertaining to this Product and you must also provide a valid major credit card number. Your credit card will be charged up to the cost of a new

# BROTHER ONE YEAR LIMITED WARRANTY and EXCHANGE SERVICE (For MFC 8300 and MFC 8600 Only) (For USA Only)

Product if: (i) you do not return your original Product to Brother within five (5) business days; (ii) the malfunctions of your original Product are not covered by the limited warranty; (iii) the proper packaging instructions are not followed and has caused damage to the product; or (iv) the warranty period on your original Product has expired or has not been sufficiently validated with a copy of the proof of purchase (bill of sale). The Brother Customer Service Representative will ship the exchange Product via next business day delivery courier service, with return instructions and prepaid return airbill.

Follow the return instructions. You must return the original Product in the same shipping carton in which the exchanged Product was received and include a copy of proof of purchase (bill of sale). Retain your original accessory items and a copy of the return airbill, signed by the courier.

## Limitations:

Repair or replacement as described above is your sole and exclusive (that is, your only) remedy if this Product is defective. Brother is not responsible for damage to or loss of any equipment, media, programs or data related to the use of this Product. Except for that repair or replacement, *Brother shall not be liable for any direct, indirect, incidental or consequential damages or specific relief. Because some states do not allow the exclusion or limitation of consequential or incidental damages, the above limitation may not apply to you.*

THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, WHETHER EXPRESSED BY AFFIRMATION, PROMISE, DESCRIPTION, DRAWING, MODEL OR SAMPLE. ANY AND ALL WARRANTIES OTHER THAN THIS ONE, WHETHER EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.

This Limited Warranty is the only warranty that Brother is giving for this Product. It is the *final expression and the exclusive and only statement* of Brother's obligations to you. It replaces all other agreements and understandings that you may have with Brother or its representatives.

This Limited Warranty (and Brother's obligation to you) may not be changed in any way unless you and Brother sign the same piece of paper in which we (1) refer to this Product and your bill of sale date, (2) describe the change to this warranty and (3) agree to make that change.

**Product Support:** Toll-free customer service and technical support is available for hardware operational assistance at [1-800-284-4329](tel:1-800-284-4329). At any time, free technical support in the form of Frequently Asked Questions, troubleshooting tips and service center locator is available through our fax back system at [1-800-521-2846](tel:1-800-521-2846) or Brother's Internet Web Site ([www.brother.com](http://www.brother.com)). Now you can visit us on-line ([www.brothermall.com](http://www.brothermall.com)), your complete source for genuine Brother Accessories and Supplies.

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100 SOMERSET CORPORATE BLVD.  
BRIDGEWATER, NEW JERSEY 08807-0911**

Please record your model and serial number and your date and location of Purchase below for your records. Keep this information with your proof of purchase (bill of sale) in case your Product is lost, stolen or requires service.

Model #

Serial #

Date of purchase:

Store where purchased:

Location of store:

**Important:** *We recommend that you keep all original packing materials, in the event that you ship this product.*

## **BROTHER MULTIFUNCTION CENTER/FACSIMILE MACHINE LIMITED WARRANTY (For Canada Only)**

Pursuant to this limited warranty of 1 year from the date of purchase for labour and parts, Brother International Corporation (Canada) Ltd. ("Brother"), or its Authorized Service Centers, will repair this MFC/Facsimile machine free of charge if defective in material or workmanship. This Limited Warranty does not include cleaning, consumables (including, without limitation, print cartridges, print head, toner and drum) or damage caused by accident, neglect, misuse or improper installation or operation, any damage caused from service, maintenance, modifications, or tampering by anyone other than a Brother Authorized Service Representative, or from the use of supplies or consumable items that are non-Brother products. Operation of the MFC/Facsimile machine in excess of the specifications or with the Serial Number or Rating Label removed shall be deemed abuse and all repairs thereafter shall be the sole liability of the end-user/purchaser. In order to obtain warranty service, the MFC/Facsimile machine must be delivered or shipped freight prepaid by the end user/purchaser to a "Brother" Authorized Service Center, together with your Proof of Purchase in the form of a Sales Receipt.

For laser products: Failure to remove the Toner Cartridge (and Toner Drum Unit on applicable models) during shipping will cause severe damage to the MFC/Facsimile and will VOID the Warranty. (Refer to your Operation Manual for proper packaging.)

For ink-jet products: Do not remove the ink cartridges during shipping. Damage to your print head resulting from packing without the ink cartridges will VOID your warranty. (Refer to your Operation Manual for proper packaging.)

BROTHER DISCLAIMS ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT TO THE EXTENT THAT ANY WARRANTIES IMPLIED BY LAW CANNOT BE VALIDLY WAIVED.

No oral or written information, advice or representation provided by Brother, its Authorized Service Centers, Distributors, Dealers, Agents or employees, shall create another warranty or modify this warranty. This warranty states Brother's entire liability and your exclusive remedy against Brother for any failure of the MFC/Facsimile machine to operate properly.

Neither Brother nor anyone else involved in the development, production, or delivery of this MFC/Facsimile machine shall be liable for any indirect, incidental, special, consequential, exemplary, or punitive damages, including lost profits, arising from the use of or inability to use the product, even if advised by the end user/purchaser of the possibility of such damages. Since some Provinces do not allow the above limitation of liability, such limitation may not apply to you.

This Limited Warranty gives you specific legal rights and you may also have other rights which vary from Province to Province.

**Warranty Service is available at Brother Authorized Service Centers throughout Canada. For Technical Support or for the name and location of your nearest Authorized Service Center call 1-800-853-6660. Within Montreal, please call 685-6464. Internet support: [support@brother.ca](mailto:support@brother.ca) or browse Brother's Web Site: [www.brother.com](http://www.brother.com)**

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1 Rue Hôtel de Ville  
Dollard-Des-Ormeaux, QC H9B 3H6

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## 18

### **USING YOUR BROTHER MACHINE WITH YOUR APPLE®**

#### **NEW POWER MACINTOSH® G3 OR IMAC™**

##### **(FOR MFC 8300 AND MFC 8600 ONLY) .....**

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# **1** Introduction

## ***Using This Manual***

---

Thank you for purchasing a Brother fax machine or multi-function center. This machine has been designed to be simple to use, with LCD screen prompts to guide you through functions. However, you can use your machine to its fullest potential by taking a few minutes to read this manual.



Additionally, your machine has a Help Key. Press **Help/Broadcast** to print a list of basic operational steps and functions.

## **Finding Information**

All chapter headings and subheadings are listed in the Table of Contents. You will be able to find information about a specific feature or function by checking the Index in the back of this manual. Also, throughout this manual, you'll see special symbols alerting you to important information, cross-references, and warnings. Illustrations of some screen displays also help you choose the correct key-presses.

## ***Test Sheet Procedures (For USA Only)***

---

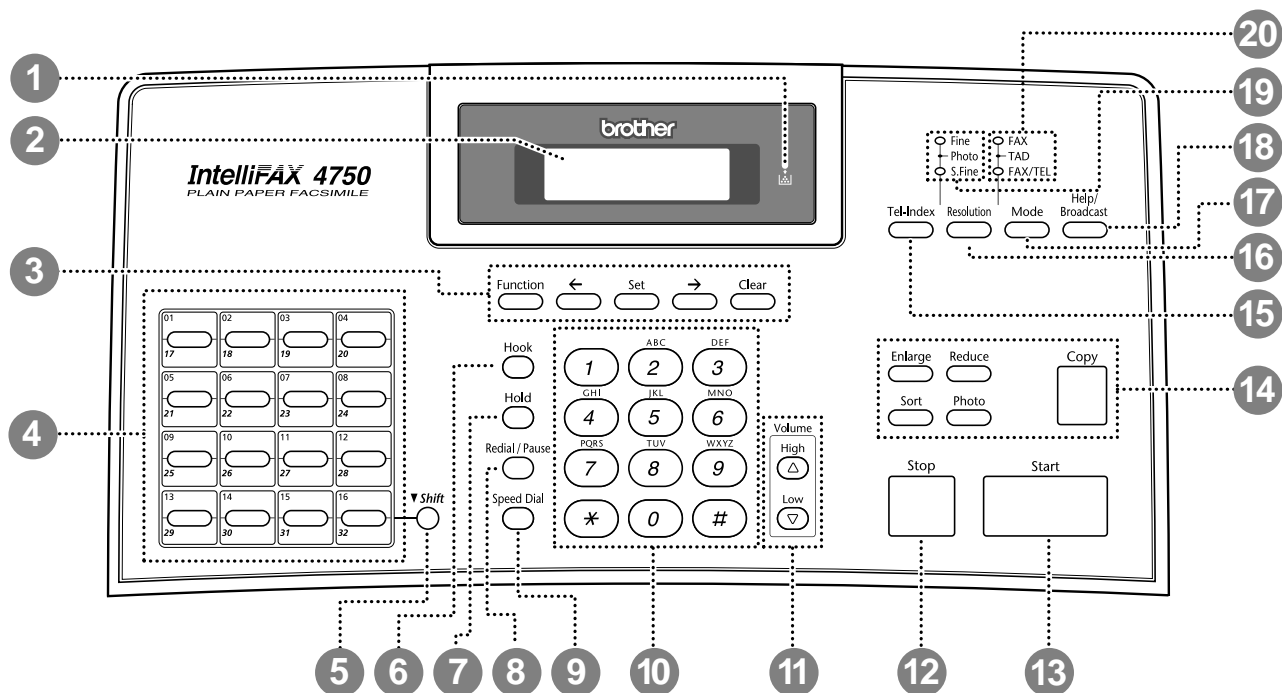
After programming your Station ID, please fill out the TEST SHEET included with your machine and fax it to Brother's Automated Fax Response System as your first transmission. This will verify that your machine is properly installed. (See Station ID p. 4-2.)

When this document is received a confirmation sheet will be sent back to your machine. To get a response, be sure to set up your Station ID.

**USA:**            1-908-685-9283 (fax)



# FAX 4750 Control Panel Overview



## 1 Toner Empty Icon

The Toner icon flashes on and off when toner is low, so you'll know to order another toner cartridge. You will be able to print until the indicator stays on.

## 2 Liquid Crystal Display (LCD)

Displays messages to help you set up and operate your machine.

## 3 Programming Keys:

### Function

Lets you access the function and programming mode.

### ← (Left Arrow) → (Right Arrow)

Moves the LCD cursor to the left and right through options or text.

### Set

Stores a FAX setting into the machine.

### Clear

Deletes entered data or backs up one step in function procedure.

## 4 One Touch Dial Keys

These 16 keys give you instant access to previously stored phone numbers.

## 5 Shift

This key is used to access the "17" through "32" One Touch numbers.

## 6 Hook

Lets you dial telephone and fax numbers without lifting the handset.

## 7 Hold

Lets you put calls on hold.

## 8 Redial/Pause

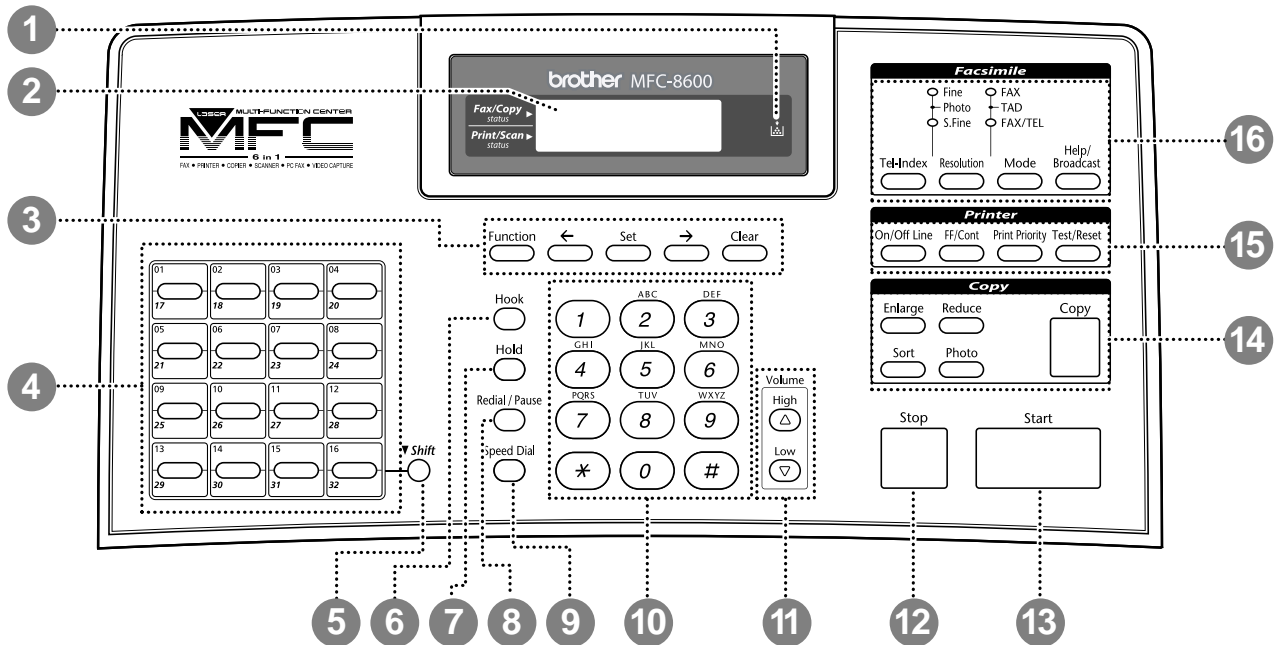
Re-dials the last number called. Also inserts a pause in autodial numbers.

## 9 Speed Dial

Lets you dial stored phone numbers by pressing a two-digit number.

- 10 Dial Pad**  
Dials phone and fax numbers and can be used as a keyboard for entering information into the machine.
- 11 Volume High/Low Keys**  
Lets you adjust speaker, ring and handset volume.
- 12 Stop**  
Stops a fax, cancels an operation or exits from function mode.
- 13 Start**  
Starts an operation (such as sending a fax).
- 14 Copy Function Keys:**
- Enlarge**  
Enlarges copies depending on the ratio you select: 100%, 120%, 125%, 150%, 200% and MANUAL.
- Reduce**  
Reduces copies depending upon the ratio you select: AUTO, 50%, 75%, 87%, 93%, 100% and MANUAL. AUTO sets the machine to calculate automatically the reduction ratio that fits the size of your paper. MANUAL allows you to enter the reduction ratio from 50%–100% using increments of 1%.
- Sort**  
Use this key when you want multiple copies of a multiple page original, copied in order.
- Photo**  
This key is used to copy photographs.
- Copy**  
Makes a copy.
- 15 Tel-index**  
Lets you look up numbers stored in the dialing memory.
- 16 Resolution**  
Sets the resolution when you send a fax.
- 17 Mode**  
Select how the machine will handle incoming calls.
- 18 Help/Broadcast**  
Prints a quick reference Help List. Also, you can use this key whenever you want to send faxes to many different locations (maximum of 182 locations) at once.
- 19 Resolution Indicator Lights**  
These LEDs show the resolution mode you selected.
- 20 Answer Mode Indicator Lights**  
These LEDs show how the machine will handle incoming calls.

# MFC 8300 and MFC 8600 Control Panel Overview



## 1 Toner Empty Icon

The Toner icon flashes on and off when toner is low, so you'll know to order another toner cartridge. You will be able to print until the indicator stays on.

## 2 Liquid Crystal Display (LCD)

Displays messages to help you set up and operate your machine.

## 3 Programming Keys:

### Function

Lets you access the function and programming mode.

### ← (Left Arrow) → (Right Arrow)

Moves the LCD cursor to the left and right through options or text.

### Set

Stores a function setting into the machine.

### Clear

Deletes entered data or backs up one step in function procedure.

## 4 One Touch Dial Keys

These 16 keys give you instant access to previously stored phone numbers.

## 5 Shift

This key is used to access the “17” through “32” One Touch numbers. In the printer mode when shift is pressed together with Test/Reset, it resets and restores the machine to the factory default settings.

## 6 Hook

Lets you dial telephone and fax numbers without lifting the handset.

## 7 Hold

Lets you put calls on hold.

## 8 Redial/Pause

Re-dials the last number called. Also inserts a pause in autodial numbers.

## 9 Speed Dial

Lets you dial stored phone numbers by pressing a two-digit number.

## 10 Dial Pad

Dials phone and fax numbers and can be used as a keyboard for entering information into the machine.

## 11 Volume High/Low Keys

Lets you adjust speaker, ring and handset volume.

## **12 Stop**

Stops a fax, cancels an operation or exits from function mode.

## **13 Start**

Starts an operation (such as sending a fax).

## **14 Copy Function Keys:**

### **Enlarge**

Enlarges copies depending on the ratio you select: 100%, 120%, 125%, 150%, 200% and MANUAL.

### **Reduce**

Reduces copies depending upon the ratio you select: AUTO, 50%, 75%, 87%, 93%, 100% and MANUAL. AUTO sets the machine to calculate automatically the reduction ratio that fits the size of your paper. MANUAL allows you to enter the reduction ratio from 50%–100% using increments of 1%.

### **Sort**

Use this key when you want multiple copies of a multiple page original, copied in order.

### **Photo**

This key is used to copy photographs.

### **Copy**

Makes a copy.

## **15 Printer Function Keys:**

### **On/Off Line**

This key is used to turn the printer online (ready to receive PC data) and offline (not ready to receive PC data) alternately. When the printer is online, the LCD displays ONLINE.

### **FF/Cont**

When the LCD shows REMAINED DATA, you can turn the machine OFFLINE and then press this key to print the data that is in the memory. Also, it clears operation and machine errors.

## **Print Priority**

When this key is pressed, all faxes will be received into memory without first printing and can be printed later.

## **Test/Reset**

This key is used to print a test page. When it is pressed together with Shift, it clears the data from the printer memory, cancels an error status, and then resets and restores the machine to the factory default settings.

## **16 Facsimile Function Keys/LEDs:**

### **Resolution Indicator Lights**

These LEDs show the resolution mode you selected.

### **Answer Mode Indicator Lights**

These LEDs show the answer mode you selected.

### **Tel-index**

Lets you look up numbers stored in the dialing memory.

### **Resolution**

Sets the resolution when you send a fax.

### **Mode**

Select how the machine will handle incoming calls.

### **Help/Broadcast**

Prints a quick reference Help List. Also, you can use this key whenever you want to send faxes to many different locations (maximum of 182 locations) at once.

# About Your Machine

---

If you're a first-time fax machine user, fax operation might seem a little mysterious. Soon, you'll recognize the unusual fax tones on your phone line, and be able to send and receive faxes easily.

## Fax Tones and Handshake

When someone is sending a fax, the machine sends fax calling tones, (CNG tones)—soft, intermittent beeps at 4-second intervals. You'll hear them when you dial and press **Start**, and they continue for about 40 seconds after dialing. During that time, the sending machine must begin the "handshake" with the receiving machine. Each time you use automatic procedures to send a fax, you are sending CNG tones over the phone line. You'll soon learn to listen for these soft beeps each time you answer a phone on your fax line, so you can know if you are receiving a fax message.

The receiving fax responds with fax receiving tones—loud, chirping sounds. A receiving fax chirps for about 40 seconds over the phone line, and the screen displays RECEIVING. If your machine is set to the FAX mode, it will answer every call automatically with fax receiving tones. Even if the other party hangs up, your machine continues to send the "chirps" for about 40 seconds, and the screen continues to display RECEIVING. To cancel the receiving mode, press **Stop**.

When your machine answers in FAX/TEL mode, the machine listens for CNG tones and then responds with receiving tones.

The fax "handshake" is the time in which the sending machine's CNG tones and the receiving machine's "chirps" overlap. This must be for at least 2 to 4 seconds, so the machines can understand how each is sending and receiving the fax. The handshake cannot begin until the call is answered, and the CNG tones only last for about 40 seconds after the number is dialed. Therefore, it's important for the receiving machine to answer the call in as few rings as possible.



When you have an external telephone answering device (TAD) on your fax line, your TAD will determine the number of rings before the call is answered. Pay special attention to the directions in the Assembly and Connections chapter for connecting a TAD to your machine.

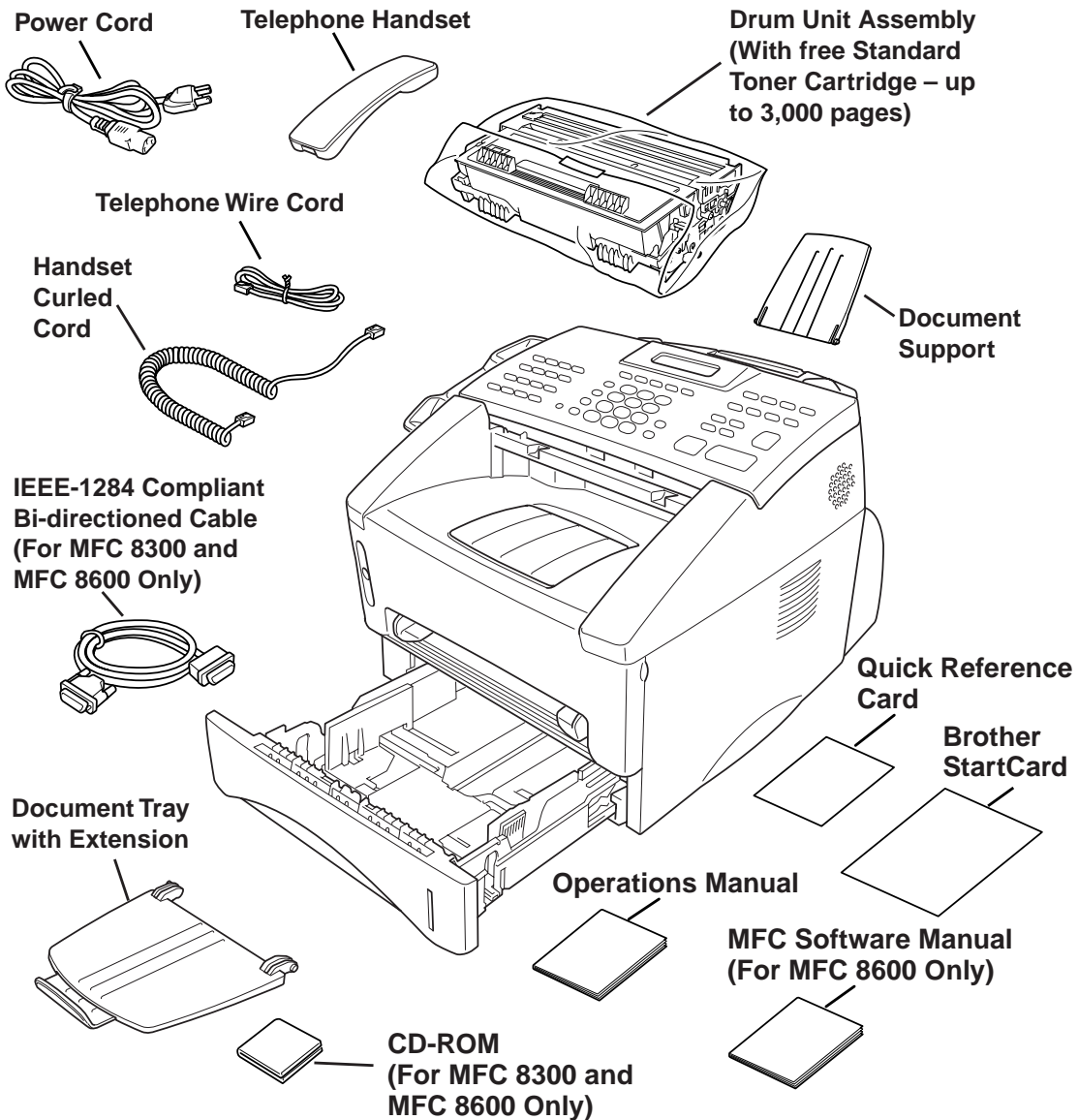
## ECM (Error Correction Mode)

The Error Correction Mode (ECM) is a way for the machine to check the integrity of a fax transmission while it is in progress. ECM transmissions are possible only between machines that both have the ECM feature. If they do, you may send and receive fax messages that are continuously checked for their integrity. Sufficient memory must be available in your machine for this feature to work.

# 2 Assembly and Connections

## Packing List

Make sure you have the following items:



If an item is missing, call Brother Customer Service at 1-800-284-4329 (USA), 1-800-853-6660 (from within Canada) or 1-514-685-6464 (from within Montreal). See Ordering Accessories and Supplies on page ii for the correct item numbers.

! Whenever you transport the machine, use the packing materials that came with your machine. If you do not pack the machine properly, you may void your warranty.

## Choosing a Location

---

Place your machine on a flat, stable surface, such as a desk. Select a place that is free of vibration and shocks. Locate the machine near a telephone jack and a standard, grounded power outlet.

- ⊘ Avoid placing your machine in a high-traffic area. Do not place near heaters, air conditioners, water, chemicals or refrigerators. Do not expose the machine to direct sunlight, excessive heat, moisture or dust. Make sure nothing blocks the flow of air from the fan on the sides of the machine. Do not connect your machine to electrical outlets controlled by wall switches or automatic timers. Disruption of power can wipe out information in the unit's memory. Do not connect your machine to electrical outlets on the same circuit as large appliances or other equipment that might disrupt the power supply. Avoid interference sources, such as speakers or the base units of cordless phones.



### ⚠ WARNING

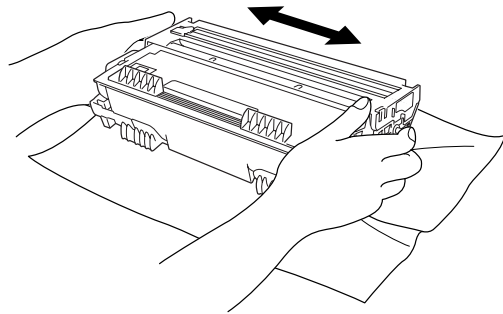
- Never install telephone wiring during a lightning storm.
- We recommend that this product be used with a surge protection device to protect the product against lightning storms.
- Never install a telephone jack in a wet location unless the jack is specifically designed for a wet location.
- Never touch telephone wires or terminals that are not insulated unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- For PLUGGABLE EQUIPMENT, the socket-outlet should be installed near the equipment and should be easily accessible.
- To reduce the risk of shock or fire, use only a No. 26 AWG or larger telecommunications line cord.

# Assembly

---

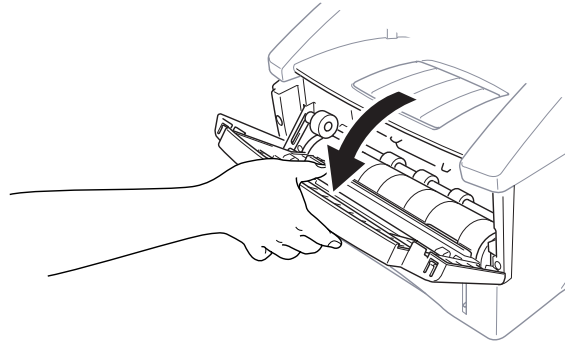
## Installing the Drum Unit Assembly (with Toner Cartridge)

- 1 Unpack the drum unit assembly, including the toner cartridge, and gently rock it from side to side five or six times to distribute the toner evenly inside the cartridge.

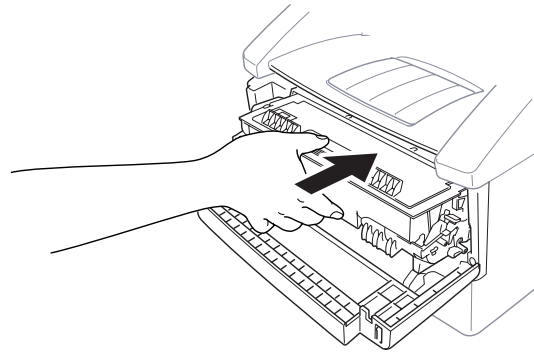


**!** To prevent damage to the drum, do not expose it to light for longer than a few minutes.

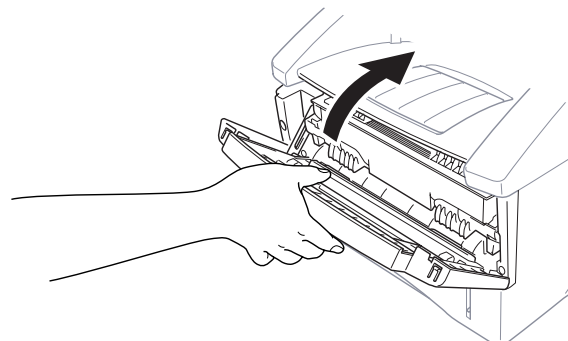
- 2 Open the front cover of the machine.



- 3 Insert the drum unit assembly into the machine.



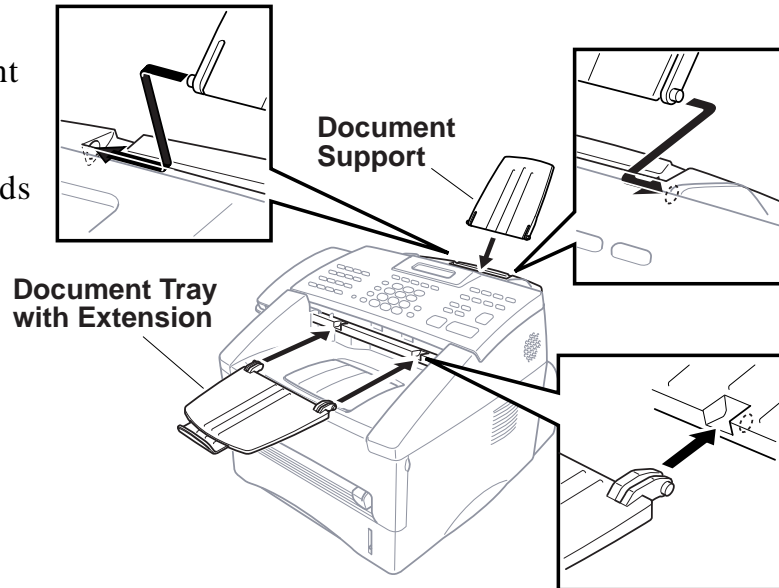
- 4 Close the front cover.



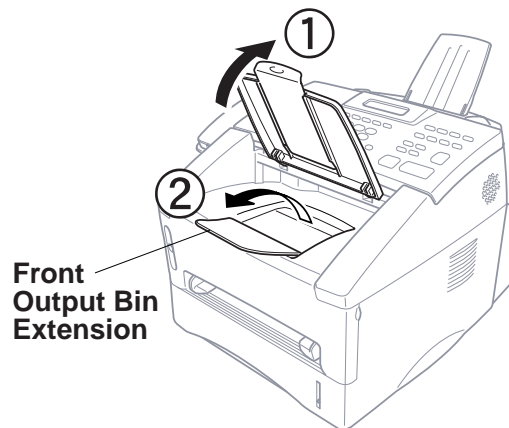


## Attach the Trays

- 1 Attach the document support and document tray with extension, and unfold the extension, which holds documents in place.



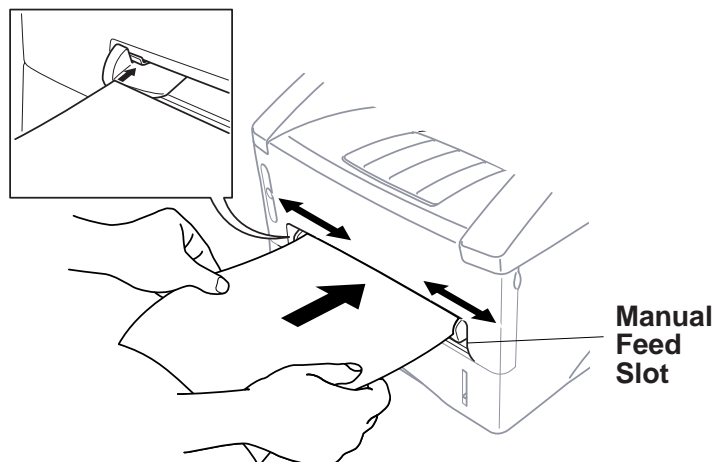
- 2 Unfold the Front Output Bin Extension, which holds printed pages in place.



## Manual Feed Slot

The manual feed slot is above the multi-purpose paper cassette. Load paper or envelopes *one at a time*. You do not have to remove paper from the paper cassette.

**To print or copy on labels, transparencies, card stock or thicker paper:**



# Paper



## Acceptable Paper

	Paper Type	Paper Size
Multi-purpose Paper Cassette #1:	cut sheet	Letter, Legal, A4, A5, ISO B5, Executive, A6, 2.75–8.5 x 4.57–14 inches (70–216 x 116–356 mm)
Manual Feed Slot:	cut sheet	Letter, Legal, A4, A5, B5 (JIS/ISO), Executive 2.75–8.5 x 4.57–14 inches (70–216 x 116–356 mm)
	envelopes	COM-10, Monarch, C5, DL
	post cards	2.75–8.5 x 4.57–14 inches (70–216 x 116–356 mm)
	organizer	Day-Timer® J, K, L, M 2.75–8.5 x 4.57–14 inches (70–216 x 116–356 mm)
	labels and transparencies	2.75–8.5 x 4.57–14 inches (70–216 x 116–356 mm)



### We Recommend:

Cut sheet:	Xerox 4200
Labels:	Avery laser label or equivalent
Transparencies:	3M CG3300 for laser printers or equivalent

## Paper Capacity of Paper Cassette

Multi-purpose Paper Cassette #1:	Max. paper height is 1.06 inches (27 mm) (use the guides) or approx. 250 sheets of 20 lb. (75 g/m <sup>2</sup> ) Letter/A4 paper, 10 transparencies.
Front Output Bin:	Approx. 150 sheets of 20 lb. (75 g/m <sup>2</sup> ) Letter/A4 paper

## Paper Specification for the Cassette

Cut Sheet	
Basis Weight:	17 to 28 lb. (64 to 105 g/m <sup>2</sup> )
Caliper:	0.003 to 0.005 inches. (0.08 to 0.13 mm)
Moisture Content:	4% to 6% by weight

## Manual Feed Slot

	Cut Sheet	Envelopes
Basis Weight:	17 to 42 lb. (64 to 158 g/m <sup>2</sup> )	20 to 24 lb. (75 to 90 g/m <sup>2</sup> )
Caliper:	0.003 to 0.008 inches. (0.08 to 0.2 mm)	0.003 to 0.005 inches. (0.084 to 0.14 mm)
Moisture Content:	4% to 6% by weight	4% to 6% by weight



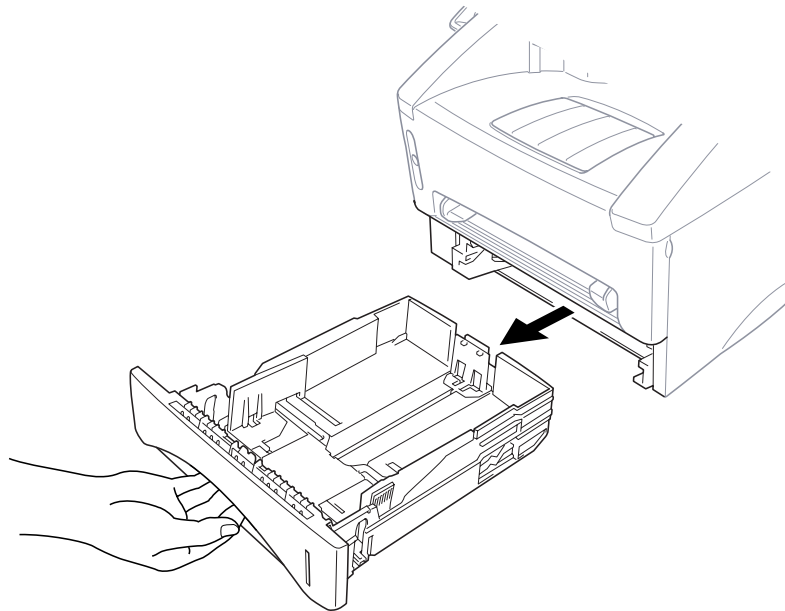
Fax messages can be received on only Letter, Legal and A4 size paper.

If you use legal or A4, change the Paper Size setting:

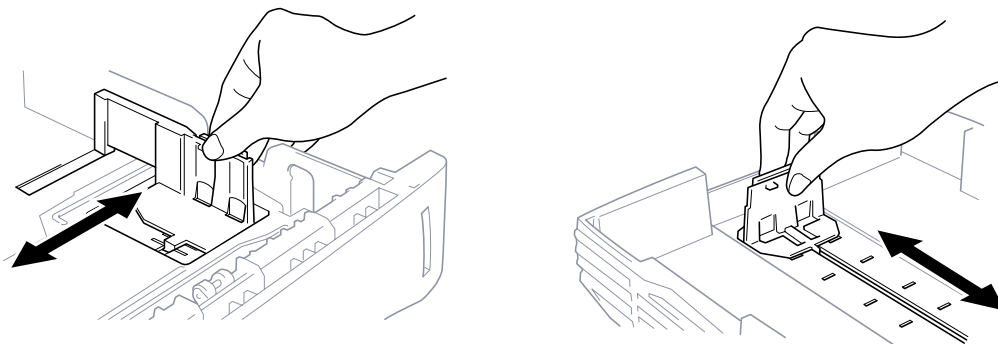
(For the FAX: **Function**, **2**, **6**. For the MFC: **Function**, **1**, **2**, **6**.)

## Loading Paper in Multi-purpose Paper Cassette

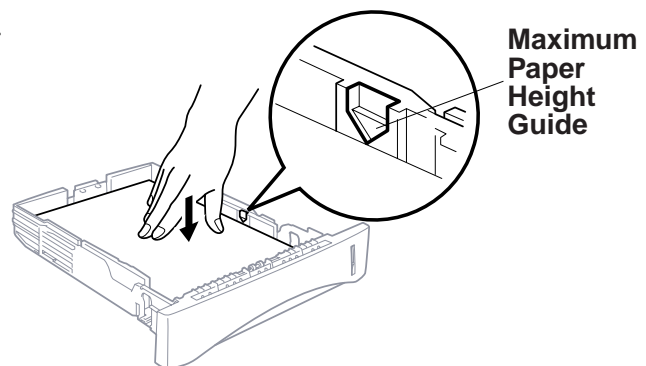
- 1 Pull the paper cassette completely out of the machine.



- 2 Slide the paper width and length adjusters for the paper size you want.



- 3 Fan the paper well. Load paper in the paper cassette. Press down on the paper to flatten it in all four corners, keeping the paper level below the guide. The cassette can hold up to 250 sheets of 20 lb (75g/m<sup>2</sup>) paper.

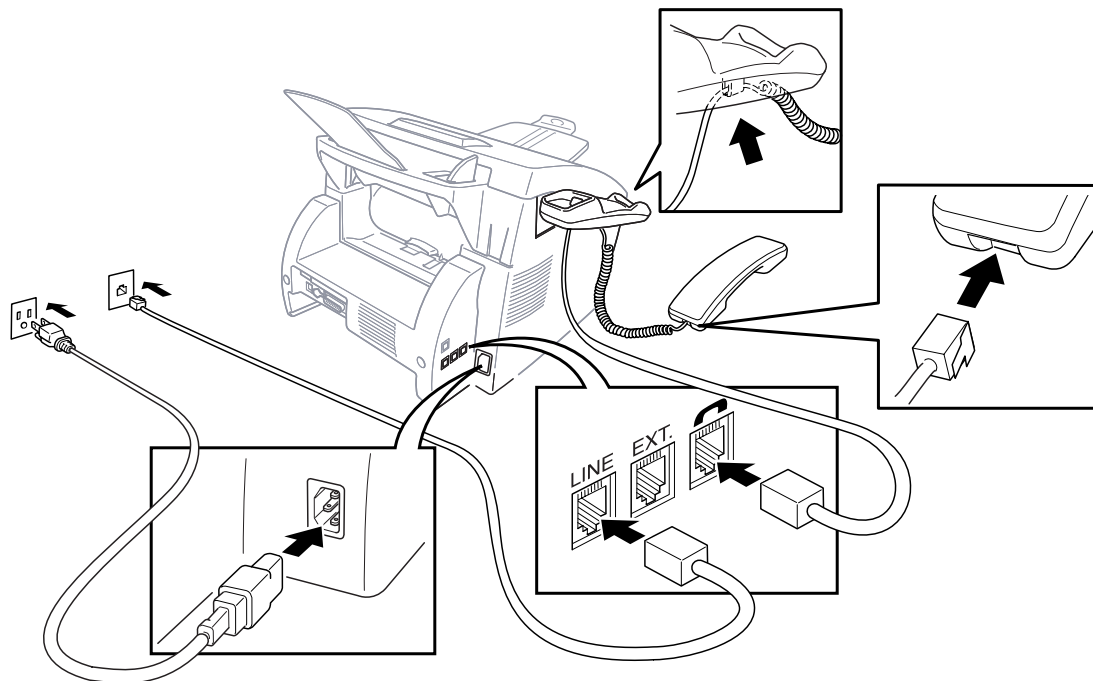


- 4 Slide the paper cassette into the machine until it locks into place.

# Connections

## Connecting the Machine

Connect the handset, power cord, and telephone line.



### 1 Connecting the Handset

Connect the curled handset cord to the bottom of the handset and the left side of the machine.

### 2 Connect the power cord.

When you connect the power, the screen displays

```
01/01/2000 00:00  
SLEEP
```

### 3 Connect the telephone line.

Connect one end of the telephone line cord to the jack labeled **LINE** on the left side of the machine. Connect the other end to a modular wall jack.


## ⚠ WARNING

- This machine must be grounded using a three-prong plug.
- Since the machine is grounded through the power outlet, you can protect yourself from potentially hazardous electrical conditions on the telephone line by keeping the power to your machine on when you connect it to a telephone line. When you want to move your machine, protect yourself by disconnecting the telephone line first, and then the power cord.
- Lightning and power surges can damage this product! We recommend that you use a quality surge protection device on the AC power line as well as on the telephone line, or unplug the lines during a lightning storm.
- Do not touch the rollers at the paper exit.

## Connecting an External Telephone

Your machine is equipped with a handset that you can use as a regular phone. However, you can also connect a separate telephone (or telephone answering device) directly to your machine.

Connect the modular plug on the telephone's line cord to the jack labeled EXT. on the left side of the machine.

Whenever this phone (or TAD) is in use, the screen displays EXT. TEL IN USE, and, if the machine handset is lifted, an alarm sounds. To disconnect the call on the external phone and switch to the machine, press .

## Connecting an External TAD (Telephone Answering Device)

### Sequence

You might choose to connect an answering system. When you have an **external** TAD on the same telephone line as the machine, the TAD answers all calls. The machine "listens" for fax calling (CNG) tones. If it hears them, the machine takes over the call and receives the fax. If it doesn't hear CNG tones, the machine lets the TAD continue playing your outgoing message so your caller can leave you a voice message.

The TAD must answer within four rings (the recommended setting is two rings). The machine cannot hear CNG tones until the TAD has answered the call, and with four rings there are only 8–10 seconds of CNG tones left for the fax "handshake." Make sure you carefully follow the instructions in this manual for recording your outgoing message. We do not recommend using the toll saver feature on your external answering machine if it exceeds 4 rings.

### Connections

The external TAD must be plugged into the left side of the machine in the jack labeled EXT. Your machine cannot work properly if you plug the TAD into a wall jack.



*If You Subscribe to your Telephone Company's Distinctive Ring Service:*

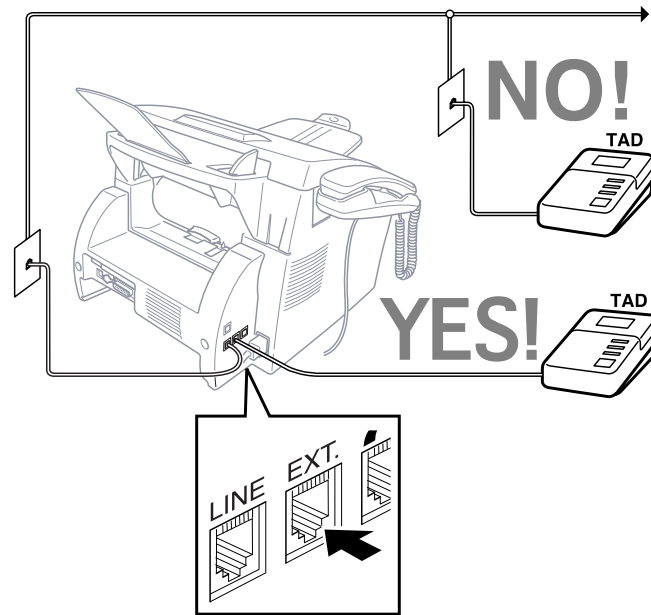
You may connect an external TAD to a separate wall jack *only* if you subscribe to your telephone company's Distinctive Ring service, have registered the distinctive ring pattern on you machine, use that number as a fax number and set your machine's Answer mode to MANUAL.



*If You Do NOT Subscribe to Distinctive Ring Service:*

You must plug your TAD into the EXT. jack of your Brother machine. If your TAD is plugged into a wall jack, both your machine and the TAD will try to control the phone line. (See illustration on page 2-10.)

- ⊘ Do not connect a TAD elsewhere on the same phone line.



- 1 Plug the telephone line cord from the wall jack into the left side of the machine, in the jack labeled LINE.
- 2 Plug the telephone line cord from your TAD into the left side of the machine, in the jack labeled EXT. (Make sure this cord is connected to the TAD at the TAD's telephone line jack, and not its telephone set jack.)
- 3 Set your external TAD to four rings or less. (The machine's Ring Delay setting does not apply).
- 4 Record the outgoing message. (See below.)
- 5 Set the Answer Mode to TAD by pressing **[Mode]** until both FAX and FAX/TEL lights are on.

### Recording Outgoing Message (OGM)

Timing is important in recording this message. The message sets up the ways to handle both manual and automatic fax reception.

- 1 Record 5 seconds of silence at the beginning of your message. (This allows your machine time to listen for the fax CNG tones of automatic transmissions before they stop.)
- 2 Limit your speaking to 20 seconds. (See Easy Receive, page 5-3.)
- 3 End your 20-second message by giving your Fax Receive Code for people sending manual faxes. For example: **"After the beep, leave a message or send a fax by pressing \* 5 1 and Start."**

🔍 We recommend beginning your OGM with an initial 5-second silence because the machine cannot hear fax tones over a resonant or loud voice. You may try omitting this pause, but if your machine has trouble receiving, then you must rerecord the OGM to include it.

## Special Line Considerations

### Roll Over Phone Lines

A roll over phone system is a group of two or more separate telephone lines that pass incoming calls to each other if they are busy. The calls are usually passed down or “rolled over” to the next available phone line in a preset order.

Your machine can work in a roll over system as long as it is the last number in the sequence, so the call cannot roll away. Do not put the machine on any of the other numbers; when the other lines are busy and a second fax call is received, the fax call would be transferred to a line that does not have a fax machine. Your machine will work best on a dedicated line.

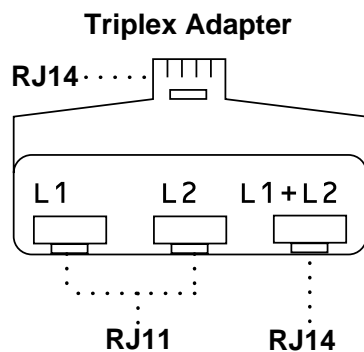
### Two-Line Phone System

A two-line phone system is nothing more than two separate phone numbers on the same wall outlet. The two phone numbers can be on separate jacks (RJ11) or combined into one jack (RJ14). Your machine must be plugged into an RJ11 jack. RJ11 and RJ14 jacks may be equal in size and appearance and both may contain four wires (black, red, green, yellow). To test the type of jack, plug in a two-line phone and see if it can access both lines. If it can, you must separate the line for your machine.

### Converting Telephone Wall Outlets

There are three ways to convert to an RJ11 receptacle. The first two ways may require assistance from the telephone company. You can change the wall outlets from one RJ14 jack to two RJ11 jacks. Or, you can have an RJ11 wall outlet installed and slave or jump one of the phone numbers to it.

The third way is the easiest: Buy a triplex adapter. You can plug a triplex adapter into an RJ14 outlet. It separates the wires into two separate RJ11 jacks (Line 1, Line 2) and a third RJ14 jack (Lines 1 and 2). If your machine is on Line 1, plug the machine into L1 of the triplex adapter. If your machine is on Line 2, plug it into L2 of the triplex adapter.

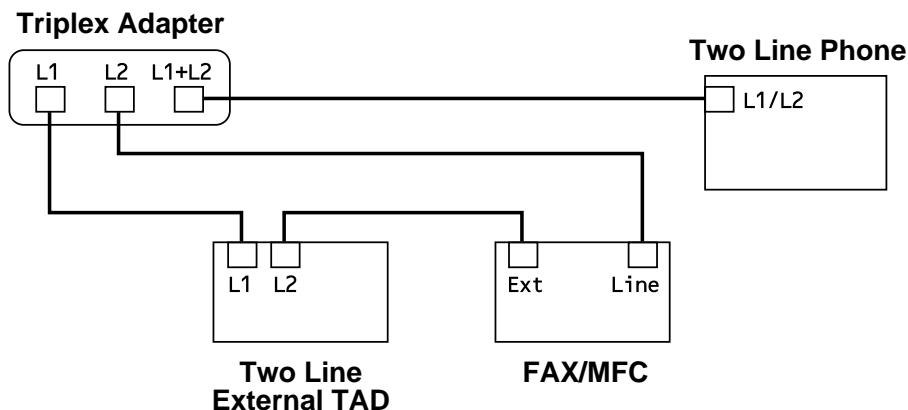




## Installing Machine, External Two-Line TAD, and Two-Line Telephone

When you are installing an **external** two-line telephone answering device (TAD) and a two-line telephone, your machine must be isolated on one line at both the wall jack and at the TAD. *The most common connection is to put the machine on Line 2, which is our assumption in the following steps.* The back of the two-line TAD must have two telephone jacks: one labeled L1 or L1/L2, and the other labeled L2. You will need at least three telephone line cords, the one that came with your machine and two for your external two-line TAD. You will need a fourth line cord if you add a two-line telephone.

- 1 Place the two-line TAD and the two-line telephone next to your machine.
- 2 Plug one end of the telephone line cord for your fax machine into the L2 jack of the triplex adapter. Plug the other end into the **LINE** jack on the left side of the machine.
- 3 Plug one end of the first telephone line cord for your TAD into the L1 jack of the triplex adapter. Plug the other end into the L1 or L1/L2 jack of the two-line TAD.
- 4 Plug one end of the second telephone line cord for your TAD into the L2 jack of the two-line TAD. Plug the other end into the **EXT.** jack on the left side of the machine.



You can keep two-line telephones on other wall outlets as always. There are two ways to add a two-line telephone to the machine's wall outlet. You can plug the telephone line cord from the two-line telephone into the L1+L2 jack of the triplex adapter. Or, you can plug the two-line telephone into the TEL jack of the two-line TAD.

## Multi-Line Connections (PBX)

Most offices use a central telephone system. While it is often relatively simple to connect the machine to a key system or a PBX (Private Branch Exchange), we suggest that you contact the company that installed your telephone system and ask them to connect the machine for you. It is advisable to have a separate line for the machine. You can then leave the machine in FAX mode to receive faxes any time of day or night.

If the machine is to be connected to a multi-line system, ask your installer to connect the unit to the last line on the system. This prevents the unit from being activated each time a telephone call is received.

- ⊘ As with all fax units, this machine must be connected to a two wire system. If your line has more than two wires, proper connection of the machine cannot be made.

### **If you are installing the machine to work with a PBX:**

- 1 It is not guaranteed that the unit will operate correctly under all circumstances with a PBX. Any cases of difficulty should be reported first to the company that handles your PBX.
- 2 If all incoming calls will be answered by a switchboard operator, it is recommended that the Answer Mode be set to MANUAL. All incoming calls should initially be regarded as telephone calls.
- 3 The machine may be used with either pulse or tone dialing telephone service.

## Custom Features on a Single Line

To learn how custom features may affect your faxing operations, please see the Troubleshooting and Routine Maintenance chapter, page 17-1.



# 3 On-Screen Programming

## User-Friendly Programming

---

We have designed your machine with on-screen programming and a Help key. User-friendly programming helps you take full advantage of all the functions your machine has to offer. (See Using This Manual, page 1-1.)

Since your fax programming is done on the LCD, we created step-by-step on-screen prompts to help you program your machine. All you need to do is follow the prompts as they guide you through the function menu selections and programming options and settings.

### Function Mode

You can access the function mode by pressing **[Function]**. When you enter the function mode, your machine displays a list of main menu options which scroll on the display automatically; select one menu option by pressing **[Set]** when it appears. The display then scrolls the options within that menu.

You can scroll more quickly by pressing **[Right Arrow]**. (Use **[Left Arrow]** to scroll backward and see all options, in the opposite order.)

Before you press **[Set]** after entering information in a field using the dial pad, you can correct a mistake. Use **[Left Arrow]** to back up and then type over the incorrect characters.

When you finish a function, the screen displays ACCEPTED.



If you want to exit the Function Mode, press **[Stop]**.

### Do You Have a FAX or MFC?

See the model number on your machine's control panel to know if your machine is a FAX or an MFC. If you have an MFC model there is an extra key press—to access the FAX functions you must first press **[1]**. If you have a FAX 4750, follow the function step for FAX. If you have an MFC 8300 or MFC 8600, follow the function step for MFC. For example,

For the FAX, press **[Function]**, **[1]**, **[3]**

For the MFC, press **[Function]**, **[1]**, **[1]**, **[3]**.

# Function Selection Table

If you have a basic understanding of how to program your machine, you can perform most of the programming settings without this manual. To help you understand the function selections, options, and settings that are found in your fax programs, use the Function Selection Table below.

## 1. Fax Functions

1. INITIAL SETUP			
Function	Description	Factory Set	Page
<b>1. TONE/PULSE</b>	Selects dialing mode.	TONE	4-1
<b>2. DATE/TIME</b>	Enter date and time for LCD display and heading on transmissions.	01/01 2000 00:00	4-1
<b>3. STATION ID</b>	Program name, fax number and telephone number to appear on each transmitted page.	—	4-2
<b>4. BEEPER</b>	Adjust volume level of beeper.	LOW	4-4
<b>5. SLEEP MODE</b>	Conserve power	00 MIN	4-6
<b>6. DELAYED TIMER</b>	Sets the time of day for delayed faxes. You can accept it or enter another time.	00:00	4-6
<b>7. VOLUME AMPLIFY</b>	For the hearing-impaired, you can set the volume to the VOL AMPLIFY:ON setting on a temporary or permanent basis.	OFF	4-5
<b>8. CASSETTE #2</b> (For FAX 4750 and MFC 8600 Only)	Turn CASSETTE #2 ON if you purchased the optional Cassette #2.	OFF	5-8
<b>9. AUTO DAYLIGHT</b>	Changes for Daylight Savings Time automatically.	OFF	4-6

## 1. Fax Functions (CONTINUED)

2. SETUP RECEIVE			
Function	Description	Factory Set	Page
<b>1. RING DELAY</b>	Number of rings before machine answers in FAX or FAX/TEL mode.	04	5-2
<b>2. F/T RING TIME</b>	Sets the time for “double ring” in FAX/TEL mode.	20 SEC	5-2
<b>3. EASY RECEIVE</b>	Receive fax messages without pressing the Start key.	ON	5-3
<b>4. REMOTE CODE</b>	Enter code to activate or deactivate machine from a remote location.	ON (*51, #51)	5-7
<b>5. REDUCTION</b>	Reduces size of image. If the optional cassette #2 is attached to FAX 4750 or MFC 8600, you can select the reduction ratio for each cassette.	AUTO	5-4
<b>6. PAPER</b>	Selects size of paper for fax receiving. If the optional cassette #2 is attached to FAX 4750 or MFC 8600, you can select the size of paper for each cassette and choose the cassette you wish to use first.	—	5-5
<b>7. PRINT DENSITY</b>	Make prints darker or lighter.	—	5-6
<b>8. POLLING RX</b>	Turns Polling Receive ON or OFF.	OFF	5-9
<b>9. TONER SAVE</b>	Increases life of toner cartridge.	OFF	5-6
<b>0. MF LINK</b> (For MFC 8600 Only)	Turn ON if PC is connected to machine for PC receiving of messages. If you purchased the optional MFL Pro for your FAX 4750 or MFC 8300, you can set this option.	ON	5-10

## 1. Fax Functions (CONTINUED)

3. SETUP SEND			
Function	Description	Factory Set	Page
<b>1. COVERPG SETUP</b>	Automatically sends the cover page you programmed.	OFF	6-6, 7
<b>2. COVERPAGE MSG</b>	Program customized message for fax cover page.	—	6-6
<b>3. CONTRAST</b>	Change lightness or darkness of a fax you are sending.	AUTO	6-8
<b>4. RESOLUTION</b>	Allows you to change resolutions page by page.	STANDARD	6-12
<b>5. OVERSEAS MODE</b>	Adjusts for sometimes difficult overseas transmissions.	OFF	6-9
<b>6. CALL RESERVE</b>	You can send a fax, then speak.	OFF	6-9
<b>7. DELAYED FAX</b>	Send documents later.	—	6-10
<b>8. POLLED TX</b>	Turns Polling Transmission ON (or OFF).	OFF	6-13
<b>9. REAL TIME TX</b>	Next Fax Only/ON/OFF	OFF	6-3
<b>0. BATCH TX</b>	Sends all delayed faxes that are to the same fax number and at the same time as one transmission.	OFF	6-11

4. REMAINING JOBS			
Function	Description	Factory Set	Page
Canceling a job in memory	Cancel a delayed fax or polling job.	—	5-10, 6-4

5. INTERRUPT			
Function	Description	Factory Set	Page
Interrupting a polling or transmit job	Send a fax now, even if you have the machine set to send a fax later, or if you have it set for Polling.	—	6-13

6. SET AUTO DIAL			
Function	Description	Factory Set	Page
<b>1. ONE-TOUCH DIAL</b>	Dial numbers stored in memory by pressing only one key.	—	7-1
<b>2. SPEED-DIAL</b>	Dial numbers stored in memory by pressing only three keys.	—	7-2
<b>3. SETUP GROUPS</b>	Set up a Group number for broadcasting.	—	7-3

## 1. Fax Functions (CONTINUED)

7. PRINT REPORTS			
Function	Description	Factory Set	Page
1. XMIT REPORT		OFF	10-1
2. ACT.REPORT	Print lists and reports of activity. (Details in Chapter 10)	INTERVAL:OFF	10-1
3. ALL DIAL		—	10-1
4. TEL. INDEX		—	10-1
5. USER SETTINGS		—	10-1
6. MEMORY STATUS		—	10-1

8. REMOTE FAX OPT			
Function	Description	Factory Set	Page
1. FAX FWD/PAGING	Set machine to forward fax messages —OR—call your pager.	OFF	9-1, 2
2. FAX STORAGE	Store incoming faxes in memory for remote retrieval.	OFF	9-2
3. REMOTE ACCESS	Set code for retrieving faxes.	159*	9-3
4. PRINT FAX	Print incoming faxes stored in the memory.	—	5-8

0. MISCELLANEOUS			
Function	Description	Factory Set	Page
1. DISTINCTIVE	Use with telephone company's distinctive ringing service to register the ring pattern on the machine.	OFF	5-12
2. CALLER ID	View or print a list of the last 30 Caller IDs stored in memory.	—	5-13, 14
3. COPY CONTRAST	You can make copies darker or lighter.	—	11-1
4. DRUM LIFE	You can check the percentage of drum life that remains available.	—	17-26



## 2. Printer Functions (For MFC 8300 and MFC 8600 Only)

1. PRINT OPTIONS			
Function	Description	Factory Set	Page
<b>1. INTERNAL FONT</b>	You can print resident fonts to check and confirm font types	—	14-8
<b>2. CONFIGURATION</b>	Printer settings and status are listed here.	—	14-8

2. RESET PRINTER			
Function	Description	Factory Set	Page
<b>1. FACTORY SET</b>	You can restore the printer back to the factory default settings.	—	14-8
<b>2. HEX DUMP MODE</b>	If you set HEX DUMP MODE, all the PC data is printed in hexadecimal.	—	14-8

## 3. Video Functions (For MFC 8600 Only)

Function	Description	Factory Set	Page
<b>1. QUALITY</b>	Select Normal or High print quality.	HIGH	See MFC Software Manual 1-3
<b>2. VIDEOTYPE</b>	Select Moving or Still video signal.	MOVING	See MFC Software Manual 1-3
<b>3. PRINT SIZE</b>	Select the size for printed video capture frames.	5.75" x 4.25"	See MFC Software Manual 1-3

# 4 Initial Setup

## Getting Started

---

### Setting Dialing Mode (Tone/Pulse)

Your machine comes set to accommodate tone (multi-frequency) dialing service. If you have pulse (rotary) dialing service, you need to change the dialing mode.

- 1 For the FAX, press **[Function]**, **[1]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[1]**, **[1]**.
- 2 Use **[←]** or **[→]** to select dialing mode and press **[Set]**.

```
DIALING:TONE?  
SELECT ← → & SET
```

```
DIALING:PULSE?  
SELECT ← → & SET
```

- 3 Press **[Stop]** to exit.

### Setting Date and Time

Your machine displays the date and time, and prints it on every fax you send.

In the event of a power failure, you may have to reset the date and time. All other settings remain unaffected.

- 1 For the FAX, press **[Function]**, **[1]**, **[2]**.  
For the MFC, press **[Function]**, **[1]**, **[1]**, **[2]**.
- 2 Enter the last two digits of the year and press **[Set]**.
- 3 Enter two digits for the month and press **[Set]**.  
(For example, enter 09 for September, or 10 for October).
- 4 Enter two digits for the day and press **[Set]**.  
(For example, 06).
- 5 Enter the time in 24-hour format and press **[Set]**.  
(For example, enter 15:25 for 3:25 PM).
- 6 Press **[Stop]**.

```
YEAR:XX  
ENTER & SET
```

```
MONTH:XX  
ENTER & SET
```

```
DAY:XX  
ENTER & SET
```

```
TIME:XX:XX  
ENTER & SET
```

The screen now displays the date and time you set, and displays it whenever the machine is standing by.

## Setting Station ID

You can store your name, fax number, and telephone number to be printed on all fax pages you send. See Composing Electronic Cover Page, page x-x.

- 1 For the FAX, press **Function**, **1**, **3**.  
For the MFC, press **Function**, **1**, **1**, **3**.

- 2 Enter your fax number (up to 20 digits) and press **Set**.  
You must enter a fax number to proceed.

FAX:  
ENTER & SET


- 3 Enter your telephone number (up to 20 digits) and press **Set**.  
If your telephone number and fax number are the same, enter the same number again.  
The number appears on Cover pages and Call Back Messages.

TEL:  
ENTER & SET

- 4 Use the dial pad to enter your name (up to 20 characters) and press **Set**.  
(See Entering Text.)

NAME:  
ENTER & SET

- 5 Press **Stop**.  
The screen returns to the date and time.

 If your Station ID has already been programmed, the screen prompts “1” to make a change, or “2” to exit without changing.


## Entering Text

When you are setting certain functions, such as the Station ID, you may need to enter text into the machine. Most keys on the dial pad have three or four letters printed above them. The keys for 0, # and \* don't have printed letters because they are used for special characters.



By pressing the appropriate number on the dial pad the correct number of times, you can access the character you want.

Key	once	twice	three times	four times	five times
<b>2</b>	A	B	C	2	A
<b>3</b>	D	E	F	3	D
<b>4</b>	G	H	I	4	G
<b>5</b>	J	K	L	5	J
<b>6</b>	M	N	O	6	M
<b>7</b>	P	Q	R	S	7
<b>8</b>	T	U	V	8	T
<b>9</b>	W	X	Y	Z	9


## Inserting spaces

If you want to enter a blank space, press  once between numbers and twice between characters.

## Making corrections

If you entered a letter incorrectly and want to change it, press  to move the cursor after the last correct letter. Then press ; all letters above and to the right of the cursor are deleted. Re-enter the correct text and/or digits. Also, you can back up and type over incorrect letters.

## Repeating letters

If you need to enter a character assigned to the same key as the previous character, press  to move the cursor to the right.

## Special characters and symbols

Press \* for (space) ! “ # \$ % & ’ ( ) \* + , - . /

Press # for : ; < = > ? @ [ ] ^ \_

Press Ø for É À È Ê Î Ç Ë Ö 0

### NOTICE

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or electronic device to send any message via a telephone fax machine unless such messages clearly contain, in a margin at the top or bottom of each transmitted page, or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity or other individual sending the message and the telephone number of the sending machines or such business, other entity or individual.

In order to program this information into your fax machine, you should complete the steps described on pages 4-1 and 4-2.



The telephone number you enter is used only for Call Back Message and Cover Page features.

## Setting Beeper Volume

You can set the beeper to LOW, HIGH or OFF. The default setting is **LOW**. When the beeper is set to LOW or HIGH, the machine beeps every time you press a key or make an error, and at the end of fax sending or receiving.

- 1 For the FAX, press **[Function]**, **[1]**, **[4]**.  
For the MFC, press **[Function]**, **[1]**, **[1]**, **[4]**.
- 2 Press **[←]** or **[→]** to select your setting and press **[Set]**.
- 3 Press **[Stop]** to exit.

## Choosing the Handset Volume

Before you begin to use the machine, you must decide if you need to set the handset volume to AMPLIFY:ON for a user who is hearing-impaired. The AMPLIFY:ON volume level complies with FCC standards.

### *VOLUME AMPLIFY: OFF*

This default setting is appropriate if **none** of the users are hearing-impaired. During a conversation, users can press Volume **[△]** or **[▽]** on the control panel to adjust the volume to LOW or HIGH. When the handset is replaced, the handset volume will remain until you change it again.

### *VOLUME AMPLIFY: ON—TEMPORARY*

This setting is appropriate if **some** of the users are hearing-impaired. During a conversation, users can press Volume **[△]** or **[▽]** on the control panel to adjust the volume to LOW, HIGH or AMPLIFY. When the handset is replaced, the handset volume returns to the default setting of LOW.

### *VOLUME AMPLIFY: ON—PERMANENT*

Choose VOL AMPLIFY:ON—PERMANENT if **all** of the users are hearing-impaired. During a conversation, users can press Volume **[△]** or **[▽]** on the control panel to adjust the volume to LOW, HIGH or AMPLIFY. When the handset is replaced, the handset volume returns to the default setting of AMPLIFY.



When you press Volume **[△]** or **[▽]** on the control panel to adjust the volume, the display shows the setting you are choosing. Each key press changes the volume to the next setting.



### **WARNING**

**It is important that you do *not* choose PERMANENT unless all the users are hearing-impaired.** Otherwise, the default setting of AMPLIFY may damage the hearing of some users.

## Setting Volume Amplify

Please carefully read “Choosing the Handset Volume,” page 4-4 before you do the following steps:

- 1 For the FAX, press **[Function]**, **[1]**, **[7]**.  
For the MFC, press **[Function]**, **[1]**, **[1]**, **[7]**.

- 2 If *none* of the users are hearing-impaired, press **[←]** or **[→]** to select **VOL AMPLIFY:OFF?** and press **[Set]**, then go to Step 4

```
VOL AMPLIFY:ON?  
SELECT ← → & SET
```

—OR—

If *some* or *all* of the users are hearing-impaired, select **VOL AMPLIFY:ON?** and press **[Set]**.

- 3 If *all* the users are hearing-impaired, press **[←]** or **[→]** to select **PERMANENT?** and press **[Set]**

```
PERMANENT?  
SELECT ← → & SET
```

—OR—

If only *some* of the users are hearing-impaired, select **TEMPORARY?** and press **[Set]**.

```
TEMPORARY?  
SELECT ← → & SET
```

- 4 Press **[Stop]** to exit.

## Setting the Speaker Volume

You can adjust the speaker volume when your machine is on **[Hook]**.

Press Volume **[△]** or **[▽]** to adjust the volume level. The display shows the setting you are choosing. Each key press changes the volume to the next setting. The new setting will remain until you change it again.

## Setting the Ring Volume

You can adjust the ring volume when your machine is idle. You can turn the ring OFF or you can select a ring volume level.

Press Volume **[△]** or **[▽]** to adjust the volume level. With each key press, the machine rings as you hear the current setting and the display shows the setting you are choosing. Each key press changes the volume to the next setting. The new setting will remain until you change it again.

## Memory Storage

In the event of a power failure, all settings in the INITIAL SETUP, SETUP RECEIVE, SET AUTO DIAL and REMOTE FAX OPTIONS, plus the COVERPG SETUP and COVERPG MSG (from SETUP SEND) functions are stored permanently. You may have to reset the date and time.

## Sleep Mode

Setting the Sleep Mode reduces power consumption while the machine is idle. You can choose how long the machine is idle (from 00 to 99 minutes) before it drops into sleep mode. The timer automatically resets when the machine receives a fax or PC data, or makes a copy. The default setting is 0 minutes.

- 1 For the FAX, press **[Function]**, **[1]**, **[5]**.  
For the MFC, press **[Function]**, **[1]**, **[1]**, **[5]**.
- 2 Use the Dial pad to enter the amount of time the machine is idle before it drops into sleep mode (00 to 99 minutes) and press **[Set]**.
- 3 Press **[Stop]** to exit.

## Delayed Timer

You can set up the time of day that delayed faxes will be sent. This time will be displayed for acceptance or you can override it in *Delayed Fax*. (See Delayed Fax, page 6-10.)

- 1 For the FAX, press **[Function]**, **[1]**, **[6]**.  
For the MFC, press **[Function]**, **[1]**, **[1]**, **[6]**.
- 2 Enter the time (in 24-hour format) that you want delayed faxes to be sent and press **[Set]**.
- 3 Press **[Stop]** to exit.

```
SET TIME=12:34  
ENTER & SET
```

```
SET TIME=17:00  
ENTER & SET
```

## Turning On Automatic Daylight Savings Time

You can set the machine to change automatically for Daylight Savings Time by resetting itself forward one hour in the Spring and backward one hour in the Fall.

- 1 For the FAX, press **[Function]**, **[1]**, **[9]**.  
For the MFC, press **[Function]**, **[1]**, **[1]**, **[9]**.
- 2 Press **[←]** or **[→]** to select **ON** (or **OFF**) and press **[Set]**.
- 3 Press **[Stop]** to exit.

```
9.AUTO DAYLIGHT
```

# 5 Setup Receive

## Basic Receiving Operations



### Select Answer Mode

There are four different answer modes for your machine. You may choose the mode that best suits your needs by pressing the Mode button repeatedly until you have changed the FAX and FAX/TEL lights to the setting you want to use.

**NOTE:** The lighted indicators mean ○ = not selected ☀ = is selected and lit.

Mode	Light	How it works	When to use it
<b>1. MANUAL</b> (manual receive)	○ FAX   TAD   ○ FAX/TEL	You control the phone line and must answer every call yourself.	Use this mode when you are using a computer modem on the same line or if you receive very few fax messages. You can also use this mode with Distinctive Ringing.
<b>2. FAX</b> (automatic receive)	☀ FAX   TAD   ○ FAX/TEL	The machine automatically answers every call as a fax.	For dedicated fax lines. You cannot receive a voice call but you can call out.
<b>3. FAX/TEL*</b> (fax and telephone)	○ FAX   TAD   ☀ FAX/TEL	Machine controls the line and automatically answers every call. If the call is a fax it will receive the fax. If the call is not a fax it will ring (double ring) for you to pick up the call.	You cannot have an answering machine on the same line, even if it is on a separate jack on the same line. You cannot use the telephone company's Voice Mail in this mode.
<b>4. TAD</b> (External Telephone Answering Device)	☀ FAX   TAD   ☀ FAX/TEL	The external TAD automatically answers every call. Voice messages are stored on the external TAD. Fax messages are printed.	Use this mode if you have an answering machine on your phone line.

\*In FAX/TEL mode you must set the Ring Delay and F/T Ring Time. If you have extension phones on the line, set the Ring Delay to 4 rings.



## Setting Ring Delay

The Ring Delay setting determines the number of times the machine rings before it answers. If you have extension phones on the same line as the machine, keep the Ring Delay default setting of **4**. (See Easy Receive, page 5-3 and Operation from External or Extension Telephones and For FAX/TEL Mode Only, page 5-7.)

- 1 For the FAX, press **[Function]**, **[2]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[2]**, **[1]**.
- 2 Press **[←]** or **[→]** to select Ring Delay and press **[Set]**.
- 3 Press **[←]** or **[→]** to select how many times the line rings before the machine answers (00 – 04) and press **[Set]**.  
(If you select 00, the line doesn't ring at all.)
- 4 Press **[Stop]** to exit.

## Setting F/T Ring Time

You must determine how long the machine will notify you with its special double ring when you have a voice call. This ringing happens *after* the initial ringing from the phone company. Only the machine rings, for 20, 30, 40 or 70 seconds; no other phones on the same line ring the special double ring. However, you can also answer the call on any extension phone on the same phone number as the machine.

- 1 For the FAX, press **[Function]**, **[2]**, **[2]**.  
For the MFC, press **[Function]**, **[1]**, **[2]**, **[2]**.
- 2 Press **[←]** or **[→]** to select how long the machine will ring to alert you that you have a voice call and press **[Set]**.
- 3 Press **[Stop]** to exit.

```
RING TIME:20 SEC  
SELECT ← → & SET
```

Now, when a call comes in and the machine is set to FAX/TEL Mode, all phones on this line will ring the number of times you selected in Ring Delay.

You can let the machine pick up and detect if it's a fax or voice call. If it's a fax call, the machine prints the fax. If it's a voice call, the machine signals you with a double ring for the length of time you selected in F/T Ring Time.




Even if the caller hangs up during the double ringing, the machine continues ringing for the set time.

## Easy Receive

When you use this feature, you don't have to press **[Start]** when you answer a fax call and hear calling beeps. Just hold the handset and wait a few seconds. When you see RECEIVING on the fax screen or when you hear "chirps" through the handset of an extension phone connected to another wall jack, just replace the handset, and your machine does the rest. Selecting ON allows the machine to receive fax calls automatically, even if you lift the handset of an extension or external phone. Selecting SEMI lets the machine receive the call only if you've answered it at the Brother machine. Selecting OFF means you'll have to activate the machine yourself, by pressing **[Start]**—**OR**—by pressing **[\*] [5] [1]** if you are not at the machine.

If you've set this feature to ON, but your machine doesn't automatically connect a fax call when you lift an external or extension phone handset, press the Fax Receive code **[\*] [5] [1]**. At the machine, lift the handset and press **[Start]**. (See Operation from External or Extension Telephones and For FAX/TEL Mode Only, page 5-7.)

 If you send faxes from a computer on the same phone line and your Brother machine intercepts them, set Easy Receive to OFF.

- 1 For the FAX, press **[Function], [2], [3]**.  
For the MFC, press **[Function], [1], [2], [3]**.
- 2 Use **[←]** or **[→]** to select ON, SEMI or OFF and press **[Set]**.
- 3 Press **[Stop]** to exit.

## Turning on Cassette #2 (For FAX 4750 and MFC 8600 Only)

When CASSETTE #2 is set to ON, you can set paper size, reduction setting and the cassette usage. (See Printing a Reduced Incoming Document, page 5-4 and Setting Paper Size, page 5-5.)

- 1 For the FAX, press **[Function], [1], [8]**.  
For the MFC, press **[Function], [1], [1], [8]**.
- 2 Press **[←]** or **[→]** to select ON (or OFF) and press **[Set]**.
- 3 Press **[Stop]** to exit.

## Printing a Reduced Incoming Document

You can always reduce the size of an incoming fax to a fixed percentage, regardless of the size of the paper (up to legal) in your machine. If you choose AUTO, your machine chooses the level of reduction for you.

*For the FAX 4750 and MFC 8600 only, if you purchased and attached the optional Cassette #2 you can select the reduction ratio for each cassette.*

- 1 For the FAX, press **[Function]**, **[2]**, **[5]**.  
For the MFC, press **[Function]**, **[1]**, **[2]**, **[5]**.
- 2 If you have the optional Cassette #2 for your FAX 4750 or MFC 8600, press **[←]** or **[→]** to select CASSETTE #1 or CASSETTE #2 and press **[Set]**.
- 3 Use **[←]** or **[→]** to select the reduction ratio you want (AUTO, 93%, 87% or 75%) and press **[Set]**.  
Choose 100% if you don't want a reduction.
- 4 Press **[Stop]** to exit.

5. REDUCTION

### Recommended Reductions

If your paper is letter size (8.5" x 11"), and the incoming fax is  
letter size, select 93%  
A4 size, select 87%  
legal size, select 75%.

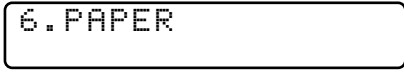


If your paper is A4 (8.2" x 11.6"), and the incoming fax is  
letter size, select 100%  
A4 size, select 93%

If your paper is legal size (8.5" x 14"), and the incoming fax is  
letter and A4 size, select 100%  
legal size, select 93%.

## Setting Paper Size

You can use three sizes of paper for printing your faxes: letter, legal and A4. When you change the size of paper you have loaded in the machine, you will need to change the setting for paper size, so your machine will know how to fit the incoming fax on the page. You can also select the level of page reduction to fit on the paper in your machine.

*For the FAX 4750 and MFC 8600 only, if you purchased and attached the optional Cassette #2 you can select the paper size for each cassette.*

- 1 For the FAX, press **[Function]**, **[2]**, **[6]**.  
For the MFC, press **[Function]**, **[1]**, **[2]**, **[6]**.  

- 2 *If you have the optional Cassette #2 for your FAX 4750 or MFC 8600,* press **[←]** or **[→]** to select **CASSETTE #1** or **CASSETTE #2** and press **[Set]**.  

- 3 Press **[←]** or **[→]** to select **LETTER**, **LEGAL** or **A4** (for the cassette you selected in Step 2) and press **[Set]**.
- 4 Press **[1]** to change the reduction setting  
—OR—  
Press **[2]** to go to Step 6.  

- 5 Press **[←]** or **[→]** to select **AUTO**, **100%**, **93%**, **87%** or **75%** and press **[Set]**.
- 6 Press **[Stop]** to exit.

## Setting Cassette Usage (For FAX 4750 and MFC 8600 Only)

The default setting of AUTO allows your machine to choose Cassette #2 if paper is out in Cassette #1 or if incoming faxes will fit best on the paper in Cassette #2. Choose **CASSETTE#1 ONLY** or **CASSETTE#2 ONLY** if you want to keep special paper in the other cassette and control when it is used.

- 1 For the FAX, press **[Function]**, **[2]**, **[6]**.  
For the MFC, press **[Function]**, **[1]**, **[2]**, **[6]**.
- 2 Press **[←]** or **[→]** to select **CASSETTE USAGE** and press **[Set]**.
- 3 Press **[←]** or **[→]** to select **AUTO**, **CASSETTE#1 ONLY** or **CASSETTE#2 ONLY** and press **[Set]**.
- 4 Press **[Stop]** to exit.

## Setting the Print Density

You can adjust print density, making your printed documents darker or lighter.

- 1 For the FAX, press **Function**, **2**, **7**.  
For the MFC, press **Function**, **1**, **2**, **7**.
- 2 Press **←** or **→** to select **LIGHT** or **DARK**.
- 3 Press **Stop** to exit.

## Toner Save

You can conserve toner using this feature. When you set Toner Save to ON, print appears somewhat lighter. The default setting is OFF.

- 1 For the FAX, press **Function**, **2**, **9**.  
For the MFC, press **Function**, **1**, **2**, **9**.
- 2 Press **←** or **→** to turn ON (or OFF) and press **Set**.
- 3 Press **Stop** to exit.

# Advanced Receiving Operations

---

## Operation from External or Extension Telephones

If you answer a fax call on an extension phone (or on an external phone in the EXT. jack), you can make your machine take over by using the Fax Receive Code. When you press the Fax Receive Code **\* 5 1**, the machine starts to receive a fax. (See Setting Ring Delay, page 5-2 and Easy Receive, page 5-3.)

If the machine answers a voice call and double-rings for you to take over, use the Telephone Answer Code **# 5 1** to take the call at an extension phone.

If you answer a call, and no one is on the line, assume you're receiving a fax. At the machine's phone, press **Start**, then hang up. At an extension phone, press **\* 5 1**, wait for fax receiving tones (chirps), then hang up. At an external phone, press **\* 5 1** and wait for the phone to be disconnected (the screen displays RECEIVING) before you hang up. (Your caller will have to press **Start** to send the fax.)

## For FAX/TEL Mode Only

When the machine is in FAX/TEL mode, it will use the F/T Ring Time (double-ringing) to alert you to pick up a voice call. If you're at the machine, you can lift the handset to answer.

If you're at an extension phone, you'll need to lift the handset during the F/T Ring Time and press **# 5 1** between the double rings. If no one is on the line, or if someone wants to send you a fax, send the call back to the machine by pressing **\* 5 1**.

## Changing Remote Codes

Remote Codes might not work with some telephone systems. The preset Fax Receive Code is **\* 5 1**. The preset Telephone Answer Code is **# 5 1**.



If you are always disconnected when accessing your external TAD remotely, try changing the Fax Receive Code from **\* 5 1** to **# # #** and the Telephone Answer Code from **# 5 1** to **9 9 9**.

- 1 For the FAX, press **[Function]**, **[2]**, **[4]**.  
For the MFC, press **[Function]**, **[1]**, **[2]**, **[4]**.
- 2 Press **[←]** or **[→]** to select ON  
(or OFF) and press **[Set]**.
- 3 If you want to, enter a new  
Fax Receive Code, and press **[Set]**.
- 4 If you want to, enter a new  
Telephone Answer Code, and press **[Set]**.
- 5 Press **[Stop]** to exit.

```
REMOTE ACT.:ON?
SELECT ← → & SET
```

```
FAX RECEIVE:*51
ENTER & SET
```

```
TEL ANSWER:#51
ENTER & SET
```

## Printing a Fax in Memory

If you have Fax Storage ON for remote retrieval you can still print a fax in the memory when you are at your MFC. (See Setting Fax Storage, page 9-2.)

- 1 For the FAX, press **[Function]**, **[8]**, **[4]**.  
For the MFC, press **[Function]**, **[1]**, **[8]**, **[4]**.
- 2 Press **[Start]**.
- 3 After printing is finished, press **[Stop]** to exit.

## Polling

Polling is the process of retrieving faxes from another fax machine. You can use your machine to “poll” other machines, or you can have someone poll your machine.

All parties involved in polling need to set up their fax machines to accommodate polling. When someone polls your machine to receive a fax, they pay for the call; if you poll someone’s fax machine to receive a fax, you pay for the call.



Some fax machines do not respond to the polling function.

## Setting Up Polling Receive

Polling Receive is when you call another fax machine to receive a fax from it. (See Canceling a Scheduled Job, page 5-10.)

- 1 For the FAX, press **[Function]**, **[2]**, **[8]**.  
For the MFC, press **[Function]**, **[1]**, **[2]**, **[8]**.
- 2 Press **[←]** or **[→]** to choose ON (or OFF) and press **[Set]**.
- 3 Enter the fax number you are polling.
- 4 Press **[Start]**. The screen displays DIALING.

```
POLLING RX:OFF?  
SELECT ← → & SET
```

```
ENTER FAX NO.  
PRESS START KEY
```

## Setting Up Sequential Polling Receive

Your machine can request documents from several fax units in a single operation. Afterward, a Sequential Polling Report will be printed. (See Canceling a Scheduled Job, page 5-10.)

- 1 For the FAX, press **[Function]**, **[2]**, **[8]**.  
For the MFC, press **[Function]**, **[1]**, **[2]**, **[8]**.
- 2 Press **[←]** or **[→]** to select Polling ON (or OFF) and press **[Set]**.
- 3 Specify the destination fax machines you wish to poll, using One Touch, Speed Dial, a Group or the dial pad. You must press **[Help/Broadcast]** between each location.
- 4 Press **[Start]**.

```
POLLING RX:OFF?  
SELECT ← → & SET
```

```
ENTER FAX NO.  
PRESS START KEY
```

Your machine will poll each number or group member in turn for a document.

```
DIALING #XX
```



## Canceling a Scheduled Job

You can cancel tasks you've scheduled, such as Delayed Fax or Polling Transmit.

- 1 For the FAX, press **Function**, **4**.  
For the MFC, press **Function**, **1**, **4**.

4. REMAINING JOBS

Any waiting jobs will appear on the display. If no jobs are waiting, the screen displays NO JOB WAITING.

- 2 If you have more than two jobs waiting, use **←** or **→** to select the job you want to cancel and press **Set**.

—OR—

If you have only one job waiting, go to Step 3.

- 3 Press **1** to cancel—OR—Press **2** to exit without canceling.  
To cancel another job, return to Step 2.

- 4 Press **Stop** to exit.



You can check which jobs are waiting in memory by following Steps 1 and 2 above.

## Setting Multi-Function Link® Pro Mode (For MFC 8600 Only)

If you connect your machine to your PC, you can receive faxes into your PC. After completing all setup for Multi-Function Link® Pro mode, you can turn on Multi-Function Link® Pro to reroute incoming faxes to your PC.

- 1 For the FAX, press **Function**, **2**, **0**.  
For the MFC, press **Function**, **1**, **2**, **0**.

0. MF LINK

- 2 Press **←** or **→** to select ON (or OFF) and press **Set**.

- 3 Press **Stop** to exit.

## Distinctive Ringing

This machine feature lets you use the Distinctive Ringing subscriber service offered by some telephone companies, which allows you to have several telephone numbers on one phone line. Each phone number has its own Distinctive Ringing pattern, so you'll know which phone number is ringing. This is one way you can have a separate phone number for your machine.

Your machine has a Distinctive Ringing function, allowing you to dedicate one phone number just for receiving faxes. You'll need to follow the directions below to "register" the new Distinctive Ringing pattern, that was assigned by the Telephone Company, so your machine can recognize its incoming calls.



You can change or cancel the Distinctive Ringing pattern at any time. You can switch it off temporarily, then turn it back on. When you get a new fax number, be sure to you reset this function.





You can register only one Distinctive Ringing pattern with the machine. Some ringing patterns cannot be registered.

- The machine will answer only calls to its registered number.
- You will not hear the first two rings of all incoming calls on the machine.
- To have your TAD answer only the main number, the machine must be in Manual Mode.
- In FAX/TEL or FAX mode, the machine will answer all numbers on the phone line.

## Registering your Distinctive Ringing Pattern

If you are not sure which ring pattern you have, call your telephone company. Then assign that pattern in the steps below.

- 1 Set the machine to **MANUAL** mode.
- 2 For the FAX, press **[Function]**, **[0]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[0]**, **[1]**.  
The screen displays the current setting of this feature.
- 3 Press **[←]** or **[→]** to select the SET Mode.
- 4 Press **[Set]** when the screen displays DISTINCTIVE:SET?
- 5 Press **[←]** or **[→]** to select the prestored ring pattern you want to assign and press **[Set]**. (You will hear each pattern as you scroll through the four patterns. Be sure to choose the pattern assigned by the Telephone Company.)

Ring Pattern	Rings	
1	long - long	
2	short - long - short	
3	short - short - long	
4	very long (normal pattern)	

- 6 Press **[Stop]** to exit.

Once you've registered the Distinctive Ringing pattern in your machine, you can turn this feature on or off. To change the setting, follow steps 1 to 4 above, selecting ON (or OFF).

After you're sure you've set up Distinctive Ring properly and it is working, you can reconnect a TAD or have Voice Mail turned back on.

## Caller ID

The Caller ID feature of this machine lets you use the Caller ID subscriber service offered by many local phone companies. This service provides you, by means of the screen display, the name or telephone number of your caller as the line rings. (See Printing Caller ID List, page 5-14.)

After a few rings, the screen displays the telephone number of your caller (or name, if available). Once you pick up the handset, the Caller ID information disappears from the screen, but the call information remains stored in the Caller ID memory.

- You will see the first 16 characters of the number or name.
- OUT OF AREA display means call originates outside your Caller ID service area.
- PRIVATE CALL display means the caller has intentionally blocked transmission of information.
- CALL PICKUP display remains on the screen when no Caller ID information was transmitted.



If both the name and number are received, the screen displays only the name. You can print a list of Caller ID information received by your machine.

Caller ID service varies with different carriers. Call your local phone company to determine the kind of service available in your area.

### Viewing Caller ID List

Caller ID memory stores information for up to thirty calls; when the thirty-first call comes in, information about the first call is erased. You can scroll through Caller ID information to review those calls made to your machine.

- 1 For the FAX, press **[Function]**, **[0]**, **[2]**.  
For the MFC, press **[Function]**, **[1]**, **[0]**, **[2]**.
- 2 Press **[←]** or **[→]** to select DISPLAY #? and press **[Set]**.  
If the name was not received, it will not be displayed.
- 3 Press **[←]** or **[→]** to scroll through the Caller ID memory to select the Caller ID you want to view and press **[Set]**.  
The screen shows the caller's name and number and the date and time of the call.
- 4 Press **[←]** or **[→]** to return to the Caller ID listing—**OR**—Press **[Stop]** to exit.

## Printing Caller ID List


- 1 For the FAX, press **Function**, **0**, **2**.  
For the MFC, press **Function**, **1**, **0**, **2**.
- 2 Press **←** or **→** to select PRINT REPORT? and press **Set**.
- 3 Press **Start**.

## Clearing a Caller ID Stored in Memory

For effective use of the memory, it is recommended that you clear the Caller ID stored in memory by pressing **Clear** when the display shows the number or name.

## Call Waiting Caller ID

The Call Waiting Caller ID feature lets you use the Call Waiting Caller ID service offered by many local telephone companies. The feature displays the telephone number (or name, if available) of Call Waiting callers on your machine's screen.

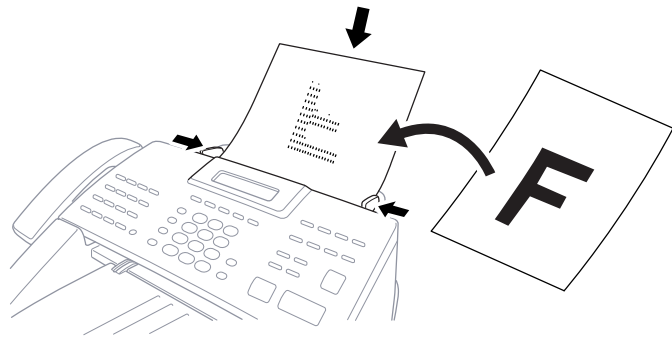
- 1 To answer a Call Waiting signal while you're talking on the phone, ask the other party if you can put them on Hold a minute to catch the other call. The screen displays the Caller ID.
  - 2 Press **Speed Dial** to switch to the second call.
  - 3 To switch back to the first call, press **Speed Dial** again.
-  Either caller can hang up at any time. However, if you hang up you will disconnect both callers.

# 6 Setup Send

## Before You Begin

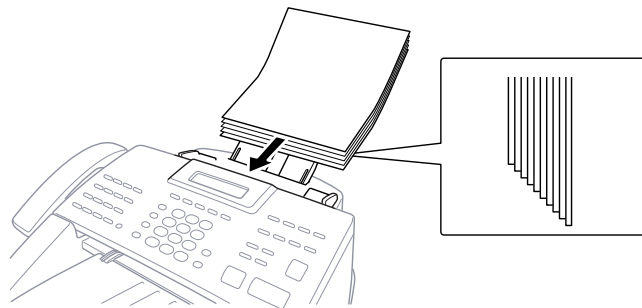
---

- Documents must be between 5.8 and 8.5 inches wide, and 3.9 and 14.1 inches long. Your machine can scan an image only 8.15 inches wide, regardless of how wide the paper is.
- Make sure you insert documents **face down, top edge first**.
- Adjust the paper guides to fit the width of your document.



- The **MFC 8300's** ADF (automatic document feeder) can hold up to 30 pages, feeding each one individually through the machine. Use standard (17 lb–24 lb) paper when using the ADF. If you're using heavier paper, feed each sheet individually to prevent paper jams.
- The **FAX 4750 and MFC 8600's** ADF can hold up to 50 pages if you stagger the pages and meet the following conditions:
  - Temperature: 68°F – 86°F (20°C – 30°C)
  - Humidity: 50% – 70%
  - Paper: Xerox 4200 (20LB/LTR),

Fan the paper, then stagger the pages in the document feeder as shown below:



- ⊘ **DO NOT** use curled, wrinkled, folded or ripped paper, or paper with staples, paper clips, paste or tape attached. **DO NOT** use cardboard, newspaper or fabric.
- Make sure documents written in ink are completely dry.
- Press **Resolution** (before you send the fax) to select the resolution for the document you're sending. (See Resolution, page 6-8.)



*If you send faxes from a computer on the same phone line and your Brother machine intercepts them, set Easy Receive to OFF.*

## Sending Faxes with Multiple Settings

When you send a fax you can choose any combination of the available settings: add a coverage and select a comment; set the contrast or resolution; send using overseas mode, call reservation or delayed fax timer, polling transmission or real time transmission. After each function is accepted, the display will ask if you want to enter other settings:

ACCEPTED

OTHER SETTINGS?  
1.YES 2.NO

Press **1** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—

Press **2** if you are finished choosing settings, and go to the next step.

## Manual Transmission

Manual transmission lets you hear the dial tone, ringing and fax receiving tones before sending the fax.

- 1 Insert the document face down in the feeder.
- 2 Pick up the handset and listen for a dial tone—**OR**—  
Press **Hook** and listen for a dial tone.
- 3 Enter the fax number you want to call (you can enter the digits using the dial pad, or you can enter a One Touch or Speed Dial number or you can call from the Tel-index).  
(See One Touch Dialing, page 8-1.)
- 4 When you hear the fax tone, press **Start**.
- 5 If you're using the handset, hang up.

## Automatic Transmission

This is the easiest way to send a fax. **IMPORTANT:** Do **not** pick up the handset, or press **Hook**.

- 1 Insert the document face down in the feeder.
- 2 Enter the fax number using One Touch, Speed Dial, Tel-index or the dial pad.  
(See Speed Dialing, page 8-2.)
- 3 Press **Start**.

## Manual and Automatic Fax Redial


*If you're sending a fax manually and the line is busy, after you disconnect the call press **Redial/Pause** to retry the number.*

*If you're sending a fax automatically and the line is busy, the machine will redial automatically, up to three times at 5 minute intervals.*

## Dual Access


You can scan *up to* 50 documents into the fax memory, even while the machine is receiving or sending another fax (from memory). You can set temporary settings for each fax you're scanning, except Timer and Polling.

If you try to scan in and store a 51st fax, the machine will send it immediately, without storing it in memory.

 If you get a MEMORY FULL message while scanning the first page of a fax, press **[Stop]** to cancel scanning. If you get a MEMORY FULL message while scanning in a subsequent page, you'll have the option to press **[Start]** to transmit the pages scanned so far, or to press **[Stop]** to cancel the operation.

- 1 Make sure the document feeder is empty.
- 2 Place the document in the feeder.
- 3 Enter the fax number.
- 4 Press **[Start]**. The machine starts scanning the document and the screen displays the job number (#XX) of the fax and how much memory is available. Then the machine starts dialing. You can immediately repeat steps 1 through 4 for the next fax.

 Your machine normally operates in Dual Access mode. However, you can override Dual Access by using Real Time Transmission.

 *The number of documents you can scan into memory varies with the data they contain.*

## Real Time Transmission

When Memory is full, the machine cannot continue to scan documents into memory before sending. However, you can turn on REAL TIME TX; place the documents in the feeder and enter the fax number. As soon as the phone line is free, the machine starts dialing and sending the fax.

- 1 Place the document in the feeder.
- 2 For the FAX, press **[Function]**, **[3]**, **[9]**.  
For the MFC, press **[Function]**, **[1]**, **[3]**, **[9]**.
- 3 To change the default setting, press **[←]** or **[→]** to select ON (or OFF) and press **[Set]**. Go to Step 5—**OR**—  
For the next fax transmission only, press **[←]** or **[→]** to select NEXT FAX ONLY and press **[Set]**.
- 4 For the next fax only, press **[←]** or **[→]** to select ON (or OFF) and press **[Set]**.

9. REAL TIME TX

REAL TIME: ON?  
SELECT ← → & SET



- 5 Press **[1]** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **[2]** if you are finished choosing settings and go to Step 6.
- 6 Enter fax number and press **[Start]**.

## Checking the Jobs Status

Check which jobs are still waiting in memory to be sent. (If no jobs are waiting, the screen displays NO JOB WAITING.) (See Canceling a Job in Memory on this page.)

- 1 For the FAX, press **[Function]**, **[4]**.  
For the MFC, press **[Function]**, **[1]**, **[4]**.
- 2 If you have multiple jobs waiting, use **[←]** or **[→]** to scroll through the list.
- 3 Press **[Stop]** to exit.

## Canceling Jobs in Memory

You can cancel tasks you've scheduled, such as Delayed Fax, Polling Receive, Polling Transmit or faxes in memory waiting to be sent. If no jobs are waiting, the screen displays NO JOB WAITING.

- 1 For the FAX, press **[Function]**, **[4]**.  
For the MFC, press **[Function]**, **[1]**, **[4]**.  
Any waiting jobs appear on the display.
- 2 If you have more than two jobs waiting, use **[←]** or **[→]** to select the job you want to cancel and press **[Set]**.  
—**OR**—  
If you have only one job waiting, go to step 3.
- 3 Press **[1]** to cancel—**OR**—Press **[2]** to exit without canceling.  
To cancel another job, return to step 2.
- 4 Press **[Stop]** to exit.

```
4.REMAINING JOBS
```

```
#02 SALES REPORT  
1.CLEAR 2.EXIT
```

# Basic Sending Operations

---

## Composing Electronic Cover Page

The cover page is generated at the receiving party's machine. Your cover page includes the name stored in the One Touch or Speed Dial memory. If you're dialing manually, the name is left blank. (See One Touch and Speed Dialing, pages 8-1, 8-2.)

The cover page indicates your Station ID, and the number of pages you're sending. If you have Coverpage Setup set to ON, the number of pages remains blank. (For the FAX, **Function** 3 1. For the MFC, **Function** 1 3 1.) (See Setting Station ID, page 4-2.)

You can select a comment to include on your cover page.

1. COMMENT OFF

2. PLEASE CALL

3. URGENT

4. CONFIDENTIAL

Instead of using one of the comments above, you can enter up to two customized messages, each 27 characters long. Use the chart on page 4-2 to help enter characters. (See Composing Your Own Comments, page 6-6.)

5. <USER DEFINED>

6. <USER DEFINED>

Most of the SETUP SEND functions are temporary settings that allow you to make adjustments for each document you send. However, so you can set up your cover page and cover page comments in advance, the Cover Page Setup and Cover Page Message functions change the default settings.

## Composing Your Own Comments

You can set up two custom comments.

- 1 For the FAX, press **[Function]**, **[3]**, **[2]**.  
For the MFC, press **[Function]**, **[1]**, **[3]**, **[2]**.
- 2 Use **[←]** or **[→]** to choose position 5 or 6 for your customized comment and press **[Set]**.
- 3 Use the dial pad to enter your customized comment and press **[Set]**.  
(See Entering Text, page 4-2.)
- 4 Press **[1]** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **[2]** to exit.

2. COVERPAGE MSG

ACCEPTED

OTHER SETTINGS?  
1. YES 2. NO

## Cover Page for Next Fax Only

Make sure the Station ID is set up. (See page 4-2.) This feature does not work without the Station ID.

You can set the fax to send a cover page with a particular document. This cover page will include the number of pages in your document.

- 1 Insert the document in the feeder.
- 2 For the FAX, press **[Function]**, **[3]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[3]**, **[1]**.
- 3 When the screen displays **NEXT FAX ONLY?**, press **[Set]**.
- 4 Press **[←]** or **[→]** to select **ON** (or **OFF**) and press **[Set]**.
- 5 Press **[←]** or **[→]** to select one of the standard or custom comments and press **[Set]**.
- 6 Enter two digits to indicate the number of pages you are sending and press **[Set]**.  
(Enter **[0]** **[0]** to leave the number of pages blank.) If you make a mistake, press **[←]** to back up and reenter the number of pages.
- 7 Press **[1]** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **[2]** if you are finished choosing settings, and go to step 8.
- 8 Enter the fax number you're calling.
- 9 Press **[Start]**.

## Always Send Cover Page

Make sure Station ID is set up. This feature does not work without the Station ID. (See Setting Station ID, page 4-2.)

You can set the machine to send a cover page whenever you send a fax. The number of pages in your fax is not included when you use this setting.

- 1 For FAX, press **[Function]**, **[3]**, **[1]**.  
For MFC, press **[Function]**, **[1]**, **[3]**, **[1]**.

- 2 Press **[←]** or **[→]** to select **COVERPAGE: ON?** and press **[Set]**.

```
COVERPAGE:OFF?  
SELECT ← → & SET
```

- 3 If you selected ON, press **[←]** or **[→]** to select one of the standard or custom comments and press **[Set]**.

```
COVERPAGE:ON?  
SELECT ← → & SET
```

- 4 Press **[1]** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **[2]** to exit if you are finished choosing settings.

## Using a Printed Cover Page

If you prefer using a printed cover page that you can write on, you can print the sample page and attach it to your fax.

- 1 For the FAX, press **[Function]**, **[3]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[3]**, **[1]**.
- 2 Press **[←]** or **[→]** to select **PRINT SAMPLE?** and press **[Set]**.
- 3 Press **[Start]**. Your machine prints a copy of your cover page.

```
==== COVER PAGE ====  
  
TO: _____  
  
FROM: _____  
FAX: _____  
TEL: _____  
  
PAGE[S] TO FOLLOW  
  
COMMENT:
```

## Contrast

If your document is very light or very dark, you might want to set the contrast. Use S.LIGHT to send a very light document. Use S.DARK to send a very dark document.

- 1 Insert the document, face down, in the feeder.
- 2 For the FAX, press **[Function]**, **[3]**, **[3]**.  
For the MFC, press **[Function]**, **[1]**, **[3]**, **[3]**.
- 3 Use **[←]** or **[→]** to select AUTO, S.LIGHT or S.DARK and press **[Set]**.
- 4 Press **[1]** if you want to select additional settings. The display returns to the SETUP SEND menu.—**OR**—Press **[2]** if you are finished choosing settings, and go to step 5.
- 5 Enter a fax number and press **[Start]** to send a fax.

## Resolution

When you have a document in the feeder, you can use the **[Resolution]** key to change the default setting. Press **[Resolution]** continuously until you see the lights change to the setting you want. For standard, turn Fine & S.Fine lights off. For Photo, turn them both on. (See Multiple Resolution Transmission, page 6-12.)

**Standard**—Suitable for most typed documents.

**Fine**—Good for small print; transmits a little slower than standard resolution.

**Super Fine**—Good for small print or artwork; transmits slower than fine resolution.

**Photo**—Use when document has varying shades of gray; slowest transmission time.

## Canceling a Job While Scanning the Document


You can cancel a job while you are scanning it into memory by pressing **[Stop]**. Eject the document by pressing **[Stop]** again.

# Advanced Sending Operations

---

## Overseas Mode





After you send a fax using this feature, the feature turns itself off.

- 1 Insert document.
- 2 For the FAX, press **Function**, **3**, **5**.  
For the MFC, press **Function**, **1**, **3**, **5**.  

- 3 Press **←** or **→** to select ON (or OFF) and press **Set**.
- 4 Press **1** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **2** if you are finished choosing settings and go to step 5.
- 5 Enter the fax number you're calling.
- 6 Press **Start**.

## Call Reservation

You can send a fax and let the other party know that you want to have a conversation after the fax transmission is complete. The other fax machine will ring as if it were receiving a telephone call; if the other party picks up the handset, your machine will ring. Lift the handset to speak.

If the other party does not answer the Call Reservation and the Call Back Message feature is set to ON, your machine leaves a message to call you.

- 1 Insert the document in the feeder.
- 2 For the FAX, press **Function**, **3**, **6**.  
For the MFC, press **Function**, **1**, **3**, **6**.  

- 3 Press **←** or **→** to select  
CALL RESERVE:ON? (or OFF) and press **Set**.  
  
The screen displays the current setting for Call Back Message.  

- 4 Press **←** or **→** to select ON (or OFF) and press **Set**.  

- 5 Press **1** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **2** if you are finished choosing settings, and go to step 6.
- 6 Enter the fax number.
- 7 Press **Start**.
- 8 If you've set Call Reservation to ON, pick up your handset if the machine rings.



- ⊘ You cannot use auto redial with Call Reservation. You cannot use Call Reservation with Delayed Transmission or with Polling. You must register your Station ID to set Call Back Message to ON.

## Print Sample Call Back Message

- 1 For the FAX, press **[Function]**, **[3]**, **[6]**.  
For the MFC, press **[Function]**, **[1]**, **[3]**, **[6]**.
- 2 Press **[←]** or **[→]** to select **PRINT SAMPLE?** and press **[Set]**.
- 3 Press **[Start]**.

## Delayed Fax

During the day you can store *up to* 50 documents into memory for delayed sending. Transmission of these documents will begin at the time of day you enter in Step 3. If you have set up in the Delayed Timer function, page 4-6, you can accept it in Step 3 or enter another time for this fax.


- 1 Insert the document in the feeder.
- 2 For the FAX, press **[Function]**, **[3]**, **[7]**.  
For the MFC, press **[Function]**, **[1]**, **[3]**, **[7]**.
- 3 Accept the displayed time or enter another time for this fax and press **[Set]**.
- 4 Press **[1]** to leave the originals waiting in the document feeder—**OR**—Press **[2]** to scan the document into memory.   
(See Interrupting Delayed Fax and Polling Transmit Jobs, page 6-13.)
- 5 Press **[1]** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **[2]** if you are finished choosing settings and go to step 5.  
The screen will prompt you to enter the fax number. 
- 6 Enter the fax number.
- 7 Press **[Start]**. The machine will wait to send the fax at the time you set up. (For the FAX, **[Function]**, **[1]**, **[6]**. For the MFC, **[Function]**, **[1]**, **[1]**, **[6]**.)

- 🔑 *The number of documents you can scan into memory varies with the data they contain.*

## Delayed Batch Transmission

Before sending the delayed faxes, your Brother machine will economize by sorting all the documents in memory by destination and scheduled time. All delayed faxes scheduled at the same time to the same fax number will be sent as one transmission.

- 1 For the FAX, press **[Function]**, **[3]**, **[0]**.  
For the MFC, press **[Function]**, **[1]**, **[3]**, **[0]**.
- 2 Press **[←]** or **[→]** to select ON (or OFF) and press **[Set]**.
- 3 Press **[Stop]** to exit.




BATCH TX:ON?

## Broadcasting

Broadcasting is automatically sending the same fax message to multiple fax numbers. Using the **[Help/Broadcast]** key, you can include Groups, One Touch locations, up to 100 Speed Dial locations, and up to 50 manually dialed numbers (maximum of 182 locations if you did not use up any locations for Groups, access codes or credit card numbers). However, available memory will vary with the types of jobs in memory and the number of locations used for broadcasting. If you broadcast to more than the maximum locations available, you will not be able to set up transmissions using dual access and the timer. (See Setting Up Groups for Broadcasting, page 7-3.)


Although the easiest way to broadcast is to press Group keys, you can include One Touch, Speed Dial, and manually, dialed numbers in the same broadcast. You must press **[Help/Broadcast]** between each of these locations. Use the Telephone Index to help you choose the numbers easily.

After the broadcast is completed, a Broadcast Report will be printed automatically to let you know the results.

- To stop the broadcasting in progress, press **[Stop]**. The LCD display asks if you want to cancel all locations or the location that is being sent.
-  Enter the long dialing sequence numbers as you normally would, but keep in mind that each key counts as one location, so the number of locations you can call become limited.
- If the line is busy or for some other reasons a connection could not be made while broadcasting, the machine will redial the number automatically.
  - If the memory is full, press **[Stop]** to abort the job or press **[Start]** to send the portion that is in the memory (if more than one page has been scanned).




- 1 Insert the document into the feeder.
- 2 Enter a number using One Touch, Speed Dial, Group number, Tel-index or the dial pad. Example: Group number
- 3 Press **Help/Broadcast**.
- 4 Enter the next number. Example: Speed Dial
- 5 Press **Help/Broadcast**.
- 6 Enter the next fax number.  
Example: Manual dialing, using the dial pad.
- 7 Press **Start**.

 Your machine will read the document into memory and then start sending faxes to all the numbers you entered.

## Multiple Resolution Transmission




Use this feature to select separate resolution settings for each page of the fax you're sending. This could be useful if you're sending a fax with photos and letters, or some pages with small print and others with normal print. Resolution settings return to STANDARD after the fax is sent. (See Resolution, page 6-8.)

- 1 Insert the document in the feeder.
- 2 For the FAX, press **Function**, **3**, **4**.  
For the MFC, press **Function**, **1**, **3**, **4**.
- 3 Use **←** or **→** to select resolution for page 1 and press **Set**.
- 4 Repeat Step 3 for subsequent pages.
- 5 Press **Stop** when you're finished.
- 6 Press **1** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **2** if you are finished choosing settings and go to Step 7.
- 7 Enter the fax number you're calling.
- 8 Press **Start**.

 If you want to copy a document using multiple resolutions, press **Copy** in step 7.


## Setting Up Polling Transmit

Polling Transmit is when you set up your machine to wait with a document so another fax machine can retrieve it. (See Interrupting Delayed Fax and Polling Transmit Jobs on this page.)

- 1 Place the document to be retrieved in the feeder.
  - 2 For the FAX, press **Function**, **3**, **8**.  
For the MFC, press **Function**, **1**, **3**, **8**.
  - 3 Press **←** or **→** to choose POLLED TX:ON? and press **Set**.  

  - 4 Press **1** to select DOC if you want your machine to scan the printed document at the time it is polled—**OR**—Press **2** to select MEMORY.  

  - 5 Press **1** if you want to select additional settings. The display returns to the SETUP SEND menu—**OR**—Press **2** if you are finished choosing settings and go to step 6.
  - 6 Press **Start**.
-  If you pressed **1** in Step 4, the printed document remains in the document feeder until your machine is polled. However, you can “interrupt” it to send another fax.

## Interrupting Delayed Fax and Polling Transmit Jobs

You can send a fax or make a copy now, even if you have the machine set to send a fax later or to be polled. However, you cannot use automatic redial or the Function mode. (See Delayed Fax, page 6-10 and Setting Up Polling Transmit on this page.)

- 1 For the FAX, press **Function**, **5**.  
For the MFC, press **Function**, **1**, **5**.
- 2 Wait 2 seconds, then remove the documents that are waiting in the feeder.
- 3 Place the “new” document you want to send now in the feeder.  

- 4 Enter the new fax number for the documents you want to send now.
- 5 Press **Start**.
- 6 After the transmission is finished, place the “old” documents back into the feeder.
- 7 To restore the Delayed Fax and/or Polling.  
For the FAX, press **Function**, **5**.  
For the MFC, press **Function**, **1**, **5**.



# 7 Setup Auto Dial Numbers

## Storing Numbers for Easy Dialing

---

You can set up your machine to do three types of easy dialing: One Touch, Speed Dial, and Groups for Broadcasting of faxes.

### Storing One Touch Dial Numbers

You can store 32 fax/phone numbers that you can dial by pressing one key (and **[Start]**). To access numbers 17 to 32, hold down **[Shift]**. You also can store names with these numbers. When you press a One Touch dial location, the screen displays the name or number as the call is dialed. (See One Touch Dialing, page 8-1.)

*One Touch keys are not the dial pad keys. They are the 16 keys (numbers 01–32) located to the left of the dial pad.*

- 1 For the FAX, press **[Function]**, **[6]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[6]**, **[1]**.
- 2 Press the One Touch key where you want to store a number.  
(One Touch key **[01]** has been pre-programmed for the Brother Fax-Back System (USA only). You can override it if you wish.) The screen displays the location you selected.
- 3 Enter a number (up to 20 digits) and press **[Set]**.  
(See Changing One Touch and Speed Dial Numbers, page 7-4.)


If you want to enter a pause in the dialing sequence (for example, to access an outside line), press **[Redial/Pause]** as you're entering digits.


NAME:

Pressing **[Redial/Pause]** enters a 3.5 second pause when the number is dialed, and a dash appears on the screen.

- 4 Use the dial pad to enter the name (up to 15 characters) and press **[Set]**. You can use the chart on page 4-2 to help you enter letters—**OR**—Press **[Set]** to store the number without a name.
- 5 **[←]** or **[→]** to select the type you want and press **[Set]**.  

<b>FAX</b>	a fax only number
<b>TEL</b>	a telephone (voice) number
<b>FAX/TEL</b>	both fax and telephone (voice) number
- 6 Return to Step 2 to store another One-Touch number—**OR**—Press **[Stop]** to exit.

 If you need to store a pause longer than 3.5 seconds, press **[Redial/Pause]** two or more times.

 Even if you lose electrical power, numbers stored in memory will *not* be lost.

## Storing Speed Dial Numbers

You can store Speed Dial numbers, so you can dial by pressing only three keys (and **[Start]**). There are 100 Speed Dial locations. Even if you lose electrical power, numbers stored in memory will not be lost. (See Speed Dialing, page 8-2.)

**1** For the FAX, press **[Function]**, **[6]**, **[2]**.

For the MFC, press **[Function]**, **[1]**, **[6]**, **[2]**.

**2** Use the dial pad to enter a two-digit location (00–99) and press **[Set]**.

```
SPEED-DIAL? #
ENTER & SET
```

**3** Enter the number (up to 20 digits) and press **[Set]**.

```
#05:
ENTER & SET
```

**4** Use the dial pad to enter the name (up to 15 characters) and press **[Set]**.  
You can use the chart on page 4-2 to help you enter letters—**OR**—Press **[Set]** to store the number without a name.

```
NAME:
```

**5** **[Left Arrow]** or **[Right Arrow]** to select the type of number


**FAX** a fax number

**TEL** a telephone (voice) number

**FAX/TEL** both fax and telephone number


and press **[Set]**.

**6** Return to Step 2 to store another Speed Dial number—**OR**—Press **[Stop]** to exit.

 Even if you lose electrical power, numbers stored in memory will *not* be lost.

## Setting Up Groups for Broadcasting

Groups allow you to send the same fax message to many fax numbers by pressing only one One Touch Group key (and **Start**). **First**, you'll need to store each fax number as a One Touch or Speed Dial number. **Then**, you can combine them into a Group. *Each Group uses up a One Touch key.* Finally, you can have up to six small Groups, or you can assign up to 131 numbers to one large Group.

 You can include *up to 31* One Touch keys, and *up to 100* Speed Dial numbers. If you broadcast to more than the maximum locations available, you will be unable to set up transmissions using Dual Access and the Timer.

(See Storing One Touch Dial Numbers, page 7-1 and Storing Speed Dial Numbers, page 7-2.)

- 1 For the FAX, press **Function**, **6**, **3**.  
For the MFC, press **Function**, **1**, **6**, **3**.

- 2 Select a One Touch key where you wish to store the Group number. (For example, press One Touch key **02** for Group 1.)

SELECT ONE-TOUCH

- 3 Use the dial pad to enter the Group number and press **Set**. (For example, press **1** for Group 1.)

SETUP GROUP:GO  
ENTER & SET

- 4 To include One Touch or Speed Dial numbers in the Group, enter them as if you were dialing. For example, for One Touch key **05**, press One Touch key **05**. For Speed Dial location 09, press **Speed Dial**, then press **0**, **9** on the dial pad. The display shows **\*05, #09**.

G01:\*05#09\_


- 5 When you're finished adding numbers, press **Set**.

- 6 Use the dial pad and the chart on page 4-2 to enter a name for the group and press **Set**. (For example, NEW CLIENTS)

NAME:  
ENTER & SET

- 7 Press **Stop** to exit.

 You can print a list of all One Touch and Speed Dial numbers. (See Chapter 10, Printing Reports.)

 If you lose electrical power, numbers stored in memory will *not* be lost.

 (See Broadcasting, page 6-11.)

## Changing One Touch and Speed Dial Numbers

If you try to store a One Touch or Speed Dial number in a location where a number is already stored, the screen displays the current name stored there, then prompts you to either

1.CHANGE 2.EXIT

- 1 Press  to change the number, or press  to exit without changing it.
- 2 Enter a new number and press .
  - If you want to erase the number, press  when the cursor is to the left of the digits.
  - If you want to change a digit, use  or  to position the cursor under the digit you want to change, then type over it.
- 3 Follow the directions from Step 4 for Storing One Touch Numbers or Storing Speed Dial Numbers.

# 8

# Telephone Operations

## Dialing Options

---

You can send faxes or make telephone calls by dialing manually or by using Tel-index, One Touch or Speed Dial memory.

### Manual Dialing

Manual dialing is simply pressing all of the digits of the phone number.

- 1 Pick up the handset—**OR**—Press **[Hook]**.
- 2 When you hear a dial tone, dial the call using the dial pad.
- 3 If you pressed **[Hook]** to dial the call, pick up the handset when the other party answers. (The speaker works only one way; the other party won't be able to hear you unless you pick up the handset.)
- 4 To hang up, replace the handset.

### One Touch Dialing

- 1 Pick up the handset—**OR**—Press **[Hook]**.
- 2 When you hear a dial tone, press the One Touch key of the location you want to call. (See Storing One Touch Dial Numbers, page 7-1.)
- 3 If you pressed **[Hook]** to dial the call, pick up the handset when the other party answers. (The speaker works only one way; the other party won't be able to hear you unless you pickup the handset.)
- 4 To hang up, replace the handset.




If you try to use a One Touch location with no number stored in it, you'll hear a warning sound, and screen will display NOT REGISTERED. The display will return to normal after 2 seconds.

If you are sending a fax, press **[Start]** after pressing the One Touch key. If you picked up the handset, press **[Start]** when the receiving fax machine answers with fax tones.



## Speed Dialing


- 1 Pick up the handset—**OR**—Press **[Hook]**.  
(See Storing Speed Dial Numbers, page 7-2.)
  - 2 When you hear a dial tone, press **[Speed Dial]**, then press the two-digit Speed Dial number.
  - 3 If you pressed **[Hook]** to dial the call, pick up the handset when the other party answers. (The speaker works only one way; the other party won't be able to hear you unless you pick up the handset.)
  - 4 To hang up, replace the handset.
-  If you are sending a fax, press **[Start]** after pressing the Speed Dial number. If you picked up the handset, press **[Start]** when the receiving fax machine answers with fax tones.

## Dialing Access Codes and Credit Card Numbers

Sometimes you may want to choose from among several long distance carriers when you make a call. Rates may vary depending upon the time and destination. To take advantage of low rates, you can store the access codes or long-distance carriers as One Touch and Speed Dial numbers. You can store these long dialing sequences by dividing them and setting them up separately in any combination. You can even include manual dialing using the dial pad. The combined number will be dialed in the order you entered it, as soon as you press **[Start]**. (See Storing One Touch Dial Numbers, page 7-1.)

For example:

You store “555” on One Touch key **[03]** and “7000” on One Touch key **[02]**. If you press One Touch **[03]**, **[02]** and **[Start]** you can dial “555-7000”. To temporarily change a number, you can substitute part of the number with manual dialing using the dial pad. For example, to change the number to 555-7001 you could press One Touch **[03]** and press **[7]**, **[0]**, **[0]**, **[1]** using the dialing pad.

-  Pause after dialing Speed Dial numbers for the name to be displayed before you enter the next portion of the dialing sequence.

## Hold

- 1 Press **[Hold]** to put a call on Hold.
- 2 You can replace the handset without disconnecting the call.
- 3 Pick up the machine's handset to release the call from Hold. Picking up an extension handset will not release the call from Hold.

## Pause

Press **[Redial/Pause]** to insert a 3.5 second pause between numbers. If you are dialing overseas, you can press **[Redial/Pause]** as many times as needed to increase the length of the pause.

## Fax Redial

*If you're sending a fax manually and the line is busy, press **[Redial/Pause]** to retry the number.*

*If you're sending a fax automatically and the line is busy, the machine will redial automatically up to three times at 5 minute intervals.*

## Tone/Pulse

If you have pulse dialing service, but need to send tone signals (for telephone banking, for example), follow the directions below. If you have touch tone service, you do not need this feature to send tone signals.

- 1 Lift the handset.
- 2 Press **[#]**. Digits dialed after **[#]** will send tone signals.
- 3 When you hang up, the machine returns to pulse dialing service.

## Searching Telephone Index

You can search for names you have stored in One Touch and Speed Dial memories. Names are stored alphabetically. (See Storing One Touch Dial Numbers, page 7-1 and Storing Speed Dial Numbers, page 7- 2.)

- 1 Press **[Tel-index]**, then enter the first letter of the name you're looking for.
- 2 Press **[←]** or **[→]** to search the memory.
- 3 When the screen displays the name you want to call, pick up the handset or press **[Hook]**.
- 4 Press **[Start]** to begin dialing.
- 5 If you pressed **[Hook]** to dial the call, pick up the handset when the other party answers. (The speaker works only one way; the other party won't be able to hear you unless you pickup the handset.)
- 6 When the call is over, hang up.



# 9 Remote Fax Options

## Fax Forwarding/Paging

---



You cannot use Paging and Fax Forwarding at the same time.

You cannot use Paging and Fax Forwarding when “Fax Storage” is set to OFF.

### Programming a Fax Forwarding Number

When Fax Forwarding is set to ON, your machine stores the received fax in memory, then dials the fax number you’ve programmed, and forwards the fax message.

- 1 For the FAX, press **[Function]**, **[8]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[8]**, **[1]**.
- 2 Press **[←]** or **[→]** until the screen displays and press **[Set]**.
- 3 Enter the forwarding number (up to 20 digits) and press **[Set]**.
- 4 Press **[Stop]** to exit.

```
FAX FORWARD?  
SELECT ← → & SET
```

```
FWD#:  
ENTER & SET
```

## Programming Paging Number

When Paging is selected, your machine dials the pager number you've programmed, and dials your Personal Identification Number (PIN) when connected, to activate your pager and let you know you have a fax message in the memory.

- 1 For the FAX, press **[Function]**, **[8]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[8]**, **[1]**.

- 2 Press **[←]** or **[→]** until the screen displays and press **[Set]**.

```
PAGING?  
SELECT ← → & SET
```

- 3 Enter your pager phone number (up to 20 digits) followed by **##** and press **[Set]**.

```
PAG#:  
ENTER & SET
```

Do not include the area code if it is the same as that of your machine.

For example, **[1][8][0][0][5][5][5][1][2][3][4][#][#]**.

- 4 If your pager requires a PIN, enter the PIN, press **##**, press **[Redial/Pause]**, enter your fax number, then press **##** and press **[Set]**.

For example, **[1][2][3][4][5][#][Redial/Pause][1][8][0][0][5][2][1][2][8][4][6][#][#]**.

—OR—If you do not need a PIN, press **[Redial/Pause]**, enter the fax number, then press **##** and press **[Set]**.

For example, **[Redial/Pause][1][8][0][0][5][2][1][2][8][4][6][#][#]**.

- 5 Press **[Stop]** to exit.



You cannot change a Paging number or PIN remotely.

## Setting Fax Storage

---

If you set Fax Storage to ON, you will be able to retrieve fax messages from another location, using Fax Forwarding, Paging, or Remote Retrieval functions. The screen will indicate when you have a fax stored in memory. (See Remote Retrieval, page 9-3.)

- 1 For the FAX, press **[Function]**, **[8]**, **[2]**.  
For the MFC, press **[Function]**, **[1]**, **[8]**, **[2]**.

- 2 Press **[←]** or **[→]** to select ON (or OFF) and press **[Set]**.

```
FAX STORAGE:OFF?  
SELECT ← → & SET
```

- 3 Press **[Stop]** to exit.



If there are faxes in memory when you turn Fax Storage to OFF, the screen prompts you to erase any faxes in memory.

If you press **[1]**, all fax data is erased and Fax Storage is turned off. If you press **[2]**, data is not erased, and Fax Storage remains on.

```
ERASE ALL FAX?  
1.YES 2.NO
```

## Changing Remote Retrieval Access Code

---

Enter your Remote Retrieval Access Code when the machine picks up your call, so you can access features remotely. The access code is preset to 1 5 9 \*, but you can change this. The \* cannot be changed.


- 1 For the FAX, press **[Function]**, **[8]**, **[3]**.  
For the MFC, press **[Function]**, **[1]**, **[8]**, **[3]**.
- 2 Enter a three-digit number from 000 to 999 and press **[Set]**.  
(Do not use the same digits that appear in your Fax Receive Code or Telephone Answer Code.)
- 3 Press **[Stop]** to exit.

## Remote Retrieval

---

You can call your machine from any fax machine using touch tone and use a Remote Retrieval Access Code and other button presses to retrieve fax messages. Cut out the Remote Retrieval Access Card on the last page and keep it in your wallet as an aid.

### Using Remote Retrieval Access Code

- 1 Dial your fax number from a fax machine using touch tone.  
(See Changing Remote Retrieval Access Code on this page.)
  - 2 When your machine answers and beeps, immediately enter your Remote Retrieval Access Code (1 5 9 \*).
  - 3 Your machine signals the kinds of messages received:
    - 1 long beep — Fax message(s)**
    - No long beeps — No messages**
  - 4 Your machine then prompts you with two short beeps to enter a command. If you wait longer than 30 seconds to enter a command, your machine hangs up. If you enter an invalid command, your machine beeps three times.
  - 5 Press **[9]** **[0]** to reset your machine when you're finished.
  - 6 Hang up.
-  If your machine is set to Manual mode, you can access your machine by waiting about 2 minutes, then entering the Remote Retrieval Access Code within 30 seconds.


## Remote Commands

Follow the commands below to access features remotely. When you call your machine and enter your Remote Retrieval Access Code (1 5 9 ✳), the system will signal you with two short beeps to enter a remote command.

Remote Commands	Operation Details												
<b>95 Changing Fax Forwarding/ Paging setting</b> <table border="1"> <tr> <td>1</td> <td>OFF</td> </tr> <tr> <td>2</td> <td>Fax Forwarding</td> </tr> <tr> <td>3</td> <td>Paging</td> </tr> <tr> <td>4</td> <td>FAX FWD No.</td> </tr> <tr> <td>6</td> <td>Fax Storage ON</td> </tr> <tr> <td>7</td> <td>Fax Storage OFF</td> </tr> </table>	1	OFF	2	Fax Forwarding	3	Paging	4	FAX FWD No.	6	Fax Storage ON	7	Fax Storage OFF	<p>If you hear one long beep, the change is accepted. If you hear three short beeps, you cannot change it because the conditions have not been met. (Example: registering paging number). You can register your fax forwarding number by using 4. FAX FWD NO (see page 9-6). Once you have registered the number, your machine will change automatically to FAX FWD:ON mode. Then retrieve a Memory Status List by entering 961 (see page 9-6) to make sure that the Fax Forwarding number you registered is correct on the List.</p> <p>You can set FAX STORAGE to ON or OFF.</p>
1	OFF												
2	Fax Forwarding												
3	Paging												
4	FAX FWD No.												
6	Fax Storage ON												
7	Fax Storage OFF												
<b>96 Retrieve a fax</b> <table border="1"> <tr> <td>1</td> <td>Memory Status List</td> </tr> <tr> <td>2</td> <td>Retrieve all faxes</td> </tr> <tr> <td>3</td> <td>Erase fax from the memory</td> </tr> </table>	1	Memory Status List	2	Retrieve all faxes	3	Erase fax from the memory	<p>Enter the number of a remote fax machine to receive the Memory Status List or stored fax message(s). (See page 9-5.)</p> <p>If you hear one long beep, you can erase fax message(s) from the memory.</p>						
1	Memory Status List												
2	Retrieve all faxes												
3	Erase fax from the memory												
<b>97 Check the receiving status</b> <table border="1"> <tr> <td>1</td> <td>Fax</td> </tr> </table>	1	Fax	<p>You can check whether your machine has received any fax message(s). If yes, you will hear one long beep. If no, you will hear three short beeps.</p>										
1	Fax												
<b>98 Change Answer Mode</b> <table border="1"> <tr> <td>1</td> <td>TAD</td> </tr> <tr> <td>2</td> <td>FAX/TEL</td> </tr> <tr> <td>3</td> <td>FAX</td> </tr> </table>	1	TAD	2	FAX/TEL	3	FAX	<p>If you hear one long beep, you can change the Answer Mode. If you hear three short beeps, you cannot change it.</p>						
1	TAD												
2	FAX/TEL												
3	FAX												
<b>90 Exit</b>	<p>After a long beep, you can exit remote retrieval.</p>												


## Retrieving Memory Status List

You can retrieve the Memory Status List from a remote fax machine to see if you have any fax messages.

- 1 Dial your fax number.
  - 2 When you hear the beep, immediately enter your Remote Retrieval Access Code (1 5 9 \*).
  - 3 When you hear two short beeps, use the dial pad to press 9 6 1.
  - 4 Using the dial pad, enter the number of the remote fax machine (up to 20 digits) where you want the Memory Status List forwarded, and then press # #.
-  You cannot use \* and # as dial numbers. However, if you want to store a pause, press #.
- 5 After you hear your machine beep, hang up and wait.

Your machine calls the remote fax machine. The remote fax machine prints the Memory Status List.

## Retrieving Fax Messages


- 1 Dial your fax number.
  - 2 When you hear the beep, immediately enter your Remote Retrieval Access Code (1 5 9 \*).
  - 3 As soon as you hear two short beeps, use the dial pad to press 9 6 2.
  - 4 Using the dial pad, enter the number (up to 20 digits) of the remote fax machine where you want your fax messages forwarded, and then press # #.
-  You cannot use \* and # as dial numbers. However, if you want to store a pause, press #.
- 5 After you hear your machine beep, hang up and wait.

Your machine calls the remote fax machine. The remote fax machine prints your fax messages.



## Changing Fax Forwarding Number Remotely

You can change the default setting of your fax forwarding number from a remote fax machine.

- 1** Dial your fax number.
- 2** When you hear the beep, immediately enter your Remote Retrieval Access Code (1 5 9 \*).
- 3** When you hear two short beeps, enter 9 5 4.
- 4** Enter the new telephone number of the remote fax machine (up to 20 digits) where you want your fax messages forwarded, and then press ##.
-  You cannot use \* and # as dial numbers. However, if you want to store a pause, press #.
- 5** To retrieve the Memory Status List, when you hear two short beeps, use the dial pad to press 9 6 1.
- 6** Use the dial pad to enter the number of the remote fax machine (up to 20 digits), and then press ##.
- 7** After you hear your machine beep, hang up and wait.  
Your machine calls the remote fax machine. The remote fax machine prints the Memory Status List showing the new forwarding number.
- 8** Check the forwarding number.  
If the forwarding number is incorrect, return to Step 1 and reset it.

# 10 Printing Reports

## MFC Settings and Activity

---

You can print the following lists and reports:

1. XMIT REPORT

Choose if you would like a Transmission Verification Report printed after every fax you send.

2. ACT. REPORT

Activity Report lists information about the last 50 incoming and outgoing faxes. TX means Transmit; RX means Receive.

3. ALL DIAL

Lists names and numbers stored in One Touch and Speed Dial memory, in numerical order.

4. TEL. INDEX

ALL DIAL list (above), alphabetically.


5. USER SETTINGS

Lists settings for INITIAL SETUP, SETUP RECEIVE, SETUP SEND, TEL SERVICE, PRINT REPORTS and REMOTE FAX OPT.

6. MEMORY STATUS

Lists summary information and amount of occupied memory.

### To Print a Report

- 1 For the FAX, press **[Function]**, **[7]**.  
For the MFC, press **[Function]**, **[1]**, **[7]**.
- 2 Enter the number of the report you want to print.  
For example, press **[4]** to print the TEL. INDEX.
-  For the Activity Report, also press **[←]** or **[→]** to select PRINT REPORT? and press **[Set]**.
- 3 Press **[Start]**.
- 4 Press **[Stop]** to exit.

## Transmission Verification (Xmit) Report

You can use the Xmit Report as proof that you sent a fax. This report lists the time and date of transmission, and whether the transmission was successful.




When the feature is OFF, the report is printed automatically only if an error occurred during transmission. If the report indicates NG, send the document again. If the report indicates you should check the readability of certain pages, resend those pages.

If you typically send multiple faxes to the same destinations, you may need a reminder to identify each fax transmission. You can select OFF+IMAGE or ON+IMAGE to print a portion of the first page of the fax message on the report.

- 1 For the FAX, press **[Function]**, **[7]**, **[1]**.  
For the MFC, press **[Function]**, **[1]**, **[7]**, **[1]**.
- 2 Press **[←]** or **[→]** to select OFF, OFF+IMAGE, ON or ON+IMAGE and press **[Set]**.
- 3 Press **[Stop]** to exit.

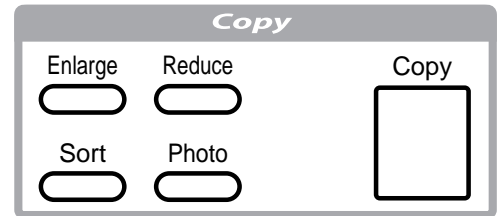
## Activity Report Interval

You can set the machine to print activity reports at specific intervals (6, 12, 24 hours, 2, 4 or 7 days). If you set the interval to OFF, you can print the report by following the steps in the previous section.

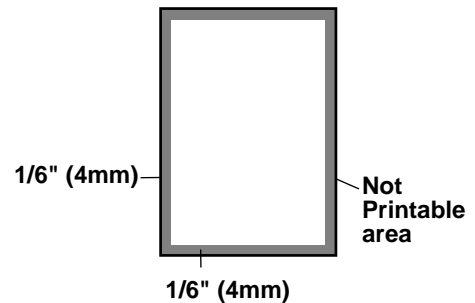
- 1 For the FAX, press **[Function]**, **[7]**, **[2]**.  
For the MFC, press **[Function]**, **[1]**, **[7]**, **[2]**.
- 2 Press **[←]** or **[→]** to display INTERVAL? and press **[Set]**.  

- 3 Press **[←]** or **[→]** to choose your setting and press **[Set]**.  
(If you choose 7 days, the screen prompts you to choose a day at which to begin the 7-day countdown.)
- 4 Enter the time to begin printing, in 24-hour format and press **[Set]**.  
(For example: enter 19:45 for 7:45 PM.)
- 5 Press **[Stop]** to exit.

## Using Your Machine as a Copier

You can use your machine as a copy machine, making up to 99 copies at a time. The machine can stack the copies or collate (sort) them.



The printable area of your machine begins at approximately one-sixth inch (4mm) from the edge of the paper.



### Copy Contrast (Temporary Setting)

If a document is in the feeder, you can adjust copy contrast, to make copies darker or lighter.

- 1 For the FAX, press **[Function]**, **[0]**, **[3]**.  
For the MFC, press **[Function]**, **[1]**, **[0]**, **[3]**.
- 2 Press **[←]** to make a copy lighter, or **[→]** to make a copy darker and press **[Set]**.
- 3 Press **[Stop]** to exit.
- 4 Press **[Copy]**.

3. COPY CONTRAST

### Making a Single Copy

The default resolution for a single copy is Standard, which you can use for documents containing both text and photographs. You can also select S. Fine and Photo, as needed.

- 1 Insert document face down in the feeder.
- 2 Press **[Copy]**, then wait five seconds—**OR**—Press **[Copy]** again.  
Do **NOT** pull on the paper while copying is in progress.

## Making Multiple Copies

There are two ways to make multiple copies on your machine. You can choose whether the copies will be STACKED (all copies of page 1, then all copies of page 2, etc.), or SORTED (collated). The default resolution for multiple copies is Standard.

## Stacking Multiple Copies

- 1 Insert document face-down in the feeder.
- 2 Press **Copy**.
- 3 Use the dial pad to enter the number of copies you want (up to 99).
- 4 Wait five seconds—**OR**—Press **Copy** again.

## Sorting Multiple Copies

Sorting uses more memory than stacking. (See If You Get a Memory Full Message on this page.)

- 1 Insert document face-down in the feeder.
- 2 Press **Sort**.
- 3 Use the dial pad to enter the number of copies you want (up to 99).
- 4 Wait five seconds—**OR**—Press **Copy**.

## If You Get a Memory Full Message

If the memory becomes full while your scanning a document to be copied the screen displays



```
MEMORY FULL P.01
PRESS STOP KEY
```

If you selected **Sort** or STACK after pressing **Copy** and get a MEMORY FULL message while you are scanning the first page, press **Stop** to cancel the job and make a single copy. If you selected **Sort** and the MEMORY FULL message appears while scanning subsequent pages, press **Copy** to copy the portion that is in memory—**OR**—press **Stop** to cancel. To restart the copy job using less memory, select STACKED copies.

## Reducing and Enlarging Copies

AUTO sets the machine to calculate automatically the reduction ratio that fits the size of your paper. MANUAL allows you to enter a ratio from 50% to 200% in 1% increments.

- 1 Insert document face-down in the feeder.
- 2 Press **Enlarge** or **Reduce**.
- 3 Press **←** or **→** to select AUTO, 200%, 150%, 125%, 120%, 100%, 93%, 87%, 75%, 50% or MANUAL. (Enlargement *or* reduction ratios appear).
- 4 Press **Copy**.
- 5 Use the dial pad to enter the number of copies you want (up to 99).
- 6 Wait five seconds—**OR**—Press **Copy** again.

## Copying a Photograph

You can copy a photograph by pressing **Photo**, without pressing **Resolution**.

- 1 Insert the photo(s) face-down in the feeder.
- 2 Press **Photo**.
- 3 Use the dial pad to enter the number of copies you want (up to 99).
- 4 Wait five seconds—**OR**—Press **Copy** again.







# ***Before You Install Brother Printer Driver***



## **If You Don't Have a CD-ROM Drive**

All software is supplied on CD-ROM. If you need a Floppy Disk version for the MFC 8300's Printer Driver (DSK8331 for Windows® 3.1x or DSK8395 for Windows® 95/98), call Brother at

**USA:** 1-888-879-3232

**From within Canada:** 1-800-668-2768

**From within Montreal:** 1-514-685-6464

To order the appropriate set of disks, you must tell the Brother Representative the version of Windows® you are using and your Brother model number.

## **Computer Requirements**

The following are the minimum computer requirements you need to set up and operate the MFC as a printer. Use only a shielded interface cable that is IEEE-1284 compliant, and that is less than 6 feet (1.8 meters) long, or USB cable.

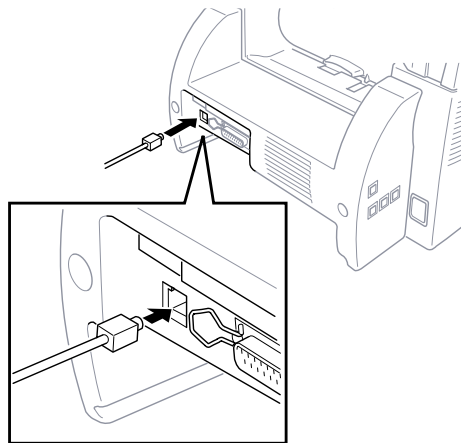
CPU	80486/66MHz or higher (Windows® 3.1x or 95)  Pentium 75 or Higher (Windows® 98 or Windows NT® Workstation Version 4.0)
RAM	8MB or greater for Windows® 3.1x 8MB or greater for Windows® 95 (16MB recommended)  16MB or greater for Windows® 98 or Windows NT® Workstation Version 4.0 (32MB recommended)
Hard Disk Drive	10MB Available Disk Space
Operating System	Windows® 3.1x, 95/98 or NT® Workstation Version 4.0, DOS environment compatible with your Windows® version

# Connecting Brother Machine to PC With a USB Cable

(For Using Windows® 98 Only)

ⓘ A USB cable is not included with your MFC 8300. Before you can set up the USB interface, please purchase a standard USB cable. Or, to set up the parallel interface instead, please see “Connecting Brother Machine to PC with Bundled Parallel Cable” on page 12-9.

- ➊ After you have set up the MFC and checked that it is working properly, make sure the MFC is turned on and the PC is turned off.
- ➋ Connect the USB cable to both the MFC and PC.



- ➌ Turn on your PC. The Add New Hardware Wizard appears. Click **Next**.



- 4 Select [Recommended] and click **Next**.

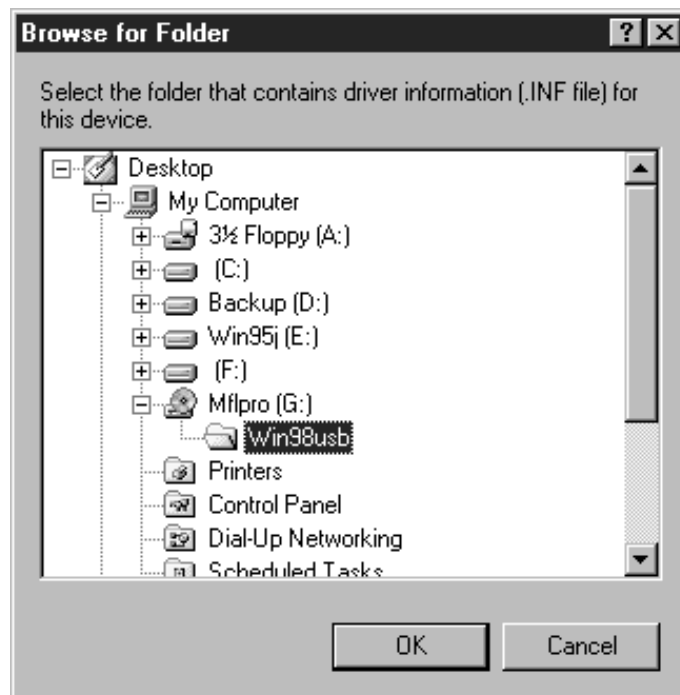


## Installing Brother Printer Driver Using USB Cable

- 1 Insert the Printer driver CD-ROM.
- 2 Select **Specify a location** and remove the other check marks, then click **Browse** to locate the file.



- 3 Double-click on the **CD** icon and click on the **Win98usb** folder, then click **OK**.



4 Click **Next**.



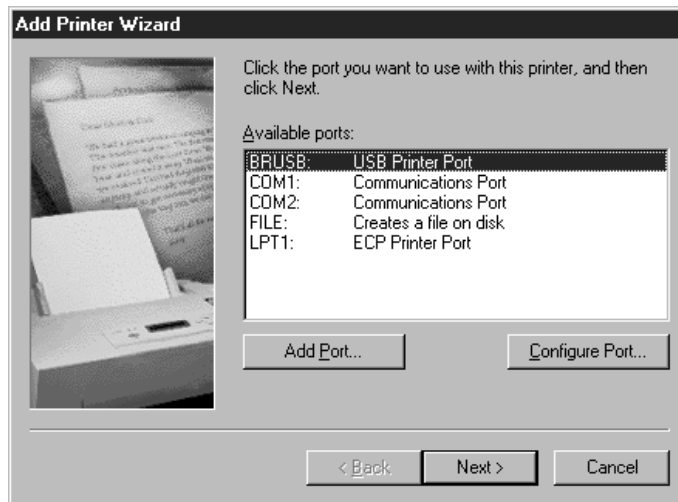
5 Select [Recommended] and click **Next**.



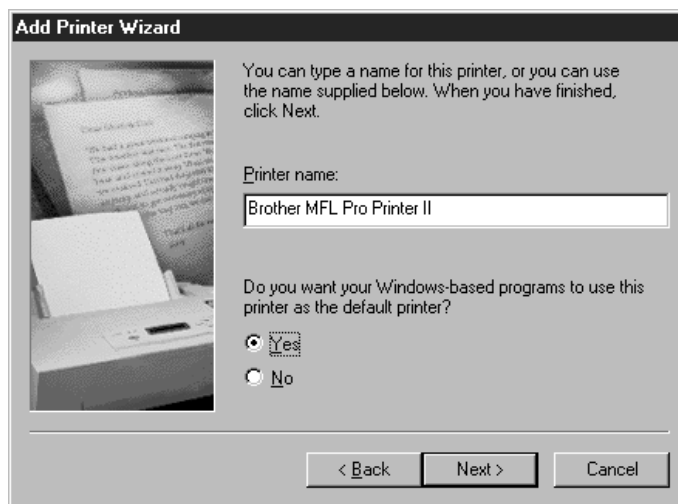
6 Confirm the choice is **Brother MFL Pro Printer II** and click **Next**.



- 7 Select **BRUSB: USB Printer Port** and click **Next**.



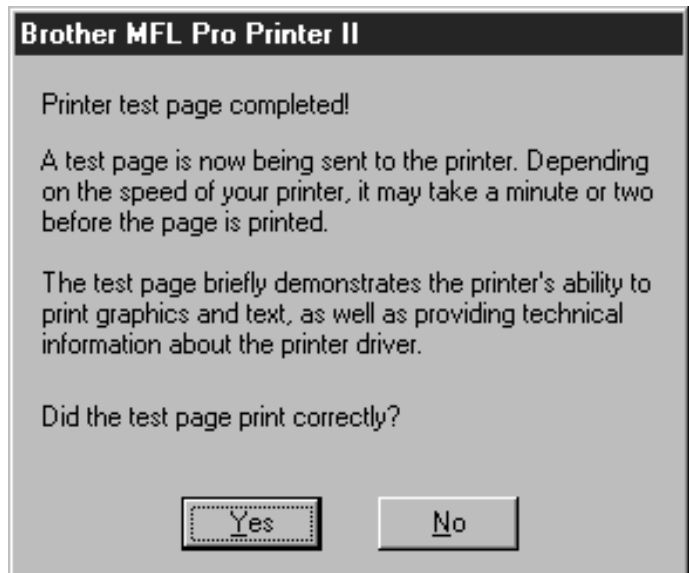
- 8 Type **Brother MFL Pro Printer II** as the name of printer and click **Next**.



- 9 Select **Yes [Recommended]** and click **Finish**.



- 10** After completing the test print, click **Yes**.



- 11** Click **Finish**. This completes the installation of the Printer and its USB driver.



# ***Installing True Type Fonts***

---

## **For Windows® 95/98 and Windows NT® Workstation Version 4.0:**

- 1 Insert the Brother CD-ROM drive for True Type Fonts.
- 2 Click on **Start**, then *Settings*, and select *Control Panel*.
- 3 In the *Control Panel* window, double-click on the *Fonts* folder.
- 4 In the *Fonts* window, select *Install New Font...* from the *File* menu.
- 5 Select your CD-ROM drive and select the font folder.
- 6 Select the fonts you want to install and click the **OK** button.

## **For Windows® 3.1x:**

- 1 Insert the Brother CD-ROM for True Type Fonts.
- 2 In the *Program Manager*, double-click the *Main* icon.
- 3 In the *Main* window, double-click the *Control Panel* icon.
- 4 In the *Control Panel* window, double-click the *Fonts* icon.
- 5 In the *Fonts* window, click the **Add...** button.
- 6 Select your CD-ROM drive.
- 7 Select the fonts you want to install and click the **OK** button.

# Connecting Brother Machine to PC With Bundled Parallel Cable

---

You must connect the Brother machine to your PC with the included bi-directional IEEE-1284 compliant parallel cable.

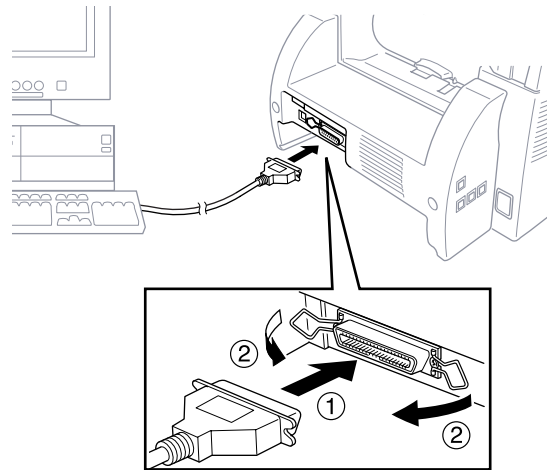
- 1 Make sure to unplug the machine's power cord from the electrical outlet before connecting the parallel interface cable.

Also, make sure the PC is turned off and unplugged from the electrical power before you connect the interface cable.


- 2 Connect the parallel interface cable to the parallel interface port of the machine and secure the connection with the wire clips.

- 3 Connect the interface cable to the printer port of the PC and secure with the two screws.

For the location of your computer's parallel printer port, see the User's Guide for your PC.



- 4 Before plugging in your PC and turning it on, plug in the electrical cord of the Brother machine.

-  If you are using Windows® 95, after you connect Brother machine to PC. You may see “New Hardware Found Brother MFCXXXX” during startup.

You can select “Do not install a driver (Windows® will not prompt you again).” and click **OK**, so Windows® will not display this dialog box again.

—OR—

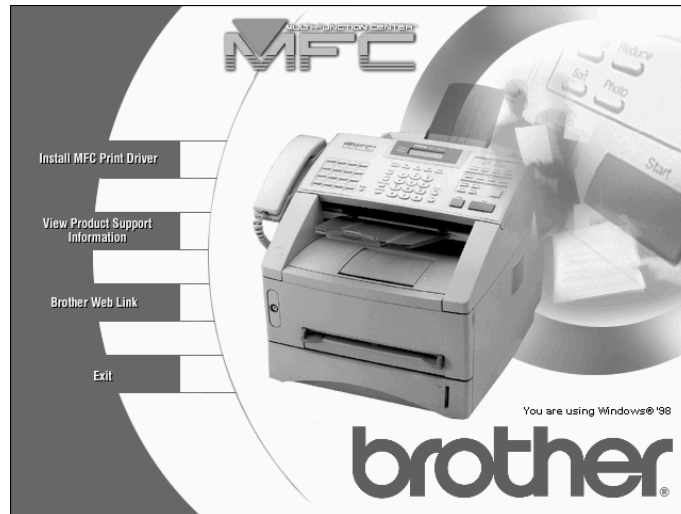
If you see “Update Device Driver Wizard”, click **Next** to bypass the Windows® Plug and Play Printer Driver screens, followed by **Finish**.

If you are using Windows® 98, you may see the “Add New Hardware Wizard” during startup, follow the instructions from the installer, then click **Next**. Click **Finish** when it appears on the screen.





A window appears listing the options:



For each application you install, click on that name in the Software Installation window and follow the instructions on the screen. The last step will be to restart Windows® and access the Software Installation window again to install the next application.

- 3** Click on “Install MFC Printer Driver” and follow the prompts on the screen.





DOS printing is **not** available for the FAX 4750.

## How to Use Brother machine with Your DOS Application Software

Before working with your application software that runs on DOS, check that the Brother machine's name appears in the printer selection of your application software. If the machine is not listed, you must install the printer driver that corresponds to HP LaserJet IIP's emulations.

The following table shows combinations of printer drivers and emulation mode. To get the most out of this machine, you should install an HP printer driver in your application software.

Printer driver supported in your application software	Emulation mode to be selected with the remote printer console program
<b>HP LaserJet IIP™</b>	HP LaserJet IIP emulation mode
<b>HP LaserJet II™</b>	Auto emulation selection

- The best or recommended printer driver is indicated in bold.
- Be sure to choose the proper printer driver in your application software.
- Be sure the printing resolution is set to 300 dpi in your DOS application software.

## What Does the Remote Printer Console Do?

The Remote Printer Console (RPC) is a utility program that can run in the DOS environment and comprises the following two programs:

### Remote Printer Console Main Program

This program allows you to change various printer settings such as emulation, print quality, fonts, page setup etc., from your computer screen. Since most DOS applications have a Printer Settings menu that overrides the settings made by the RPC, you may not have to use this utility program. This utility program is useful for application software that does not control the printer's settings and features.

## Printer Status Monitor Program

This utility program can monitor your printer's status using bi-directional parallel communications. This utility program stays resident in your computer memory (Terminate-and-Stay Resident program) and runs in the background.

## Installing the Remote Printer Console

Before you install the program, make sure you have the following hardware and software to install the program:

DOS	Version 3.3 or later
Monitor	EGA/VGA or compatible
Option	Mouse; the mouse driver must be installed. (You can also operate the program with the keyboard.)

Follow these steps to install the remote printer console program:

- 1 Make sure your Brother machine is connected to your computer and it is set to Online.
- 2 Start your computer and go to the DOS prompt. If you are in Windows®, exit and return to the DOS prompt.
- 3 Insert the Brother CD-ROM into your CD-ROM drive.
- 4 At the DOS prompt (C:\>) type *x*: (Substitute the drive letter of your CD-ROM drive for “*x*”) and press Enter.

```
C:\>x:
```

- 5 Type CD DOS and press Enter.

```
x:\>CD DOS
```

- 6 Type RPCSETUP and press Enter.

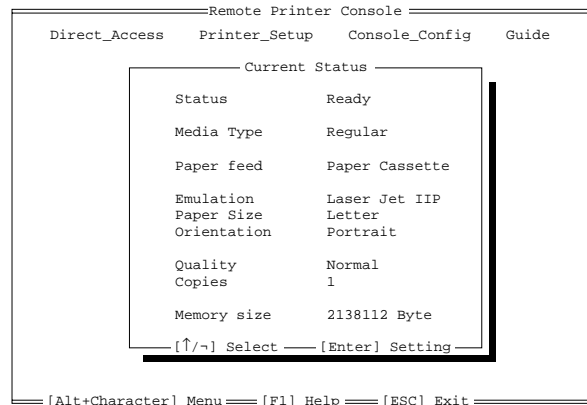
```
x:\DOS>RPCSETUP
```

- 7 Follow the instructions from the installer.

## Using the Remote Printer Console Main Program

Type **C:\RPCX>RPCX** and press the Enter key to start the Remote Printer Console main program.

The Main Screen will appear on your computer screen as shown below.



If bi-directional communication is enabled between your computer and MFC when it starts, the RPC gets the current settings information from your MFC. Otherwise, RPC shows its default settings. If you want to change settings, move the cursor to the item you want and select it using the **Enter** and **Cursor** keys. Then, press the **Enter** key to make the selected setting valid.

There are four sub menus. (See table below.) Select the sub menu you want by clicking on it with the mouse, using the cursor keys and the **Enter** key, or by pressing the hot key commands for that sub menu.

Menu	Press the keys	Functions
Direct Access	<b>Alt + D</b>	You can directly control the Brother machine, with Print Form, Reset Printer.
Printer Setup	<b>Alt + P</b>	You can enter the setting mode to change other printer settings, such as, margin settings, continue mode, font and sleep mode.
Console Config	<b>Alt + C</b>	You can change the environment settings for the RPC program: color, Status Monitor configuration, etc.
Guide	<b>Alt + G</b>	You can go to the Guide mode.
Help	<b>F1</b>	You can get Online Help: If you press F1, you can get information on a highlighted item.

# Remote Printer Console

## Current Printer Status Information

Item	Default	What This Item Does
Media Type	Regular	Selects the media type “Regular,” “Thin Paper,” “Thick Paper,” “Thicker Paper,” “Bond Paper” or “Transparency.”
Paper Feed	Paper Cassette	Selects the paper feed mode, either “Paper Cassette” or “Manual.”
Emulation*1	Laser Jet IIP	Selects “Laser Jet IIP.”
Paper Size*1	Letter	Selects the paper size, either “Letter,” “Legal,” “A4,” “Executive,” “Monarch,” “COM10,” “DL,” “C5,” “B5,” “A5” or “A6.”
Orientation*1	Portrait	Selects the paper direction, either “Portrait” or “Landscape.”
Quality*1	Normal	Selects the print quality, either “Normal” or “Economy.”
Copies*1	1	Sets the number of print copies from 1 to 200 pages.
Memory size*2		RPC retrieves and displays the printer memory size.

\*1 The items can be set in the current printer status information dialog box.

\*2 The information above is displayed if the bi-directional communication is active between the computer and Brother machine.

## Printer Setup Category

### Print Setup Section

Item	Default	What This Item Does
Copies	1	Sets the number of print copies from 1 to 200 pages.
Quality	Normal	Selects the print quality to either “Normal” and “Economy.”
Emulation	Laser Jet IIP	Selects “Laser Jet IIP.”
Auto FF	Off	If set to ON, the printer will print the remaining data automatically without your pressing the FF/Cont key.
Auto FF Timeout	5 sec	Sets the time-out value for the Auto FF mode from 1 to 99 seconds.

## Page Setup Section

Item	Default	What This Item Does
Left Margin	*2	Sets the Left Margin value (0-145) columns.
Right Margin	*2	Sets the Right Margin value (0-155) columns.
Top Margin	0.5" or 0.33"	Sets the Top Margin 0", 0.33", 0.5", 1", 1.5" or 2".
Bottom Margin	0.5" or 0.33"	Sets the Bottom Margin 0", 0.33", 0.5", 1", 1.5" or 2".
Line / Page	*2	Sets the lines/pages (5-128).
Xoffset	0	Sets the Xoffset (vertical) value from -500 to 500 dots.
Yoffset	0	Sets the Yoffset (horizontal) value from -500 to 500 dots.

\*1 These values (except Yoffset and Xoffset) are overridden by settings within your application software.

\*2 These values depend on the paper size settings.

## Font Config

Item	Default	What This Item Does
Font Source	Internal	"Internal"
Font name	Brougham10	Selects a font from any of the printer's internal fonts (Brougham 10, 12 and Letter Gothic16.66).
Pitch	10	Selects the font size of the selected font. If you selected the Brougham or LetterGothic font, Pitch is shown in the selection box.
Symbol Set	PC8	Selects the symbol set.

## Printer Config

Item	Default	What This Item Does
Continue Mode	Manual	Selects Auto or Manual on Auto error recovery mode.
Parallel Bi-directional	Enable	Selects the bi-directional parallel "Enable" or "Disable."



## Other Config

Item	Default	What This Item Does
Auto LF	Off	Selects Auto LF “On or Off”
Auto CR	Off	Selects Auto CR “On or Off”
Auto Wrap	Off	Selects Auto Wrap “On or Off”
Auto Skip	On	Selects Auto Skip “On or Off”

## Printer Setup Category

File	Function
Send settings	Sends the settings made within the RPC to your Brother machine.
Load settings	Loads the settings you stored in your hard disk to the RPC.
Save settings	Saves the RPC settings to your CD-ROM or hard disk.
Save a command	Saves the RPC settings to your CD-ROM or hard disk as a printer command string.
Load Default	Loads the default settings to RPC.
Quit	Exits

## Direct Access Category

File	Function
Print Form	Prints the MFC’s character/symbol sets “CHARASET.PRN” or any print files you have made.
Reset Printer	Resets the Brother machine. The data remaining in the machine and the printer settings will be cleared.

## Console Config Category

File	Function
Environment	Sets the Buzzer on/off, Color for Remote Print Console
Status Monitor	Sets the hot-key for waking-up the RPC.

For more information on RPC, see the Help Information within the program.

## Using the Printer Status Monitor Program

Type **C:\RPCX>STMX** and press the **Enter** key to make the Printer Status Monitor Program stay resident in your computer memory. If there are any changes to the printer status, it displays a message on your computer screen.

If the Printer Status Monitor program stays resident in your computer, you can monitor the printer status on your computer screen immediately by using the hot-key (**Ctrl+Alt+R**).

To remove the Printer Status Monitor program from your computer memory, type **C:\RPCX>STMX/R** and press the **Enter** key.

The RPC works in the environment where your Brother machine is directly connected to your computer. If you are using printer buffer switches that do not support bi-directional communication between the Brother machine and computer, the program works only in the PC to machine direction and cannot receive Brother machine status information.

The program does not work with Brother machines on a network.

If the RPC conflicts with some application software, exit your application software and then run the RPC.

The RPC may work in the DOS-compatible box screen mode of Windows<sup>®</sup>. However, it is recommended that you completely exit from Windows<sup>®</sup> to the DOS prompt before using the RPC.

The Printer Status Monitor and some other Terminate-and-Stay programs cannot coexist in the computer's memory. If they don't work properly together, use them one at a time. You can suspend the Printer Status monitor with any of the following methods or commands.

Type **C:\RPCX>STMX/R** and press the Enter key. Hold the space bar down while executing the **AUTOEXEC.BAT** file at **DOS** startup to prevent the status monitor from being loaded as a TSR program.



# 14

# Using Brother Machine as a Printer

(For MFC 8300 and MFC 8600 Only)

## Special Printing Features

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If you purchased the *optional* Multi-Function Link<sup>®</sup> Pro accessory (PCI-3CD) for your FAX 4750, follow the instructions in this chapter.

### Windows<sup>®</sup> Printing

The dedicated printer driver and TrueType<sup>™</sup> compatible fonts for Microsoft<sup>®</sup> Windows<sup>®</sup> 3.1x, 95/98 and Windows NT<sup>®</sup> Workstation Version 4.0 are available on the CD-ROM supplied with your machine. You can install them easily into your Windows<sup>®</sup> system using our installer program. The driver supports our unique compression mode to enhance printing speed in Windows<sup>®</sup> applications, and allows you to set various printer settings, including economy printing mode and custom paper size.

### Popular Printer Emulation Support

The machine supports HP LaserJet IIP printer emulation mode. If you use DOS application software, or Windows<sup>®</sup> 3.0 or earlier, you can use HP LaserJet IIP emulation mode for printer operations. (Use the Remote Printer Console program to set the printer emulation.)

### Remote Printer Console Program for DOS

The MFL Pro CD-ROM supplied with your machine includes the utility program Remote Printer Console (RPC). When you operate your computer in the Disk Operating System (DOS) environment, RPC lets you easily change the Brother machine's default settings (such as fonts, page setup, emulations, etc.).

RPC also provides a status monitor Terminate-and-Stay Resident (TSR) program. It runs in the background and monitors the printer status as it reports the current status or errors on your PC screen.

### Bi-directional Parallel Interface

The Brother machine's parallel interface enables it to send memory and printer setup information to the computer.

### Enhanced Memory Management

The Brother machine has its own Data Compression Technology, which automatically compresses graphic data and downloads font data efficiently into the machine's memory. With the machine's standard memory, you can avoid memory errors and print most full-page, 600 dpi graphic and text data, including larger fonts.

# Printing From Your PC

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## Multi-purpose Paper Cassette

The machine's multi-purpose paper cassette can be adjusted to feed many sizes of paper: letter, legal, A4, B5 and A5 plain paper and DL, C5, CM10 and Monarch envelopes. When the machine receives print data from your computer, it loads paper from the paper cassette.

- Select the print command from your PC.

Your PC sends a print command and data to the machine. The machine displays the date and time and RECEIVING DATA. If there are more pages, the machine begins to print the next page automatically. When printing is finished, it returns to online status.



You may select the proper paper source, paper size, and page orientation in your application software.

If your application software does not support your custom paper size, select the next larger paper size. Then adjust the print area by changing the right and left margins in your application software. (See Acceptable Paper, page 2-5.)

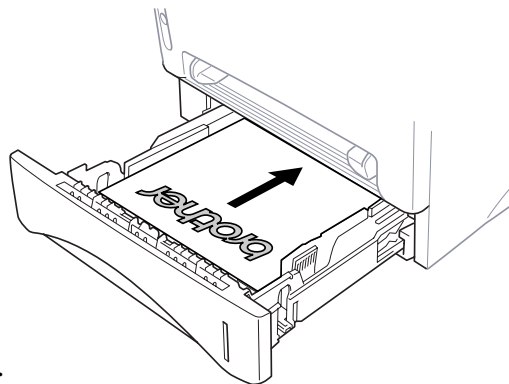


*Use the manual feed slot for labels, transparencies, card stock or thicker paper.*

## Two-Sided Printing (Manual Duplexing)

The supplied printer drivers for Windows® 3.1x, 95/98 and Windows NT® Workstation Version 4.0 enable manual duplex printing. (For more information, see the Help screen for the printer driver.)

The machine prints all the even-numbered pages on one side of the paper first. Then, the Windows® driver instructs you (with a pop-up message) to reinsert the paper. Before reinserting the paper, straighten it well, or you may get a paper jam. Very thin or very thick paper is not recommended.




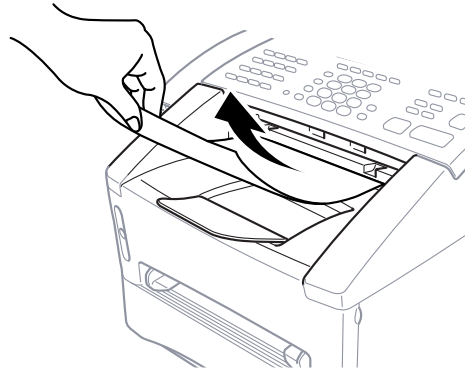
### Caution

When you use manual duplexing, it is possible that a paper jam may occur or the print quality might not be satisfactory. (See Paper is Jammed in the Multi-purpose Paper Cassette, page 17-6.)

## Front Output Bin

The machine ejects paper with printed surfaces *face down* into the output bin in the front of the machine. Unfold the output bin extension to support the printed pages.

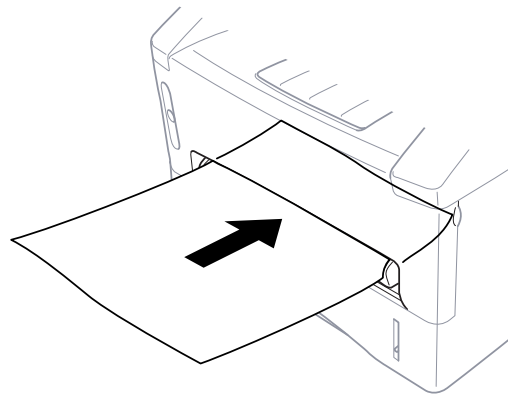
 To prevent the possibility of transparencies smudging as they stack in the output bin, remove each transparency after it exits.



## Manual Feed Slot

Your machine has a manual feed slot above the paper cassette. You can load envelopes and special print media *one at a time* into this slot. You do not have to remove paper from the paper cassette. (For information about acceptable paper, see page 2-6.)

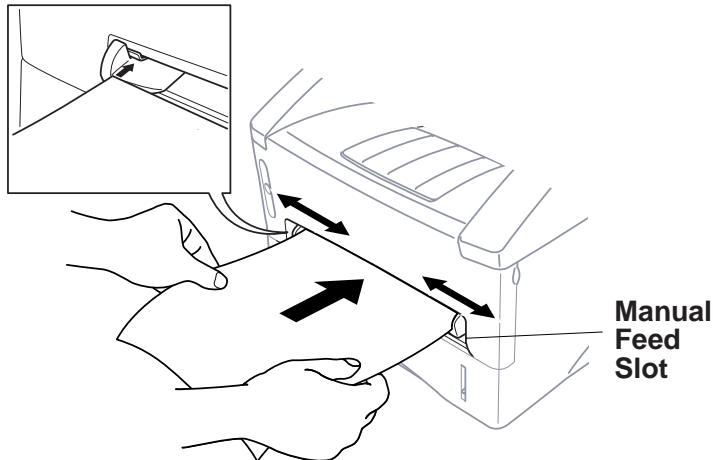
Use the manual feed slot to print or copy on labels, transparencies, card stock or thicker paper.



## Loading One Sheet of Paper


You do not have to choose Manual Feed in the Setup dialog box of your printer driver. Insert the sheet of paper for Portrait (vertical) or Landscape (horizontal), with the side you wish to print on face up in the manual feed slot.

- 1 Align the paper at the center of the manual feed slot and insert it all the way.
- 2 Adjust the paper guides to the width of the paper.




## Loading More than One Sheet of Paper

- 1 Open the Setup dialog box of the Windows® printer driver and select Manual Feed in the Paper Source section. Follow Steps 1 and 2 above to load the first page. The machine starts printing automatically.
- 2 After the first page is printed, the dialog box appears and prompts you to load the next page. Load a sheet and select OK to resume printing.
- 3 Repeat Steps 1, 2, and 3 until you have finished printing.

 When you use manual feed slot, it is best to first press **Print Priority**. This allows you to print PC data without interruption from incoming faxes. (Incoming faxes will be stored in the machine's memory.)

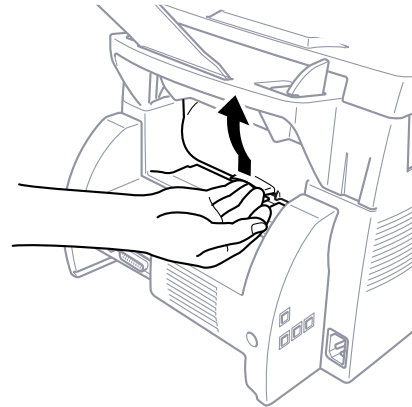
- To stop or clear the manual feed, turn the machine offline by pressing the **On/Off Line** key, then press **Shift** and **Test/Reset**—**OR**—Stop it with a PC command.

 If you do not select Manual Feed, and insert a page in the manual feed slot, the machine will load the first page from the manual feed slot and subsequent pages from the paper cassette.


## Printing on Thicker Paper and Card Stock

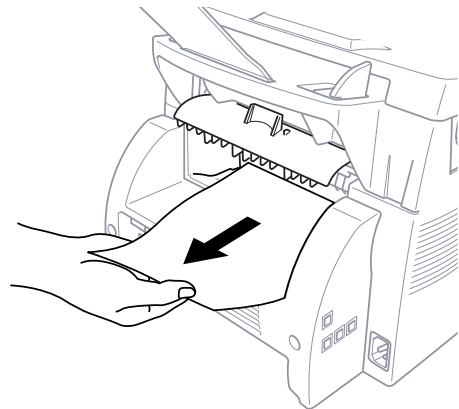
When the rear cover is lifted up, the machine has a straight paper path from the manual feed slot to the rear of the printer. Use this paper feed and output method when you want to print on thicker paper or card stock.

- 1 Select manual feed mode in the printer driver.
- 2 Send the print data as usual.
- 3 Lift up the rear cover at the rear of the machine.



- 4 Adjust the manual feed paper guides to the width of the paper you're using.
- 5 Insert a single sheet of paper into the manual feed slot until the front edge touches the paper feed rollers. Let go of the paper as the machine pulls it into position.
- 6 After the machine ejects the printed page, return to Step 5 to insert the next sheet of paper. The machine will wait until you insert the next sheet of paper. Repeat Steps 5 and 6 for each page to be printed.
- 7 When you have finished printing, close the rear cover of the machine.

 *To prevent the possibility of transparencies smudging as they stack in the output bin, remove each transparency after it exits.*





# Simultaneous Printing/Faxing

---

Your machine can print data from your computer while sending or receiving a fax, or while scanning information into the computer. However, when the machine is copying or receiving a fax on paper, it pauses the PC printing operation, and resumes when copying or fax receiving is complete. Fax sending continues during PC printing. (See Acceptable Paper, page 2-5.)

## Choosing Acceptable Paper

We recommend that you test paper (especially special sizes and types of paper) on the machine before purchasing large quantities.

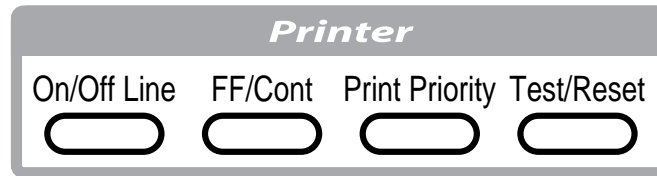
- Avoid feeding labels with carrier sheets exposed, or your machine will be damaged.
- Avoid using coated paper, such as vinyl coated paper.
- Avoid using preprinted or highly textured paper.

For optimum printing, use a recommend type of paper, especially plain paper and transparencies. For more information on paper specifications, consult your nearest authorized sales representative or the place where you purchased your machine.

- Use label or transparencies that are designed for use in *laser* printers.
- For the best print quality, we recommend using long-grained paper.
- If you are using special paper, and the paper has problems feeding from the paper cassette, try again using the manual feed slot.
- You can use recycled paper in this machine.

# Printer Operation Keys

---



## On/Off Line Key

This key toggles the machine's On Line and Off Line print status, which appears on the display. If you press this key while printing, the machine immediately stops printing and goes off line. Press **On/Off Line** again to resume printing.

## FF/Cont Key

This key sets the machine to Form Feed and Continue.

When the screen displays REMAINED DATA, press **On/Off Line** to turn machine offline, then press **FF/Cont**. The machine prints any data remaining in its memory.

If an error occurs, such as MEMORY FULL, press **FF/Cont** to clear the error and continue operation.

If you press **FF/Cont** while printing from the manual feed slot, the machine stops feeding paper from the manual feed slot and starts feeding paper from the paper cassette.

## Print Priority Key

When you press **Print Priority**, the machine enters printer mode, and will not print faxes on paper. Instead, faxes are stored in memory until you press **Print Priority** again or printing is finished.

## Test/Reset Key

You can print a test sample page. If data remains in the machine's memory, press **On/Off Line**, then press **Test/Reset** (the machine cannot print a test sample page if it is online). The machine prints a test sample page.

You can also clear data from the memory and reset printer default settings. Press **Test/Reset** and **Shift** at the same time; all data is cleared from the memory.

## Printing the Internal Font List

You can print a list of the machine's internal (or resident) fonts to see how each font looks before you select it.

- 1 Press **[Function]**, **[2]**, **[1]**, **[1]**.
- 2 Press **[Start]**. The machine prints the list.
- 3 Press **[Stop]** to exit.

## Printing the Print Configuration List

You can print a list of current printer settings.

- 1 Press **[Function]**, **[2]**, **[1]**, **[2]**.
- 2 Press **[Start]**. The machine prints the settings.
- 3 Press **[Stop]** to exit.

## Restoring Factory Default Settings

You can return the machine to original factory settings. Permanent fonts are restored, but macros are cleared. You can change user settings using the Remote Printer Console program. (See page 14-1.)

- 1 Press **[Function]**, **[2]**, **[2]**, **[1]**.
- 2 Press **[1]** to restore the factory settings  
—OR—Press **[2]** to exit without making a change.
- 3 Press **[Stop]** to exit.

```
1.RESET 2.EXIT
```

## Printing PC Data in Hexadecimal

You can print data as hexadecimal values to check data errors and problems. If you select HEX DUMP MODE, all PC data is printed hexadecimal. To turn hexadecimal mode off, press **[On/Off Line]** then **[Shift]** and **[Test/Reset]** at the same time.

- 1 Press **[Function]**, **[2]**, **[2]**, **[2]**.
- 2 Press **[1]** to set PC to hexadecimal mode  
—OR—Press **[2]** to exit without making a change.
- 3 Press **[Stop]** to exit.

```
1.SET 2.EXIT
```

# 15 Optional Accessories

## ***Additional Memory for Faxing/Printing***

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The memory board is installed on the main controller board inside the Brother machine. When you add the optional memory board, it increases the performance modes for both fax and printer operations.

The MFC 8300 has 2 MB of memory and the FAX 4750 and MFC 8600 have 4 MB of memory. All models can recognize 8 MB (**ME8000**) or 16 MB (**ME16000**) of Optional Memory. Be careful to purchase the appropriate memory board for your needs.

### **For the Printer**

Additional memory is useful and may be necessary if you want to download many different fonts or want to print a very complex document.

### **For the Fax**

Additional memory is available and will expand the memory used for sending and receiving faxes.

<b>Model Name</b>	<b>Optional Memory</b>	<b>Total</b>
FAX 4750 and MFC 8600 3 MB (up to 270 pages)	8 MB or 16 MB	11 MB (up to 990 pages) or 19 MB (up to 1,710 pages)
MFC 8300 1 MB (up to 90 pages)	8 MB or 16 MB	9 MB (up to 810 pages) or 17 MB (up to 1,530 pages)

Using Brother #1 Chart with MMR coding and Standard Resolution.

## **Paper Cassette #2 (Option)**

(For FAX 4750 and MFC 8600 Only)



You can purchase the Paper Cassette #2 accessory (**LT400**) to use as a third paper source. Cassette #2 holds up to 250 sheets of 20 lb. (75 g/m<sup>2</sup>) paper.

Multi-purpose Paper Cassette #2:	Holds approx. 250 sheets of 20 lb. (75 g/m <sup>2</sup> ) or 50 sheets of 42 lb. (158 g/m <sup>2</sup> ) Letter/A4 paper, 10 envelopes or 10 transparencies
Basis Weight:	17 to 28 lb. (64 to 105 g/m <sup>2</sup> )
Caliper:	0.003 to 0.005 inches. (0.08 to 0.13 mm)
Moisture Content:	4% to 6% by weight
Smoothness:	100 to 250 (Sheffield)
We Recommend:	
Cut sheet:	Xerox 4200
Label:	Avery laser label or equivalent
Transparency:	3M CG3300 for laser printers or equivalent

## **Multi-Function Link<sup>®</sup> Pro (Option)**

(For FAX 4750 and MFC 8300 Only)



If you have a FAX 4750 or MFC 8300, you can purchase the **optional** Multi-Function Link<sup>®</sup> Pro software (**PCI-3CD**). Multi-Function Link<sup>®</sup> Pro enables you to use your FAX 4750 or MFC 8300 as a scanner and to use it to fax from Windows<sup>®</sup> applications in your computer.

Installation instructions will be included with PCI-3CD. However, it is important that you hook up your FAX 4750 or MFC 8300 to your computer before you install the software.

Before you install the optional Multi-Function Link<sup>®</sup> Pro, you must read the README.WRI file in the root directory of the CD-ROM (or Floppy Disks) for last-minute important installation information and troubleshooting tips.

# **16** Important Information

## ***Standard Telephone and FCC Notices (For 120V Models Only)***

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**These notices are in effect on models sold and used in the United States only.**

**This equipment is hearing aid compatible.**

**When programming emergency numbers and/or making test calls to emergency numbers:**

- Remain on the line and briefly explain to the dispatcher the reason for the call before hanging up.
- Perform these activities in the off-peak hours, such as early morning or late evening.

This equipment complies with Part 68 of FCC Rules. On the rear panel of this equipment is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

You may safely connect this equipment to the telephone line by means of a standard modular jack, USOC RJ11C.

An FCC compliant telephone cord with a modular plug is provided with this equipment. This equipment is designed to be connected to the telephone line or premise's wiring using a compatible modular jack that is Part 68 compliant. See the Installation section of this manual for details.

The REN is useful in determining the quantity of devices you may connect to your telephone line and still have those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area. If your machine damages the telephone line, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. If advanced notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes to its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with your machine, please contact a Brother Authorized Service Center for information on service or repair. The telephone company may ask that you disconnect this equipment from the line until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

If you are not able to solve a problem with your multi-function center, contact Brother Customer Service at

<b>USA:</b>	1-800-284-4329	(voice)
	1-908-575-8790	(fax)
<b>From within Canada:</b>	1-800-853-6660	(voice)
	1-514-685-4898	(fax)
<b>From within Montreal:</b>	1-514-685-6464	(voice)

## **WARNING**

To protect against risk of electrical shock, always disconnect all cables from wall outlets before servicing, modifying or installing the equipment.

Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous invisible radiation exposure.

This equipment may not be used on coin service lines provided by the telephone company or connected to party lines.

## **Federal Communications Commission (FCC) Declaration of Conformity (For USA Only)**

Responsible Party : Brother International Corporation  
100 Somerset Corporate Boulevard  
Bridgewater, NJ 08807-0911 USA  
TEL : (908) 704-1700

declares, that the products

Product Name : FAX 4750, MFC 8300, MFC 8600

comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## **ENERGY STAR® Compliance Statement**

As an ENERGY STAR® Partner, Brother Industries, Ltd. has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.



## **Important—About the Interface Cable**

A shielded interface cable which is included with your machine should be used to ensure compliance with the limits for a Class B digital device.

### **Caution**

Changes or modifications not expressly approved by Brother Industries, Ltd. could void the user's authority to operate the equipment.

## **Industry Canada Compliance Statement (For Canada Only)**

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## **Laser Safety (For 110-120V Models Only)**

This equipment is certified as a Class I laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. This means that the equipment does not produce hazardous laser radiation.

Since radiation emitted inside the equipment is completely confined within protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.

## **FDA Regulations**

U.S. Food and Drug Administration (FDA) has implemented regulations for laser products manufactured on and after August 2, 1976. Compliance is mandatory for products marketed in the United States. One of the following labels on the back of the printer indicates compliance with the FDA regulations and must be attached to laser products marketed in the United States.

### **Manufactured**

BROTHER INDUSTRIES, LTD.  
15-1 Naeshiro-cho Mizuho-ku Nagoya, 467-8561 Japan

This product complies with FDA radiation performance standards,  
21 CFR Subchapter J.



## Important Safety Instructions

- 1** Read all of these instructions.
- 2** Save them for later reference.
- 3** Follow all warnings and instructions marked on the product.
- 4** Unplug this product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- 5** Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
- 6** Slots and openings in the cabinet and the back or bottom are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface; near or over a radiator or heater; or in a built-in wall unit or cabinet without ventilation.
- 7** This product should be operated from the type of power source indicated on the label. If you are not sure of the type of power available, consult your dealer or local power company.
- 8** Use only the power cord supplied with this machine.
- 9** This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will fit into only a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug, by using an adapter.
- 10** Do not allow anything to rest on the power cord. Do not place this product where people can walk on the cord.
- 11** If an extension cord is used with this product, make sure that the total ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. The total of all products plugged into the wall outlet must not exceed 15 amperes (USA only).
- 12** Never push objects of any kind into this product through cabinet slots, since they may touch dangerous voltage points or short out parts resulting in the risk of fire or electric shock. Never spill liquid of any kind on the product.
- 13** This product has no ON/OFF switch. In case the main power to the machine must be disconnected quickly, it is very important that you have easy access to the main plug and the main socket where the plug is connected.

- 14** Unplug this product from the wall outlet and refer servicing to a Brother Authorized Service Center under the following conditions:
- A** When the power cord is damaged or frayed.
  - B** If liquid has been spilled into the product.
  - C** If the product has been exposed to rain or water.
  - D** If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
  - E** If the product has been dropped or the cabinet has been damaged.
  - F** If the product exhibits a distinct change in performance, indicating a need for service.

- 15** Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points and/or other risks, and may void your warranty. Refer all servicing to a Brother Authorized Service Center. A list of Brother Authorized Service Centers has been included for your convenience, or you may contact the following Brother Customer Service numbers for your nearest Brother Authorized Service Center:

**USA:** 1-800-284-4329 (voice)  
1-908-575-8790 (fax)  
1-800-521-2846 (Fax-Back System)

**From within Canada:** 1-800-853-6660 (voice)  
1-514-685-4898 (fax)  
1-800-681-9838 (Fax-Back System)

**From within Montreal:** 1-514-685-6464 (voice)

- 16** To protect your product against power surges, we recommend the use of a power protection device (Surge Protector).

- 17** When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- Do not use this product near water (for example, near a bathtub, sink, swimming pool or in a wet basement).
- Do not use the machine's telephone during an electrical storm (there is the remote possibility of an electrical shock) or to report a gas leak in the vicinity of the leak.
- Use only the power cord indicated in this manual.

## Compilation and Publication Notice

Under the supervision of Brother Industries Ltd., this manual has been compiled and published, covering the latest product descriptions and specifications.

The contents of this manual and the specifications of this product are subject to change without notice.

Brother reserves the right to make changes without notice in the specifications and materials contained herein and shall not be responsible for any damages (including consequential) caused by reliance on the materials presented, including but not limited to typographical and other errors relating to the publication.

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## *Troubleshooting*

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### **Fax-Back System**

Brother Customer Service has installed an easy-to-use Fax-Back System, so you can get instant answers to common technical questions and product information for all Brother products. This system is available 24 hours a day, 7 days a week. You can use the system to send faxes to any fax machine, not just the one from which you are calling.

If you can't resolve a difficulty with your machine using this manual, call our Fax-Back System, and follow the voice prompts to receive faxed instructions about using the system, and an index of Fax-Back subjects.

**USA:** 1-800-521-2846

**From within Canada:** 1-800-681-9838

The Brother Fax-Back System number (USA only) has been preprogrammed on One Touch key **[01]**.

### **Brother Home Page**

You can find more information about Brother products, from product specification sheets to Frequently Asked Questions (FAQs), on the World Wide Web. Visit us at

**<http://www.brother.com>**

### **Brother Bulletin Board**

Brother's Bulletin Board Numbers are

**USA:** 1-888-298-3616

**From within Canada:** 1-514-685-2040

## Error Messages

You may occasionally encounter a difficulty with your machine or telephone line. If this happens, your machine often identifies the problem and displays an error message. The list below explains the most common error messages. You can correct most problems by yourself.

If you need additional help, call the Brother Fax-Back System at

**USA:** 1-800-521-2846

**From within Canada:** 1-800-681-9838

Error Messages		
Error Message	Cause	Action
<b>CHANGE DRUM SOON</b>	The drum unit is near the end of its life.	Use the drum unit until you have a print quality problem; then replace the drum unit with a new one.
	The drum counter was not reset.	1. Open the front cover and press <b>Clear</b> . 2. Press <b>1</b> to reset.
<b>CHECK PAPER</b> <b>CHECK PAPER #1</b> <b>CHECK PAPER #2</b>	The machine is out of paper or paper is not properly loaded in the paper cassette.	Refill the paper or remove the paper and load it again.
<b>COMM. ERROR</b>	A poor quality phone line caused communications error.	Try the call again.
<b>CONNECTION FAIL</b>	You tried to poll a fax machine that is not in Polled Waiting mode.	Verify the other party's polling setup.
<b>COOLING DOWN PLEASE WAIT</b>	The temperature of the drum unit or toner cartridge is too hot. The machine will pause its current print job and go into cooling down mode. During the cooling down mode, you will hear the cooling fan running while the display on the machine shows <b>COOLING DOWN</b> and <b>PLEASE WAIT</b> .	You must wait and allow the machine to resume printing when it is ready.
<b>COVER OPEN</b>	The front cover was not completely closed.	Close the front cover for the drum unit.
<b>DISCONNECTED</b>	The other party or other party's fax machine terminated the call.	Try to fax or receive again or call the other party to see what happened.

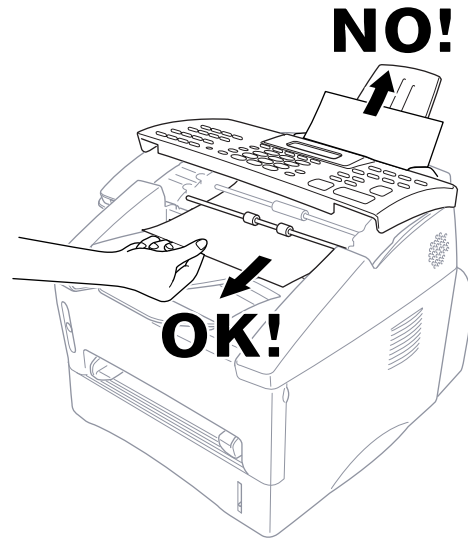
<b>Error Messages</b>		
<b>Error Message</b>	<b>Cause</b>	<b>Action</b>
<b>DOCUMENT JAM</b>	Documents were not inserted properly or document was too long.	Do not pull paper out until you see page 17-5.
<b>DOWNLOAD FULL</b> (May occur when the machine is used as a printer.)	The download buffer is full.	Press <b>[FF/Cont]</b> . Printing will resume (the downloading is canceled).
<b>MACHINE ERROR XX PRESS STOP KEY</b>	Machine has a mechanical problem.	Turn the power off. Then call Brother Customer Service at <b>USA: 1-800-284-4329</b> <b>From within Canada: 1-800-853-6660</b> <b>From within Montreal: 1-514-685-6464</b>
<b>MEMORY FULL</b>	Machine memory capacity has been exceeded.	<ul style="list-style-type: none"> <li>• Press <b>[FF/Cont]</b> to print the data remaining in the machine.</li> <li>• If you have installed the Windows® driver, try again after setting the True Type mode to “Print as Graphics” in the PRINT menu of your application software.</li> <li>• Reduce the print resolution or reduce the complexity of your document.</li> <li>• Expand the memory with the optional memory board. (ME8000 or ME16000)</li> </ul>
<b>NO RESPONSE / BUSY</b>	The number you called does not answer or is busy. Or, you may have reached a number that is not connected to a fax machine.	Check the number and try again.
<b>NOT REGISTERED</b>	You tried to access a One Touch or Speed Dial number that is not programmed.	Set up the One Touch or Speed Dial number. (See pages 7-1~2.)


<b>Error Messages</b>		
<b>Error Message</b>	<b>Cause</b>	<b>Action</b>
<b>PLS CLEAN DRUM</b>	The primary corona wire of drum unit is dirty.	Clean the primary corona wire of drum unit. (See page 17-21.)
<b>PLS OPEN COVER</b>	A page, piece of paper or paper clip, etc. may be jammed inside the machine.	Open the front cover. If you see any jammed paper or other item, gently pull it out, then close the scanner unit. If the error message remains, open and close the front cover again. If the machine cannot reset itself and return to the date and time prompt, it will display MACHINE ERROR XX. Please call Brother Customer Service and tell them the Machine Error number, at: <b>USA: 1-800-284-4329</b> <b>From within Canada: 1-800-853-6660</b> <b>From within Montreal: 1-514-685-6464</b>
<b>PRINTER JAM</b>	The paper is jammed in the machine.	Do not pull the paper out until you see page 17-5.
<b>TONER EMPTY</b>	Toner cartridge is not installed. —OR— Toner is used up and printing is not possible.	Reinstall the toner cartridge. —OR— Replace the toner cartridge with a new one. (See page 17-22.)
<b>TONER LOW</b>	If the display shows TONER LOW and the Toner Empty LED on the control panel is blinking, you can still print. But the toner is depleted and the machine is telling you that the toner will soon run out.	Order a new toner cartridge now.

## Document Jam

The documents were not inserted or fed properly, or were too long.

- 1 Lift the control panel.
- 2 Carefully pull the document toward the front of the machine.



- 3 Close the control panel.
- 4 Press .

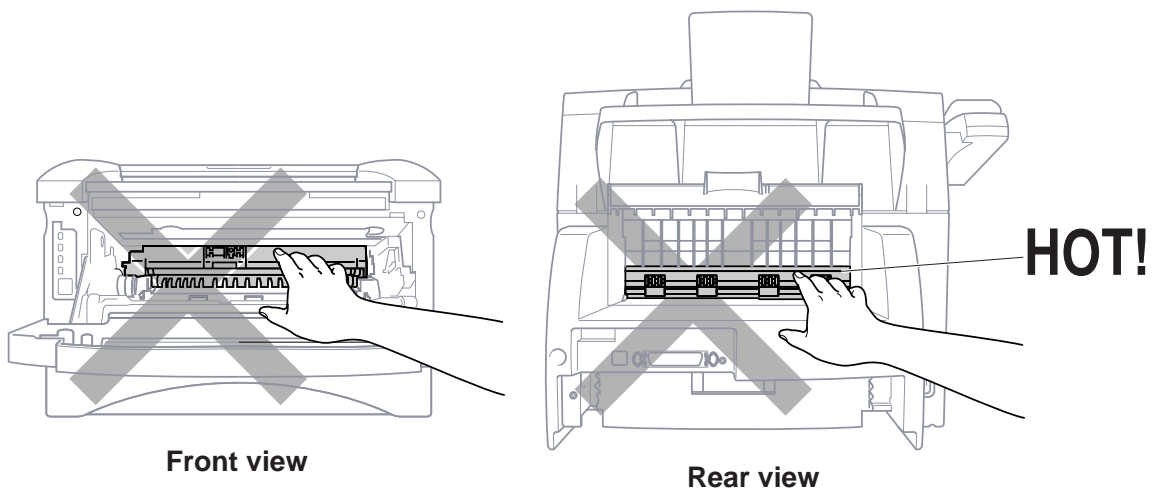
## Printer Jam

Before you can clear a printer jam error, you must find out where the paper is stuck. See the following three types of paper jams.

### WARNING

Do not use force to pull the jammed paper from the paper tray because you may damage the machine and cause toner to scatter on the next printed pages.

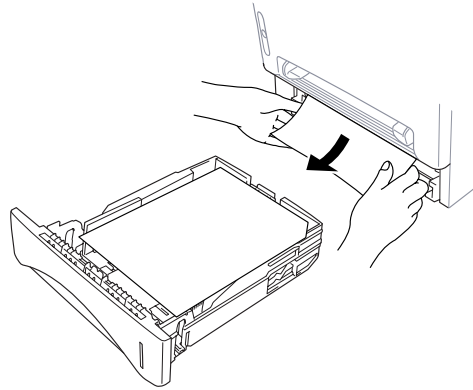
After you use the machine, some internal parts are extremely **HOT!** When you open the front, never touch the shaded parts shown in the following diagram.





## Paper is Jammed in the Multi-purpose Paper Cassette

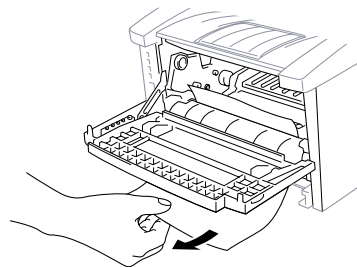
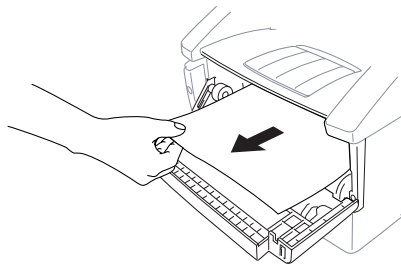
- 1 Pull the paper cassette out of the machine.
- 2 Remove any crinkled sheets.



- 3 Adjust the guides to fit.
- 4 Press down the paper to flatten it in the paper cassette.
- 5 Reinstall the paper cassette.

## Paper is Jammed near the Drum Unit

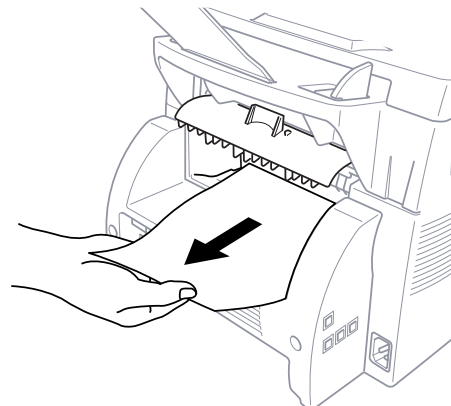
- 1 Open the front cover.
- 2 Remove the drum unit but do not force it if it cannot be removed easily. Instead, pull the edge of the jammed paper from the paper cassette.



- 3 Gently pull out the jammed paper.
- 4 Reinstall the drum unit.
- 5 Close the front cover.

## Paper is Jammed in the Fuser Unit

- 1 Open the rear cover.
- 2 Pull out jammed paper. When you have to pull paper out the back of the machine, the fuser may get dirty with toner powder causing the next few printed page(s) to look messy. Print a few copies of the test page until the pages print clearly.
- 3 Close the rear cover.



## If You Are Having Difficulty with Your Machine

If you think there is a problem with your machine, *make a copy first*. If the copy looks good, the problem is probably not your machine. Check the table below and follow the troubleshooting tips.

► **Printing  
and  
Receiving  
Faxes**

Difficulty	Suggestions
Condensed print and horizontal streaks, the top and bottom of sentences are cut off.	If your copy looks good, you probably had a bad connection, with static or interference on the phone line. If the copy looks bad, call Brother Customer Service at 1-800-284-4329 (USA), 1-800-853-6660 ( <b>from within Canada</b> ) or 1-514-685-6464 ( <b>from within Montreal</b> ).
Vertical streaks/black lines appear on faxes you receive.	Sometimes you may see vertical streaks/black lines on the faxes you receive. Either your the machine's primary corona wire for printing may be dirty, or the sending party's fax scanner may be dirty. Clean your primary corona wire (see page 17-21), or ask the sender to make a copy to see if the problem is with the sending machine. Try receiving from another fax machine. If the problem continues, call Brother Customer Service at 1-800-284-4329 (USA) or 1-800-853-6660 ( <b>From within Canada</b> ) or 1-514-685-6464 ( <b>From within Montreal</b> ).
Machine "hears" voice as CNG tone.	If your machine is set to Easy Receive ON, and it answers voice calls by trying to receive a fax, try turning Easy Receive to OFF.
Horizontal streaks	You may get a fax with horizontal streaks or with missing lines. Usually this is caused by a poor telephone connection. Ask the other party to send the fax again.
Received faxes appear as split or blank pages.	If the received data is divided and printed on 2 pages or if you get an additional blank page, your Paper Size setting may not be correct for the paper you are using. (See page 5-5.) If you are using the fixed reduction feature, check to see if the reduction ratio is suitable for the paper in your machine. (See page 5-4.)

	Difficulty	Suggestions
► Phone Line or Connections	Dialing does not work	Check for a dial tone. Change TONE/PULSE setting. (See Tone/Pulse, page 4-1.) Check all line cord connections, and make sure the curled handset cord is not in the <b>EXT</b> jack. Check power cord connection. Send a manual fax by pressing <b>[Hook]</b> — <b>OR</b> —by lifting the handset, and dialing the number. Wait to hear fax receiving tones before pressing <b>[Start]</b> .
	Machine does not answer when called	Make sure the machine is in the correct receiving mode for your setup (either FAX, FAX/TEL, TAD). Check for dial tone. If possible, call your machine to hear it answer. If there is still no answer, check the telephone line cord connection. Connect a standard telephone handset to the machine's telephone jack. If there is no ringing when you call your machine, call your Telephone Company to check the line.
	No dial tone on the handset connected	Press <b>[Hook]</b> — <b>OR</b> —Lift the handset. If you hear no dial tone, check telephone line cord connections at the machine and wall jack. Check that the handset curled cord is connected to the machine's handset jack. Test the wall jack with another single line telephone. If no dial tone on the wall outlet, call your Telephone Company.
► Sending Faxes	Poor transmitting quality	Try changing your resolution to FINE or SUPERFINE. (See Resolution, page 6-8.) Make a copy to verify the machine's scanner operation.
	Transmission report prints "Results:NG"	There is probably temporary noise or static on the phone line. Try sending the fax again. If the problem continues, call the Telephone Company to check your phone line.
	When the receiving party says the picture is not clear	Sometimes the resolution mode you chose when you sent your fax may not have been appropriate. Send the fax again, but try using the FINE or SUPERFINE mode. Also, your machine's scanner may be dirty, so try cleaning it. (See page 17-20.)
	When the receiving party says vertical streaks appear on the faxes they receive	Your machine's scanner may be dirty or the party receiving party's print head may be dirty. Clean your scanner, (see page 17-20) and make a copy to check if the receive problem was caused by your machine.

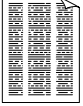
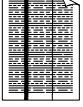

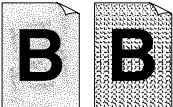
	Difficulty	Suggestions
► <b>Handling Incoming Calls</b>	Double-ring in FAX/TEL Mode	The machine knows the incoming call is not a fax so it is signaling you to answer the telephone call. Pick up the machine's handset or answer from an extension or external phone and press your machine's Telephone Answer Code (default setting is #51).
	Transferring a fax call to the machine	If you answered at the machine, press <b>Start</b> and hang up immediately. If you answered at an extension or external phone, press your machine's Remote Activation Code (default setting is *51). When your machine answers, hang up.
	The Caller ID does not display after the Call Waiting Signal	The Caller ID signal is sent ten seconds after the Call Waiting Signal and speaking may interfere with it. When you hear the Call Waiting signal, ask the other party to hold while you catch the other call. Then stop speaking until you see the Caller ID on the LCD.
	I have difficulty with custom features on a single line	<p>If you have Call Waiting, Caller ID, Call Waiting/Caller ID, Ring Master, Voice Mail, an answering machine, alarm system or any other custom features on a single phone line with your fax machine, it may create a problem sending or receiving fax data.</p> <p>Example #1: If you are having a telephone conversation and a fax communication signal comes through on your Call Waiting Caller ID feature, you can verify that the second call is a fax by switching to it. You have the option to receive the fax call, by asking the first caller to hang up to clear the line.</p> <p>Example #2: If you are sending or receiving a fax message while a Call Waiting Caller ID (or other custom feature) signal comes through on the line, the signal can temporarily interrupt or disrupt the fax data. Brother's ECM feature should help overcome this problem. This condition is related to the telephone system industry, and is common to all devices that send and receive information on a single, shared line with custom features. If avoiding a slight interruption is crucial to your business, a separate line with no custom features is recommended.</p>
► <b>Copy Quality Difficulties</b>	Vertical streaks appear in copies.	Sometimes you may see vertical streaks on your copies. Either the scanner or the primary corona wire for printing is dirty. Clean them both. (See pages 17-20 and 17-21.)

► **General  
Printing  
Difficulties**




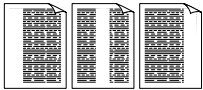
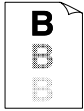
Difficulty	Suggestions
The machine does not print.	Check the following: <ul style="list-style-type: none"> <li>• The machine is plugged in. (See page 2-8.)</li> <li>• The toner cartridge and drum unit are installed properly. (See page 2-3.)</li> <li>• The interface cable is securely connected between the machine and computer. (See page 12-3 or 12-9 for MFC 8300, or See MFC Software Manual page 2-3 or 2-10 for MFC 8600.)</li> <li>• Check to see if LCD is showing an error message. (See page 17-2.)</li> </ul>
The machine prints unexpectedly or it prints garbage.	Reset the machine or unplug the electrical cord and plug it back in. Check the primary settings in your application software to make sure it is set up to work with your machine.
The machine cannot print full pages of a document. An error message PRINT OVERRUN occurs.	The machine received a very complex print job and could not process part of the page. This print may be solved in several ways. If you are using Windows® 3.1x, Windows® 95/98 or Windows NT® Workstation Version 4.0 with the supplied printer driver, see the “Windows® Setup Printing Problems” section. Try to reduce the complexity of your document or reduce print resolution.
The machine prints first couple of pages correctly, then some pages have text missing.	Your computer is not recognizing the printer’s input buffer full signal. Please make sure to connect the printer cable correctly.
The machine cannot print full pages of a document. A MEMORY FULL message occurs.	<ul style="list-style-type: none"> <li>• Reduce the printer resolution. Reduce the complexity of your document and try again. Reduce the graphic quality or the number of font sizes within your application software.</li> <li>• Expand the printer memory by installing one of the optional memory boards (ME8000 or ME16000).</li> </ul>
My headers or footers appear when I view my document on the screen but do not show up when I print them.	Most laser printers have a restricted area that will not accept print. Usually these are the first two lines and last two lines, leaves 62 printable lines. Adjust the top and bottom margins in your document to allow for this.
I cannot print from my application software.	Make sure the Windows® printer driver is installed and you select it in your application software.

► **Windows®  
Setup  
Printing  
Difficulties**

	Difficulty	Suggestions
► <b>DOS Setup Printing Difficulties</b>	I cannot print from my application software.	Check that the DOS application software interface settings match those of your printer: for example, if you are using a parallel printer cable, you would probably set your DOS software printer port to LPT1. Check for an error message on the LCD.
	The machine prints, but it prints incorrect information. Sometimes it prints a couple of characters and then ejects the pages, etc.	This is an indication that your application printer emulation Prints setting and the machine's printer emulation do not match. Check your application software to make sure you selected the correct printer driver. The machine emulates HP LaserJet IIP. Try setting the machine to HP emulation in Remote Printer Console and then select the HP LaserJet IIP printer in your application software.
	The machine prints the part of my document but does not print the last page (The LCD shows REMAINED DATA).	This is common problem first with database software and part of spreadsheet software when they are not correctly set up. The data has been sent to the printer but the printer did not receive the Page Eject command. Press <b>[FF/Cont]</b> to eject the page. Then ask your software supplier how to add a Page Eject (or Form Feed) command to the end of your print job.
	How can I change the user settings or default settings on the machine?	Use the Remote Printer Console (RPC) program.
► <b>Paper Handling Difficulties</b>	The machine does not load paper. The LCD shows CHECK PAPER or PRINTER JAM.	Check to see if the CHECK PAPER or PRINTER JAM message appears on the LCD. If so, the multi-purpose paper cassette may be out of paper or not properly installed. If it is empty, load a new stack of paper into the feeder. If there is paper in the multi-purpose paper cassette, make sure it is straight. If the paper is curled, you should straighten it. Sometimes it is helpful to remove the paper, turn the stack over and put it back into the multi-purpose paper cassette. Reduce the amount of paper in the multi-purpose paper cassette, then try again. Check the manual feed mode is not selected in the printer driver.
	The machine does not feed paper from the manual feed slot.	Reinsert the paper firmly, load one sheet at a time. Make sure that manual feed mode is selected in the printer driver.
	How can I load envelopes?	You can load envelopes from the manual feed slot. Your application software must be set up to print the envelope size you are using. This is usually done in the Page Setup or Document Setup menu of your software. Refer to your software application manual.

	<b>Difficulty</b>	<b>Suggestions</b>
<p>► <b>Paper Handling Difficulties (Cont.)</b></p>	<p>What paper can I use?</p>	<p>You can use plain paper, envelopes, transparencies, labels and organizer paper. (For information on paper you can use, see Acceptable Paper, on page 2-5.)</p>
	<p>How can I clear paper jams?</p>	<p>See Printer Jams, on page 17-6.</p>
<p>► <b>Print Quality Difficulties</b></p>	<p>Printouts are too dark or light.</p>	<p>Adjust the print conditions by setting the Print Density function. It has been factory set to the middle position. (See Setting the Print Density, on page 5-6.)</p>
<p>Printed pages contain white stripes.</p>  <p><b>White Stripes or Faint Images</b></p>	<p>You may fix this by wiping the scanner windows with a clean soft cloth. (See Routine Maintenance and Cleaning the Drum Unit, on pages 17-20 and 17-21.) If you still see white stripes or faint images and the display shows CHANGE DRUM SOON, replace the drum unit with a new one. Check the machine's environment. Conditions such as humidity, high temperatures, etc. may cause this print defect to occur.</p>	<p>You may fix this by wiping the scanner windows with a clean soft cloth. (See Routine Maintenance and Cleaning the Drum Unit, on pages 17-20 and 17-21.) If you still see white stripes or faint images and the display shows CHANGE DRUM SOON, replace the drum unit with a new one. Check the machine's environment. Conditions such as humidity, high temperatures, etc. may cause this print defect to occur.</p>
<p>Printed pages are stained corona with toner or have vertical stripes.</p>  <p><b>Dark Stripes or Toner Stains</b></p>	<p>Clean the machine's interior and the primary wire of the toner cartridge. (See Routine Maintenance and Cleaning the Drum Unit, on pages 17-20 and 17-21.) Make sure that the tab of the corona wire is at the home position. If after cleaning, you still see dark stripes or toner stains and the display shows CHANGE DRUM SOON, replace the drum unit with a new one.</p>	<p>Clean the machine's interior and the primary wire of the toner cartridge. (See Routine Maintenance and Cleaning the Drum Unit, on pages 17-20 and 17-21.) Make sure that the tab of the corona wire is at the home position. If after cleaning, you still see dark stripes or toner stains and the display shows CHANGE DRUM SOON, replace the drum unit with a new one.</p>
<p>Printed pages have white spots in black text and graphic areas.</p>  <p><b>White Spots</b></p>	<p>Make sure that you use paper that meets the specifications. Rough surface or thick media can cause the problem. If you still see white spots and the display shows CHANGE DRUM SOON, replace the drum unit with a new one. Check the machine's environment; conditions such as high humidity may cause this situation to occur.</p>	<p>Make sure that you use paper that meets the specifications. Rough surface or thick media can cause the problem. If you still see white spots and the display shows CHANGE DRUM SOON, replace the drum unit with a new one. Check the machine's environment; conditions such as high humidity may cause this situation to occur.</p>
<p>Toner scatters and stains the printed page.</p>  <p><b>Scattering Toner</b></p>	<p>Adjust the print conditions by setting the Print Density function. Remove the drum unit and clean the machine's interior. (See Routine Maintenance, Cleaning the Printer and Cleaning the Drum Unit, on pages 17-20 and 17-21.) Make sure that you use paper that meets specifications. (See page 2-6.) If you still have scattered toner and the display shows CHANGE DRUM SOON, replace the drum unit with a new one. Check the machine's environment; high temperature and high humidity conditions may cause this condition to occur.</p>	<p>Adjust the print conditions by setting the Print Density function. Remove the drum unit and clean the machine's interior. (See Routine Maintenance, Cleaning the Printer and Cleaning the Drum Unit, on pages 17-20 and 17-21.) Make sure that you use paper that meets specifications. (See page 2-6.) If you still have scattered toner and the display shows CHANGE DRUM SOON, replace the drum unit with a new one. Check the machine's environment; high temperature and high humidity conditions may cause this condition to occur.</p>

► **Print Quality Difficulties (Cont.)**

Difficulty	Suggestions
<p>The whole page is printed black.</p>  <p><b>Black Page</b></p>	<p>Clean the machine's interior and the primary corona wire of the drum unit. (See pages 17-20~21.) Also, do not use heat-sensitive paper as it will cause this problem. After cleaning, if the printed pages are still black or the display shows CHANGE DRUM SOON, replace the drum unit with a new one. The drum unit may be damaged.</p>
<p>Nothing is printed on the page.</p>  <p><b>White Page</b></p>	<p>Make sure that the toner cartridge is not empty. Wipe electric terminals referring to Routine Maintenance, Cleaning the Printer and Cleaning the Drum Unit, on pages 17-20 and 17-21. Make sure that a torn piece of paper does not remain on the scanner window.</p>
<p>Printed pages are marked at regular intervals.</p>  <p><b>Example of Regular Marking</b></p>	<p>Markings may disappear by themselves. Try copying multiple pages to clear this problem. Markings may occur if the machine has not been used for a long time. A possible cause is that the surface of the drum is scratched. You must then replace the drum unit with a new one. If the markings do not disappear, it may be that the drum was marked or damaged by excessive exposure to light. In this case, replace the drum unit with a new one.</p>
<p>Printed pages are blurred at the center or at either edge.</p>  <p><b>Blurred Page</b></p>	<p>Certain environmental conditions such as humidity, high temperatures, etc. may cause this condition to occur. Make sure the machine is placed on a flat, horizontal surface. Remove the drum unit with the toner cartridge installed. Try rocking them from side to side. You may clear a blurred page by wiping the scanner windows with a clean soft cloth. (See Routine Maintenance, Cleaning the Printer and Cleaning the Drum Unit, on pages 17-20 and 17-21.) If a blurred page occurs after cleaning and the display shows CHANGE DRUM SOON, replace the drum unit with a new one.</p>
<p>Ghost images appear on printed page.</p>  <p><b>Ghost Images</b></p>	<p>Adjust the print conditions by setting the Print Density function. Make sure that you use paper that meets the specifications. Rough surfaces or thick media can cause a ghost image. Make sure that you select the appropriate media type in the printer driver.</p>



The drum unit is a consumable item and it is necessary to replace it periodically.



# ***Difficulties Setting up the Software***

(For Windows® 3.1x Users)

---

## **Graphics or Text Is Missing in the Printout**

This could be caused by your Display Driver software. Contact your reseller to inquire about the latest Display Driver software. Another solution is to change your Windows® Setup Display selection from the current selection to the standard VGA or SVGA selection. Contact your reseller or Microsoft Support if you need help modifying your Windows® Display selection or installing new Display Driver software.

## **Problem Using the HP Pavilion PC and the “HP DEMO” Screen Saver**

If you select the “HP Demo” screen saver on your HP Pavilion PC after you have installed the Multi-Function Link® Pro software, the System.ini file is overwritten and you cannot use the Brother machine to print, scan, or for Remote Setup.

If you have used the HP Demo screen saver already, you must edit the System.ini file as follows:

```
[boot]
```

```
;comm.drv=comm115.drv
```

```
comm.drv=brmfcomm.drv
```

```
[386Enh]
```

```
DEVICE=C:\WINDOWS\SYSTEM\Bi-Di.386
```

If you do not want to edit the System.ini file, please change the screen saver to another one and Re-install Multi-Function Link® Pro again.

## **Bi-Directional Parallel Ports (nibble and byte modes)**

The machine supports both nibble (AT) and byte (Bi-directional) mode parallel ports. If your PC supports byte mode, scanning and fax reception will be at a faster speed. To verify or change the parallel port mode, please check your system BIOS in the CMOS Setup or *contact your computer manufacturer for assistance*.



Some older PC models support only nibble mode. Generally, newer models support both nibble and byte modes.

## Machine Connect Failure or Bi-Directional Communication Error

Recently, some printers have included a function that shows the printer status on the PC display. Such printers use the bi-directional communication parallel port between the printer and the PC. Our machines have a bi-directional parallel port function. Since Windows® 3.1x does not support bi-directional communication on the parallel port, each peripheral vendor has developed and supplied a bi-directional device driver, which will be installed into Windows® 3.1x. If you install two or more different bi-directional device drivers into Windows®, they may conflict with each other and cause problems.

Please make sure you have installed the Brother printer driver, by executing SETUP.EXE from your CD-ROM drive, following the instructions on the CD-ROM label. The bi-directional communication may be disabled when the driver is installed from the Add menu in “Printers” of the Control Panel. Please restart Windows®.

Remove the conflicting situation caused by one of the following printer drivers. Review the following sections that apply to any additional printer drivers you may have installed into your Windows® software.

Brother HL-6/6V/10h/630series/660series/960/1260/WL-660  
HP LaserJet series II, IID, IIP, IIP+, III, IIID, IIIP or IV Plus  
NEC SuperScript 610/660  
EPSON ActionLaser 1100/1400  
LexMark WinWriter 200

### **Brother HL-6/6V/10h/630series/660series/960/1260/WL-660:**

The Resource Manager for your machine’s Brother printer drivers may not work if the printer drivers for the above laser printers models are installed *after* the installation of the Brother printer drivers.

In this case, please install the Brother printer drivers again or copy BI-DI.386 from the CD-ROM to the Windows/System directory. (NOTE: BI-DI.386 on the CD-ROM is not compressed.)

### **EPSON ActionLaser 1100 / 1400:**

Please remove the EPSON Action Laser 1100/1400 driver by running the EPDELETE.EXE file in the Windows® Printer Driver for these models.

## HP LaserJet series II, IID, IIP, IIP+, III, IIID or IIIP:

If Microsoft Windows® Printing System is used for the above models, you must modify the “win.ini” file in the Windows® directory to turn the machine’s bi-directional function off.

We recommend that you do a back-up before you modify the WIN.INI or SYSTEM.INI files, just in case.

Open the “win.ini” file using the “Notepad” application. Look for the following statement in the [spooler] section:

```
[spooler]
QP.LPT1 = wpsljqp.dll
```

Then disable this function, by adding a semicolon at the beginning of the above sentence as follows:

```
[spooler]
;QP.LPT1 = wpsljqp.dll
```

Then, open the “system.ini” file using the “Notepad” application. Look for the following statement in the [386Enh] section:

```
[386Enh]
device=wpsljvpd.386
:
:
```

```
WPSLPT1=1
```

Then disable this function, by adding a semicolon at the beginning of the above sentences as follows:

```
;device=wpsljvpd.386
:
:
;WPSLPT1=1
```



You must restart Windows® to make these modifications effective.

These modifications disable the printer status reporting on your PC; however, you will be able to use the machine without further problems.

## HP LaserJet 4 Plus:

Please uninstall the Main Status window by double-clicking the Un-install Status window in HP LaserJet group.

## NEC SuperScript 610/660:

Please remove the NEC SuperScript driver by running the NECDELET.EXE file in Disk 1 that is included with NEC printers.

## Lexmark WinWriter 200:

You must modify the “win.ini” and “system.ini” files in the Windows® directory to turn off the printer's bi-directional function.

We recommend that you backup the WIN.INI and SYSTEM.INI files before you modify them.

Open the “win.ini” file using the “Notepad” application. Look for the following statement in the [windows] section:

```
[windows]
run=C:/WINDOWS/SYSTEM/WPSIOMON
```

Then disable this function, by adding a semicolon at the beginning of the above sentence as follows:

```
[windows]
;run=C:/WINDOWS/SYSTEM/WPSIOMON
```

Look for the following statement in the [spooler] section:

```
[spooler]
QP.LPT1=wpslbq.dll
```

Then disable this function, by adding a semicolon at the beginning of the above sentence as follows:

```
[spooler]
;QP.LPT1=wpslbq.dll
```

Then, open the “system.ini” file using the “Notepad” application. Look for the following statement in the [386Enh] section:

```
[386Enh]
device=wpscomd.386
device=wpsljvpd.386
:
:
```

```
WPSLPT1=1
```

Then disable this function, by adding a semicolon at the beginning of above sentences as follows:

```
[386Enh]
;device=wpscomd.386
;device=wpsljvpd.386
:
:
;WPSLPT1=1
```



You must restart Windows® to make these modifications effective.

These modifications disable the printer status reporting on your PC; however, you will be able to use the machine without further problems.

# Packing and Shipping the Machine

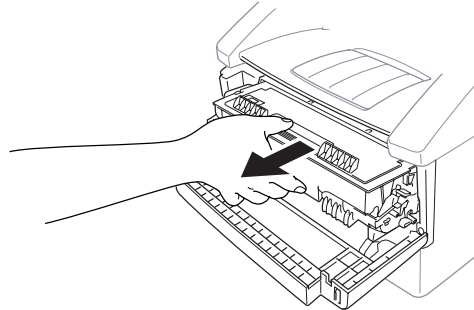
---

Whenever you transport the machine, use the packing materials that came with your machine. Also, follow the steps below to pack the machine so it won't be damaged, which would void the machine's warranty.

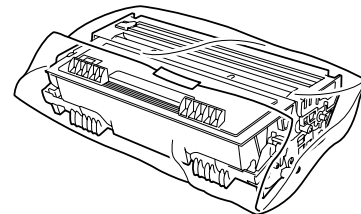
- 1 Remove the telephone line cord and unplug MFC from the AC outlet.
- 2 Open the front cover.
- 3 Remove the drum unit.

## ! Caution

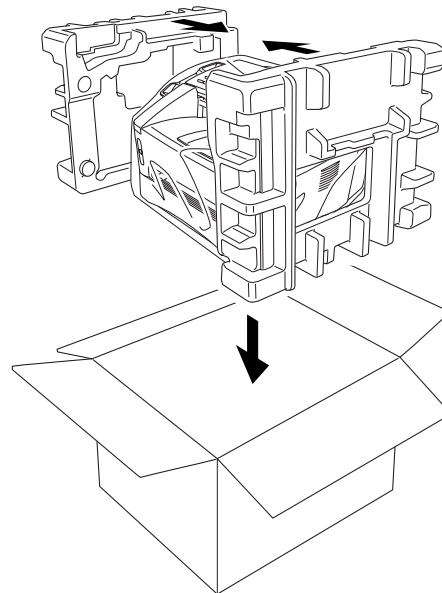
Remove the drum unit and toner cartridge assembly. Leave the toner cartridge installed in the drum unit.



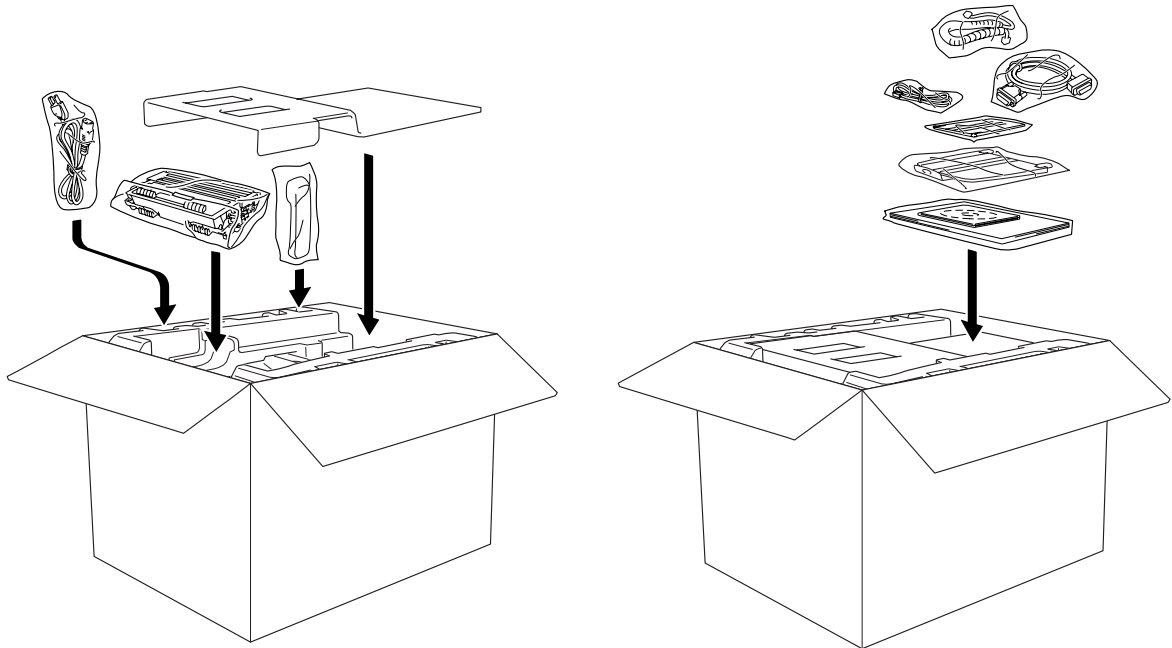
- 4 Place the drum unit and toner cartridge assembly into the plastic bag and seal the bag.



- 5 Close the front cover. Fold down the front output bin extension. Remove the telephone line cord, document tray, document support, paper cassette, handset, and handset cord, and pack them.
- 6 Wrap the machine in the plastic bag and place it in the original carton box with the original packing material.



- 7** Place documents (manual and printed material) and the drum unit and toner cartridge assembly into the original carton as shown below:



- 8** Close the carton and tape it shut.

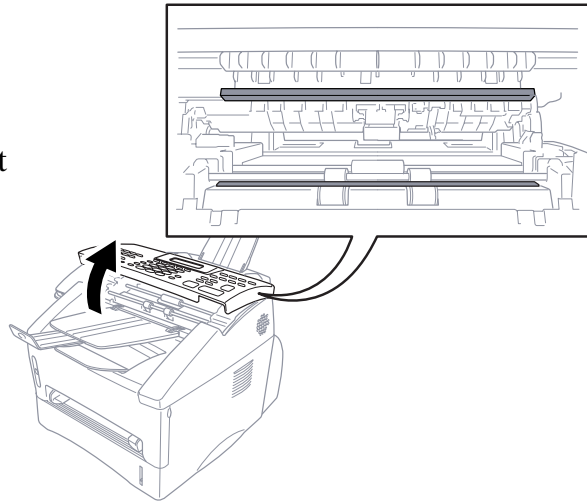
# Routine Maintenance

---

Keep your machine in optimum condition by cleaning it on a regular basis. It is a good idea to clean the drum unit during this routine. Avoid using thinners or other organic solvents and do not use water.

## Cleaning the Document Scanner

- 1 Unplug the telephone line and then the power cord.  
When you reconnect these lines later, connect the power cord *first*, then the telephone line.
- 2 Lift the control panel cover.
- 3 Wipe dirt off the machine with a slightly damp clean cloth.
- 4 Clean the white bar and glass cover under the white bar.  
Moisten a small, clean, soft, lint-free cloth with isopropyl alcohol and carefully remove dirt from the glass cover and the white bar.



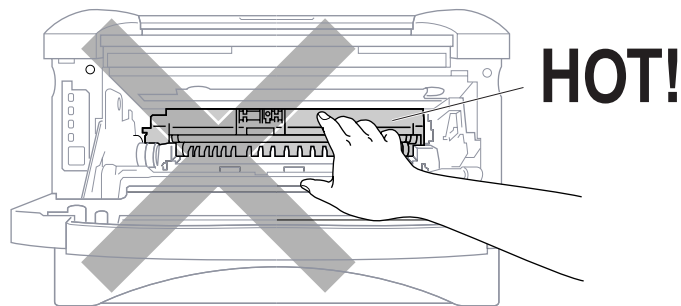
## Cleaning the Printer

### ! Caution

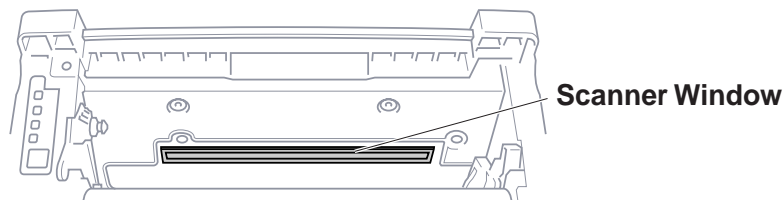
- Do *not* use isopropyl alcohol to remove dirt from the control panel. It may crack the panel.
  - Do *not* use isopropyl alcohol to clean the scanner window or toner sensor.
  - Do *not* touch the scanner window with your finger.
  - The drum unit contains toner, so handle it carefully. If toner scatters and your hands or clothes get dirty, immediately wipe or wash it off with cold water.
- 1 Open the front cover.
  - 2 Remove the drum unit assembly.

## WARNING

Just after you have used the machine, some internal parts of the machine are extremely **HOT!** When you open the front cover of the machine, never touch the shaded parts as shown in the diagram below.



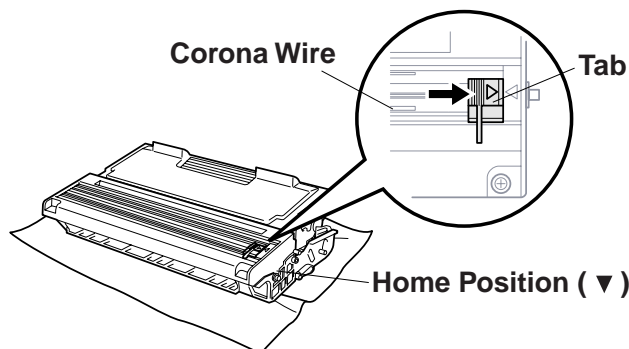
- 3 Gently clean the scanner window by wiping with a clean soft dry cloth. Do *not* use isopropyl alcohol.



## Cleaning the Drum Unit

We recommend placing the drum unit on a drop cloth or large disposable paper to avoid spilling and scattering toner.

- 1 Carefully turn the drum unit upside down.
- 2 Clean the primary corona wire inside the drum unit by gently sliding the tab from right to left several times.
- 3 Return the tab to the home position (▼).



## Caution

If the tab is not at Home position, printed pages may have vertical stripes.



- 4 Reinstall the drum unit into the machine.  
(See Replacing the Drum Unit on page 17-25.)
- 5 Close the front cover.
- 6 Plug in the power cord *first*, then the telephone cord.

## Replacing the Toner Cartridge

The machine can print *up to* 6,000 pages using a *standard* toner cartridge. When the toner cartridge is running low, the display shows TONER LOW. The machine is supplied with a *starter* toner cartridge that must be replaced after approximately 3,000 pages. Actual page count will vary depending on your average document type (i.e., standard letter, detailed graphics).

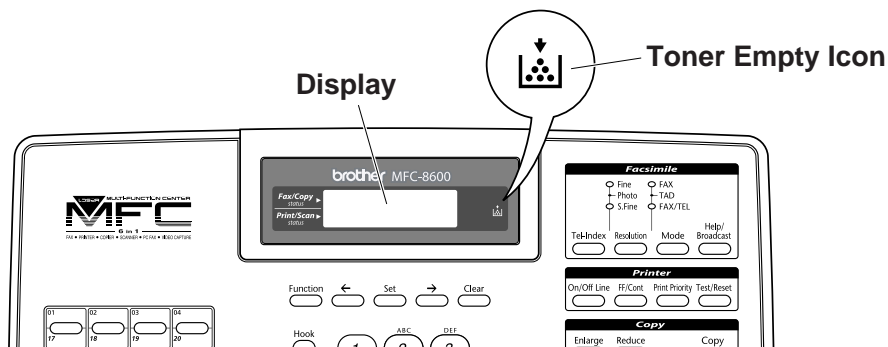
It is a good idea to keep a new toner cartridge ready for use when you see the toner low warning.

Discard the used toner cartridge according to local regulations. If you are not sure of them, consult Brother Customer Service. Be sure to seal the toner cartridge tightly so toner powder does not spill out of the cartridge. When discarding used toner cartridges, keep them separate from domestic garbage.

We recommend that you clean the machine when you replace the toner cartridge.

## Toner Empty Indicator

When the toner cartridge is running low, the display shows TONER LOW and the Toner Empty icon on the control panel flashes on and off to indicate the toner is low.

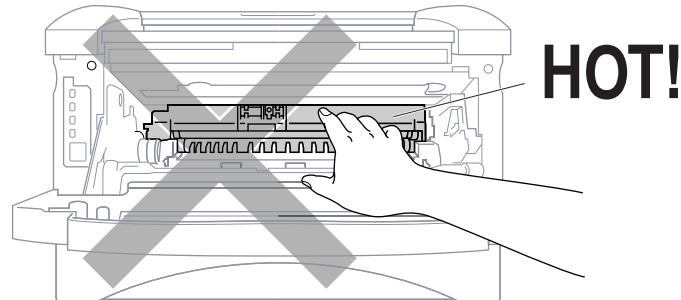


The Toner Empty icon appears and the display shows TONER EMPTY. Once this icon appears, your machine will not resume printing until you install a new toner cartridge.

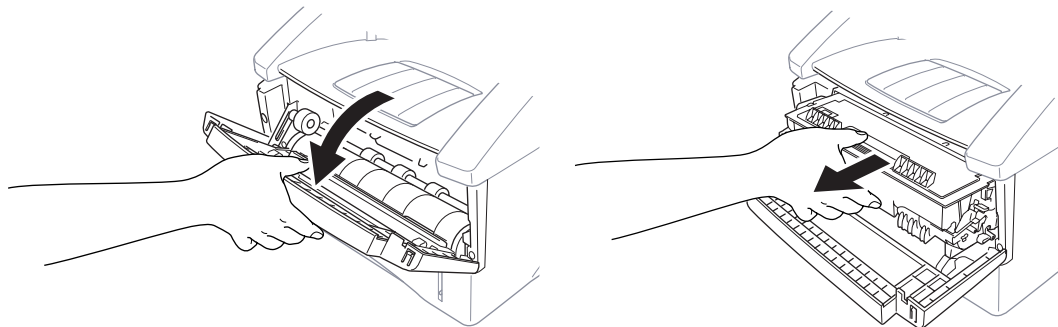
## Replacing the Toner Cartridge

### WARNING

Just after you use the machine, some internal parts of the machine will be extremely **HOT!** So, never touch the shaded parts shown in the illustration.

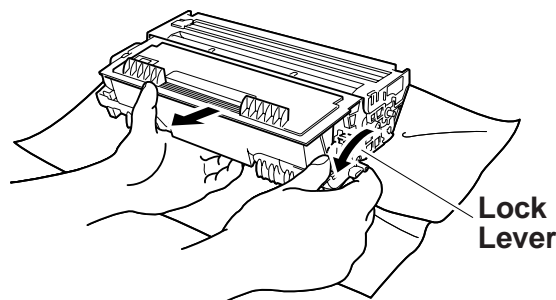


- 1 Open the front cover and pull out the drum unit.



Place the drum unit on a drop cloth or large piece of disposable paper to avoid spilling and scattering the toner.

- 2 Hold down the lock lever on the right and pull the toner cartridge out of the drum unit assembly.



### Caution

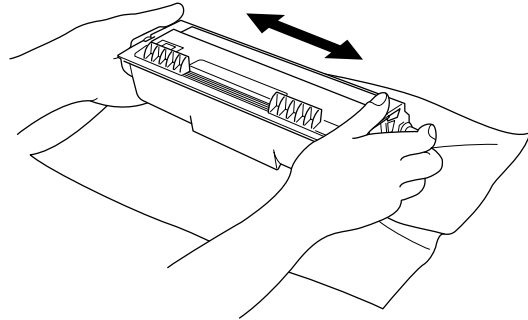
Handle the toner cartridge carefully. If toner scatters on your hands or clothes, immediately wipe it off or wash it with cold water.

- 3 Unpack the new toner cartridge. Place the used toner cartridge into the aluminum bag and discard it according to local regulations.

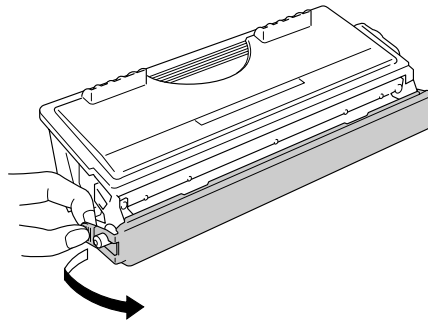
**! Caution**

- Wait to unpack the toner cartridge until immediately before you install it into the machine. If a toner cartridge is left unpacked for a long period of time, the toner life is shortened.
- You can use only a genuine Brother toner cartridge (**TN-430 or TN-460**), which is specially formulated to ensure top print quality. Using another brand of toner cartridge may void your machine's warranty.

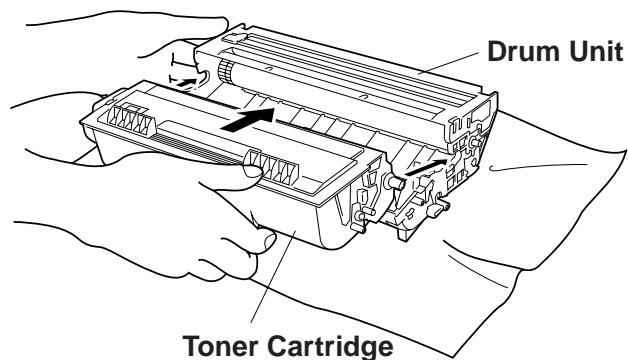
- 4** Gently rock the toner cartridge from side to side five or six times to distribute the toner evenly inside the cartridge.



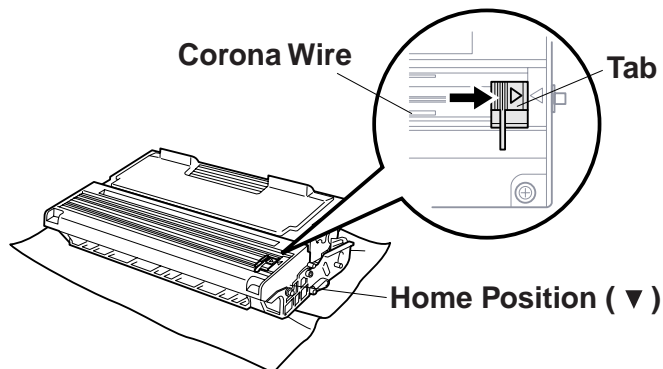
- 5** Remove the protective cover.



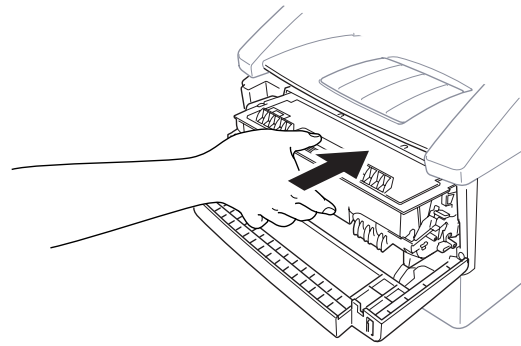
- 6** Install the new toner cartridge into the drum unit until it clicks into place.



- 7** Clean the primary corona wire inside the drum unit by gently sliding the blue tab from right to left several times. Return the blue tab to the home position before reinstalling the drum unit assembly.



- 8 Reinstall the drum unit and close the front cover.



## Replacing the Drum Unit

The machine uses a drum unit to create print images on paper. If the screen displays **CHANGE DRUM SOON**, the drum unit is near the end of its life and it is time to purchase a new one.

Even if the display shows **CHANGE DRUM SOON**, you may be able to continue printing without having to replace the drum unit for a while. However, if there is a noticeable deterioration in the output print quality (even before **CHANGE DRUM SOON** is shown), then the drum unit should be replaced. You should clean the machine when you replace the drum unit. (See page 17-21.)

### ! Caution

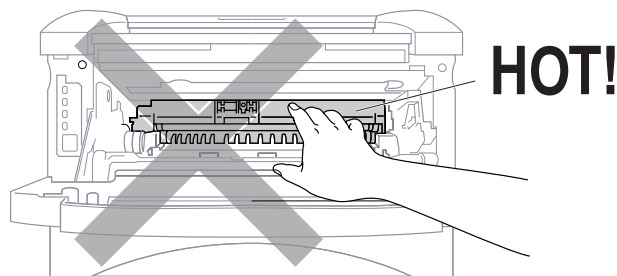
When removing the drum unit, handle it carefully because it contains toner. If toner scatters and your hands or clothes get dirty, immediately wipe or wash with cold water.



The drum unit is a consumable, and it is necessary to replace it periodically. There are many factors that determine the actual drum life, such as temperature, humidity, type of paper and how much toner you use for the number of pages per print job, etc. The estimated drum life is *up to 20,000 pages*. The actual number of pages your drum will print may be significantly less than these estimates. Because we have no control over the many factors that determine the actual drum life, we cannot guarantee a minimum number of pages that will be printed by your drum.

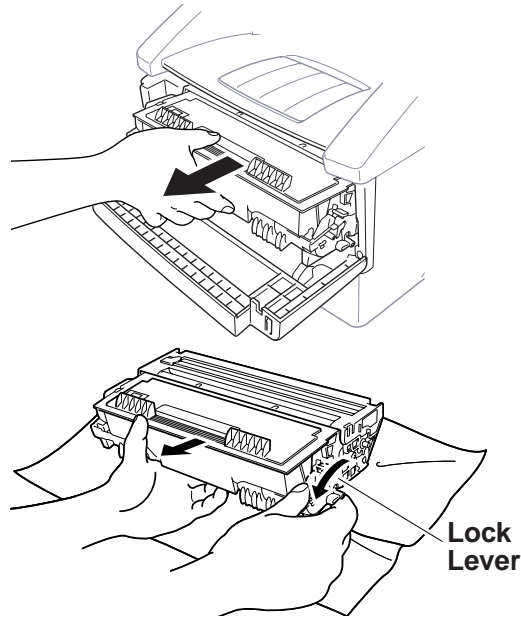
### ! WARNING

Just after you have used the machine, some internal parts of the machine are extremely **HOT!** So please be careful.



## Follow these steps to replace the drum unit:

- 1 Open the front cover.
- 2 Remove the old drum unit.  
Place the drum unit on a drop cloth or disposable paper to avoid scattering toner.
- 3 Hold down the lock lever on the right and pull the toner cartridge out of the drum unit assembly.  
(See Replacing the Toner Cartridge, page 17-22.)



- 4 Discard the used drum unit according to local regulations. If you are not sure of them, call your local Sanitation Department. Be sure to seal the drum unit tightly so toner powder does not spill out of the unit. When discarding used drum units, keep them separate from domestic garbage.
- 5 Wait to unpack the new drum unit until immediately before installing it. Place the old drum unit into the aluminium bag and discard it according to local regulations.
- 6 Reinstall the toner cartridge into the new drum unit. (See Replacing the Toner Cartridge, page 17-22.)
- 7 Reinstall the new drum unit, keeping the front cover *open*.
- 8 Press **Clear**.
- 9 Press **1** and when the display shows ACCEPTED, and close the front cover.

```
REPLACE DRUM?  
1.YES 2.NO
```

### ! Caution

If toner scatters and your hands or clothes get dirty, immediately wipe off or wash with cold water.

## Checking the Drum Life

You can see the percentage of the drum's life that remains available.

- 1 For the FAX, press **Function**, **0**, **4**.  
For the MFC, press **Function**, **1**, **0**, **4**.
- 2 For five seconds, the screen displays the available percentage of drum life.

```
DRUM LIFE  
REMAINING: 70%
```

## For Customer Service

**USA:** 1-800-284-4329 (voice)  
1-908-575-8790 (fax)

**From within Canada:** 1-800-853-6660 (voice)  
1-514-685-4898 (fax)

**From within Montreal:** 1-514-685-6464 (voice)



# Using Your Brother Machine with Your Apple® New Power Macintosh® G3 or iMac™

(For MFC 8300 and MFC 8600 Only)

## *For USB equipped Apple New Power Macintosh G3 or iMac with Mac OS 8.5/8.6*

The connection, installation and operation instructions are available on the bundled CD-ROM for your USB equipped Apple Macintosh or iMac with Mac OS 8.5/8.6.

- 1 Set up your MFC and make sure that it is working properly.
- 2 Unplug the MFC's AC power cord and turn off the AC power to your Macintosh or iMac.
- 3 Connect a standard USB cable to both the MFC and Macintosh or iMac.

### Brother Printer Driver for MFC 8300

- 1 Insert the Brother CD-ROM into your CD-ROM drive. The Brother icon will appear on the desk top.
- 2 Double-click the Brother icon to open the CD.
- 3 Double-click the Brother icon again to run Start. The screen of Brother options will appear:



- 4 Click **Install MFC Print Driver** to begin the installation and follow the instructions on the screen.
- 5 After you have installed the Driver, click **View On-Line Documentation** for operation instructions.




Restart your Macintosh/iMac so it recognizes the new drivers.



## Brother Printer and Scanner Drivers for MFC 8600

- 1 Insert the Brother CD-ROM into your CD-ROM drive.  
The Brother icon will appear on the desk top.
- 2 Double-click the Brother icon to open the CD.
- 3 Double-click the Brother icon again to run Start.  
The screen of Brother options will appear:



- 4 Click **Install MFC Print Driver** to begin the installation and follow the instructions on the screen.
  - 5 Click **Install MFC Scanner Driver** to begin the installation and follow the instruction on the screen.
  - 6 After you have installed the Drivers, click **View On-Line Documentation** for operation instructions.
-  Restart your Macintosh/iMac so it recognizes the new driver.

# Specifications



## Product Description

Six performance modes are available for the 6in1 model MFC8600: Fax, Printer, Copier, Scanner, PC Fax and Video Capture.




The MFC 8300 is a 3in1 model: Fax, Printer, Copier.

The FAX 4750 is a plain paper fax model.

## Fax Specifications

<b>Compatibility</b>	ITU-T Group 3
<b>Coding System</b>	MH/MR/MMR
<b>Modem Speed</b>	14400/12000/9600/7200/4800/2400; Automatic Fallback
<b>Document Input Width</b>	5.8 inches to 8.5 inches (148 mm to 216 mm)
<b>Document Input Length</b>	3.9 inches to 14.1 inches (100 mm to 360 mm)
<b>Printing Width</b>	8.2 inches (208 mm)
<b>Scanning Width</b>	8.15 inches (207 mm)
<b>Paper Size</b>	Letter/Legal/A4
<b>Multi-purpose Paper Cassette</b>	250 sheets (20 lbs)
<b>Gray Scale</b>	64 levels
<b>Polling Types</b>	Standard or Sequential
<b>Contrast Control</b>	Automatic/Super Light/Super Dark (manual setting)
<b>Resolution</b>	<ul style="list-style-type: none"><li>• Horizontal Standard, Fine, Superfine 203dot/inch</li><li>• Vertical Standard 98dot/inch</li><li>Fine, Photo 196dot/inch</li><li>Superfine 391dot/inch</li></ul>
<b>One Touch dial</b>	32 stations
<b>Speed Dial</b>	100 stations
<b>Automatic Redial</b>	3 times at 5 minute intervals
<b>Speaker Type</b>	Monitor
<b>Auto Answer</b>	0, 1, 2, 3 or 4 rings
<b>Communication Source</b>	Public switched telephone network

## Printer Specifications

<b>Emulation</b>	Brother Printing System for Windows® and emulation mode of HP LaserJet IIP (PCL level 4, only for MFC models)
<b>Printer Driver</b>	Windows® 3.1x, Windows® 95/98 and Windows NT® Workstation Version 4.0 driver supporting Brother Native Compression mode and bi-directional capability
<b>Interface</b>	Bi-directional parallel (IEEE-1284); USB (Universal Serial Bus) Interface Using Windows® 98 Only: (MFC 8300 and MFC 8600 only)
<b>Memory Capacity</b>	4 MB: FAX 4750 and MFC 8600 2 MB: MFC 8300
<b>Print Method</b>	Electrophotography by semiconductor laser beam scanning
<b>Resolution</b>	600 dots/inch
<b>Print Quality</b>	Normal printing mode Economy printing mode (saves up to 50% of the normal toner usage)
<b>Print Speed</b>	Up to 12 pages/minute (when loading letter size or A4 paper from paper cassette)
<b>Print Media</b>	Toner cartridge Life Expectancy: Up to 6,000 pages/ <i>high yield</i> toner cartridges Up to 3,000 pages/ <i>standard</i> toner cartridges (when printing letter size or A4 paper at 5% print coverage)
	Toner life expectancy will vary depending upon the type of average print job.
	Drum Unit Life Expectancy: up to 20,000 pages
	There are many factors that determine the actual drum life, such as a temperature, humidity, type of paper, toner you use, number of pages per print job, etc.
<b>True Type Fonts on CD-ROM</b>	TrueType compatible soft-fonts for Windows® on the bundled CD-ROM

## Electrical and Environment

<b>Temperature</b>	(Allowable) 50 - 90.5° F (10 - 32.5° C) (Storage) 32 - 104° F (0 - 40° C)
<b>Warm-Up</b>	Max. 45 seconds at 73.4° F (23° C)
<b>First Print</b>	15 seconds (using Letter size paper in paper cassette)
<b>Power Source</b>	120V AC 50/60Hz (Canadian Version Only)
<b>Power Consumption</b>	Operating (Copying); 850 W or less (25° C) Sleep Mode: 9 W or less Stand by: 30 W or less (25° C)
<b>Noise</b>	Operating: 50 dB A or less Stand by: 39 dB A or less
<b>Humidity</b>	Operating: 20 to 80% (without condensation) Storage: 20 to 80% (without condensation)
<b>Dimensions</b>	17.1 x 17.4 x 12.7 inches/(435 x 442 x 323 mm)
<b>Weight</b>	26.4 lbs/(12 kg)

## Parallel Interface Specifications

Interface Connector      Printer Side:      Amphenol FCN-685J036-L/X or equivalent  
A shielded cable should be used.

### Pin Assignment

Pin No.	Signal	Direction	Pin No.	Signal	Direction
1	DATA STROBE	Input	19	0V(S.G.)	-
2	DATA 1	Input	20	0V(S.G.)	-
3	DTAT 2	Input	21	0V(S.G.)	-
4	DATA 3	Input	22	0V(S.G.)	-
5	DATA 4	Input	23	0V(S.G.)	-
6	DATA 5	Input	24	0V(S.G.)	-
7	DATA 6	Input	25	0V(S.G.)	-
8	DATA 7	Input	26	0V(S.G.)	-
9	DATA 8	Input	27	0V(S.G.)	-
10	ACKNLG	Output	28	0V(S.G.)	-
11	BUSY	Output	29	0V(S.G.)	-
12	PE	Output	30	0V(S.G.)	-
13	SLCT	Output	31	INPUT PRIME	Input
14	AUTO FEED	Input	32	FAULT	Output
15	N.C.	-	33	N.C.	-
16	0V (S.G.)	-	34	N.C.	-
17	0V (S.G.)	-	35	N.C.	-
18	+5V	-	36	SLCT IN	Input

# USB (Universal Serial Bus) Interface Specifications

## Pin Assignment

Pin No.	Signal
1	Vol (+5V)
2	- Data                      Serial Data -
3	+ Data                        Serial Data +
4	Ground

## Resident Fonts

The following bitmapped fonts are resident in the machine.

Brougham 10 (12 point)                      upright/normal

Brougham 12 (10 point)                      upright/normal

Letter Gothic 16.66 (8.5 point)            upright/normal

(Portrait and Landscape are available for the above.)

## Symbol Sets/Character Sets

### \*HP mode

- ISO14 JIS ASCII
- ISO57 Chinese
- ISO11 Swedish
- HP Spanish
- ISO17 Spanish
- ISO10 Swedish
- ISO16 Portuguese
- ISO84 Portuguese
- ISO85 Spanish
- PC-8
- PC-8 D/N
- PC-8 Turkish
- PC-850
- PC-852
- PC-860
- PC-865
- Roman 8
- ISO Latin 1
- (ECMA-94)
- ISO60 Norwegian 1
- ISO61 Norwegian 2
- ISO4 UK
- ISO25 French
- ISO69 French
- HP German
- ISO21 German
- ISO15 Italian
- ISO6 ASCII
- Legal
- ISO2 IRV
- PC-863



If you want to know which characters are in each symbol/character set, print the CHARSETS.PRN file from “The Print Form” option in the Direct Access Menu of the Remote Printer Console Program.

□ HP LaserJet IIP

Roman 8										ISO Latin1																					
0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		0	@	P	'	p				À	Á	Â	Ã	Ä	Å	0		0	@	P	'	p				À	Á	Â	Ã	Ä	Å
1	!	1	A	Q	a	q				Â	Ë	Ì	Í	Î	Ï	1	!	1	A	Q	a	q				À	Á	Â	Ã	Ä	Å
2	"	2	B	R	b	r				Ë	Ì	Í	Î	Ï	Ñ	2	"	2	B	R	b	r				À	Á	Â	Ã	Ä	Å
3	#	3	C	S	c	s				Ì	Í	Î	Ï	Ñ	Ò	3	#	3	C	S	c	s				À	Á	Â	Ã	Ä	Å
4	\$	4	D	T	d	t				Í	Î	Ï	Ñ	Ò	Ó	4	\$	4	D	T	d	t				À	Á	Â	Ã	Ä	Å
5	%	5	E	U	e	u				Î	Ï	Ñ	Ò	Ó	Ô	5	%	5	E	U	e	u				À	Á	Â	Ã	Ä	Å
6	&	6	F	V	f	v				Ï	Ñ	Ò	Ó	Ô	Õ	6	&	6	F	V	f	v				À	Á	Â	Ã	Ä	Å
7	'	7	G	W	g	w				Ñ	Ò	Ó	Ô	Õ	Ö	7	'	7	G	W	g	w				À	Á	Â	Ã	Ä	Å
8	(	8	H	X	h	x				Ò	Ó	Ô	Õ	Ö	×	8	(	8	H	X	h	x				À	Á	Â	Ã	Ä	Å
9	)	9	I	Y	i	y				Ó	Ô	Õ	Ö	×	÷	9	)	9	I	Y	i	y				À	Á	Â	Ã	Ä	Å
A	*	:	J	Z	j	z				Ô	Õ	Ö	×	÷	¸	A	*	:	J	Z	j	z				À	Á	Â	Ã	Ä	Å
B	+	;	K	[	k	{				Õ	Ö	×	÷	¸	¸	B	+	;	K	[	k	{				À	Á	Â	Ã	Ä	Å
C	,	<	L	\	l					Ö	×	÷	¸	¸	¸	C	,	<	L	\	l					À	Á	Â	Ã	Ä	Å
D	-	=	M	]	m	}				×	÷	¸	¸	¸	¸	D	-	=	M	]	m	}				À	Á	Â	Ã	Ä	Å
E	.	>	N	^	n	-				÷	¸	¸	¸	¸	¸	E	.	>	N	^	n	-				À	Á	Â	Ã	Ä	Å
F	/	?	O	_	o	¸				¸	¸	¸	¸	¸	¸	F	/	?	O	_	o	¸				À	Á	Â	Ã	Ä	Å

The following table shows characters available only in the corresponding character set. The numbers at the top of the table are code values with which characters are to be replaced in the Roman 8 character set. For other characters, see character set of Roman 8.

SYMBOL SET	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
ISO2 IRV	#	¤	@	[	\	]	^	`	{		}	~
ISO4 UK	£	\$	@	[	\	]	^	`	{		}	~
ISO6 ASCII	#	\$	@	[	\	]	^	`	{		}	~
ISO10 Swedish	#	¤	@	Ä	Ö	Å	^	`	ä	ö	å	~
ISO11 Swedish	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
ISO14 JIS ASCII	#	\$	@	[	¥	]	^	`	{		}	~
ISO15 Italian	£	\$	§	°	ç	é	^	ù	à	ò	è	ì
ISO16 Portuguese	#	\$	§	À	Ç	Õ	^	`	ã	ç	õ	°
ISO17 Spanish	£	\$	§	¡	Ñ	¿	^	`	•	ñ	ç	~
ISO21 German	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
ISO25 French	£	\$	à	°	ç	§	^	`	é	ù	è	¨
ISO57 Chinese	#	¥	@	[	\	]	^	`	{		}	~
ISO60 Norwegian1	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~
ISO61 Norwegian2	§	\$	@	Æ	Ø	Å	^	`	æ	ø	å	
ISO69 French	£	\$	à	°	ç	§	^	μ	é	ù	è	¨
ISO84 Portuguese	#	\$	·	À	Ç	Õ	^	`	ã	ç	õ	~
ISO85 Spanish	#	\$	·	¡	Ñ	¿	^	`	•	ñ	ç	¨
HP German	£	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
HP Spanish	#	\$	@	¡	Ñ	¿	°	`	{	ñ	}	~







**Cover Page** Prints a page at the other party's machine that contains the sender and recipient's name and fax number, number of pages and comment. You can generate an electronic cover page at the other end with pre-programmed information from memory or you can print a sample cover page to fax with your document.

**Cover Page Message** The comment on the Cover Page (programmable).

**Delayed Fax** Sends your fax at a later time that day.

**Delayed Timer** You can program a certain time each day that all delayed faxes will be sent.

**Distinctive Ring** A service purchased from the Telephone Company that provides another phone number on an existing phone line. The Brother machine uses the new number to simulate a dedicated fax line.

**drum unit** A printing device for your machine.

**Dual Access** Your machine can scan outgoing faxes or scheduled jobs into memory at the same time it is sending, receiving or printing a fax.

**Easy Receive** Enables your machine to respond to CNG tones if you interrupt a fax call by answering.

**ECM (Error Correction Mode)** Detects errors during fax transmission and resends the page(s) of the document that had an error.

**Electronic Cover Page** Preprogrammed cover page sent from the machine's memory, eliminating the need for writing cover pages.

**extension phone** A telephone on the fax number that is plugged into a separate wall jack.

**external phone** A TAD (Telephone Answering Device) or telephone that is plugged into the EXT jack of your machine.

**F/T Ring Time** The length of time the machine rings (when the answer mode setting is FAX/TEL) to notify you to pick up a voice call that it answered.

**Fax Forwarding** Sends a fax received into memory to another preprogrammed fax number.

**Fax Receive** Press this code (\*51) when you answer a fax call from an extension or external phone.

**Fax Storage** The machine can store faxes in memory for remote retrieval.

**FAX/TEL** You can receive faxes and telephone calls. Do not use this mode if you are using a telephone answering device (TAD).

**fax tones** The signals sent by sending and receiving fax machines while communicating information.

**Fine Mode** Resolution is 196 x 203 dpi. It is used for small print and graphs.

**Function Mode** Programming mode for changing your machine's settings.

**gray scale** The shades of gray available for copying and faxing photographs.

- group number** A combination of One Touch and/or Speed Dial numbers that are stored on a One Touch key for Broadcasting.
- Interrupt** Temporarily places a waiting job on hold while you perform another operation.
- interval** The preprogrammed time period between automatically printed Activity Reports. You can print Activity Reports on demand without interrupting this cycle.
- LCD (liquid crystal display)** The display screen on the machine that shows interactive messages during On-Screen Programming and defaults to the date and time when the machine is idle.
- manual fax** When you press **[Hook]**—**OR**—lift the handset so you can hear the receiving fax machine answer before you press **[Start]** to begin transmission.
- Memory Status List** Shows how much memory is being used, how much is left, and the type of messages in memory.
- memory usage** Instructs the machine how to allocate the memory.
- Multi-Function Link® Pro** Turns your machine into a printer and scanner and enables PC faxing using the machine.
- One Touch** Keys on the machine's control panel where you can store numbers for easy dialing. You must use a separate key for each number.
- Out of Paper Reception** Receives faxes into the machine's memory when the machine is out of paper.
- Overseas Mode** Makes temporary changes to the fax tones to accommodate noise and static on overseas phone lines.
- Paging** This feature enables your fax unit to call your pager when a fax is received into its memory.
- Pause** Allows you to place a 3.5 second delay in the dialing sequence stored in One Touch and Speed Dial numbers.
- Photo mode** A resolution setting that uses varying shades of gray for the best representation of photographs.
- polling** The process of a fax machine calling another fax machine to retrieve waiting fax messages.
- print reduction** Reduces the size of incoming faxes.
- Pulse** A form of dialing on a telephone line.
- Remaining Jobs** You can check which jobs are waiting in memory and cancel jobs individually.
- remote activation** Allows you to transfer a fax call, answered at an external or extension phone, to the machine.
- remote retrieval access code** The four-digit code (159\*) that allows you to call and access your machine from a remote location.

- resolution** The number of vertical and horizontal lines per inch. See: Standard, Fine, Super Fine and Photo.
- Ring Delay** Number of rings before your machine answers an incoming call.
- Ring Volume** Volume setting for the machine's ring.
- Rotary** A form of dialing on a telephone line.
- scanning** The process of sending an electronic image of an original paper document into your computer.
- Speaker Volume** You can set the volume when your machine is on  Hook.
- speed dial** A preprogrammed number for easy dialing. You must press the Speed dial button and then two digit code to start the dialing process.
- Standard resolution** 98 x 203 dpi. For quickest transmission of regular size text.
- Station ID** The stored information that appears on the top of faxed pages. It includes the sender's name and fax number.
- Super Fine resolution** 392 x 203 dpi. Best for very small print and line art.
- Telephone Answer Code (FAX/TEL mode only)** When the machine answers a voice call, it double-rings. You can pick up at an extension or external phone by pressing this code (#51).
- Tel Index** An electronic, alphabetical listing of stored One Touch, Speed Dial and Group numbers.
- Temporary Setting** You can select certain options for each fax transmission without changing the default settings.
- Tone** A form of dialing on the telephone line used for Touch Tone telephones.
- toner cartridge** Accessory that holds toner for the drum unit on Brother laser models.
- Toner Save** A process of affixing less toner to the page to extend the life of the toner cartridge. This will make the print on received documents significantly lighter.
- transmission** The process of sending documents over the phone lines from your machine to the receiving fax machine.
- User Option List** Printed report showing your machine's settings.
- Xmit Report (Transmission Report)** A listing of each transmission, showing caller ID, date, time, and number of pages.

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## Remote Retrieval Access Card

If you plan to receive fax messages while away from your machine, carrying the Remote Retrieval Access Card printed below will serve as a convenient reminder of the retrieval procedures. Simply cut out the card and fold it to fit your wallet or organizer. Keeping it handy will help you derive the full benefit of your machine's forwarding, paging and remote retrieval features.

<p>Fold →</p>	<p><b>REMOTE RETRIEVAL ACCESS CARD</b></p> <p><b>Using Remote Access Code</b></p> <ol style="list-style-type: none"><li>1 Dial your fax number from a fax machine using touch tone.</li><li>2 When your machine answers and beeps, immediately enter your Remote Retrieval Access Code (159*).</li><li>3 Your machine signals the kinds of messages received: 1 long beep — Fax message(s) No beeps — No messages.</li><li>4 After 2 short beeps, enter a command.</li><li>5 Press 9 0 to reset your machine when you finish.</li><li>6 Hang up.</li></ol>	<p>← Fold</p>
<p>← Fold</p>	<p><b>CHECK RECEIVING STATUS</b> Press 9 7 1 1 long beep — Fax message(s) No beeps — No messages</p> <p><b>CHANGE ANSWER MODE</b> Press 9 8 then for TAD, press 1 FAX/TEL (Fax/Telephone), press 2 FAX, press 3.</p> <p><b>EXIT REMOTE OPERATION</b> Press 9 0</p>	<p>← Fold</p>

## Changing Remote Retrieval Access Code

- 1 For the FAX, press **[Function]**, **[8]**, **[3]**.  
For the MFC, press **[Function]**, **[1]**, **[8]**, **[3]**.
- 2 Enter a three-digit number from 000 to 999.  
The \* cannot be changed.
- 3 Press **[Sel.]**.
- 4 Press **[Stop]** to exit.

## Remote Commands

### CHANGE PAGING/FAX FORWARDING SETTING

- Press **[9]** **[5]**.  
then to **Turn feature off**, press **[1]**  
**Select Fax Forwarding**, press **[2]**  
**Select Paging**, press **[3]**

Fold

### Program Fax Forwarding Number

press **[4]**. Enter the new fax number where you want your fax messages forwarded, and press **[#]** **[#]**. To retrieve a Memory Status List to check the new number, after two short beeps, press **[9]** **[6]** **[1]**. Enter the number of the remote fax machine, and press **[#]** **[#]**.  
**Turn Fax Storage on**, press **[6]**  
**Turn Fax Storage off**, press **[7]**

### RETRIEVE A FAX

Press **[9]** **[6]**  
then to **Print a Memory Status List**, press **[1]**,  
then enter the number of remote fax machine, and press **[#]** **[#]**. After the beep, hang up and wait.  
**Retrieve all faxes**, press **[2]**,  
then enter the number of remote fax machine, and press **[#]** **[#]**. After the beep, hang up and wait.  
**Erase all fax messages**, press **[3]**

Fold

2

3

# brother®

Brother International Corporation  
100 Somerset Corporate Boulevard  
P.O. Box 6911  
Bridgewater, NJ 08807-0911 USA

Brother International Corporation (Canada) Ltd.  
1 rue Hôtel de Ville,  
Dollard-des-Ormeaux, QC, CANADA H9B 3H6

**Visit us on the World Wide Web  
<http://www.brother.com>**

These machines are made for use in the USA and CANADA only. We cannot recommend using them overseas because it may violate the Telecommunications Regulations of that country and the power requirements of your Multi-Function Center may not be compatible with the power available in foreign countries. **Using USA or CANADA models overseas is at your own risk and will void your warranty.**

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