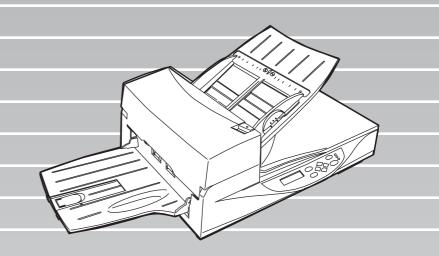
P3PC-E832-04EN



# fi-4340C Image Scanner Operator's Guide





Edition	Date published	Revised contents
01	October, 2001	First edition
02	March, 2003	Second edition
03	August, 2003	Third edition
04	October, 2004	Fourth edition
Specification No. P3PC-E832-04EN		

## 

This manual is for fi-4340C equipped with both USB and SCSI interfaces. Explanations related to the USB interface do not apply to fi-4340C equipped only with SCSI interface.

## **Regulatory Information**

## FCC declaration

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC warning:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# 

- The use of a non-shielded interface cable with the referenced device is prohibited. The length of the parallel interface cable must be 3 meters (10 feet) or less. The length of the serial interface cable must be 15 meters (50 feet) or less.
- The length of the power cord must be 3 meters (10 feet) or less.

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This digital apparatus does not exceed the Class B limit for radio noise emissions from digital apparatus set out in the Radio interference Regulations of the Canadian Department of Communications.

This Class B digital apparatus complies with Canadian ICES-003.

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- •Do not breathe the chemical liquid contained in the scanner lamps.

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Windows 2000	Microsoft® Windows® 2000 Professional operating system
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Where there is no distinction between the different versions of the above operating system, the general term "Windos " is used.

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This manual explains how to use the fi-4340C image scanner.

This manual contains chapters on the following topics: COMPONENTS INSTALLATION AND CONNECTIONS HOW TO INSTALL THE DEVICE DRIVER OPERATING INSTRUCTIONS ADF DOCUMENT SPECIFICATION OPERATOR PANEL MESSAGE SETUP MODE TROUBLESHOOTING CONSUMABLES AND OPTIONS SCANNER SPECIFICATIONS

It also contains a Glossary of Terms and an Index.

Refer to the Cleaning and Maintenance Guide for information about the routine operation of the fi-4340C.

The Cleaning and Maintenance Guide contains chapters on OPERATING INSTRUCTIONS, CLEANING, REPLACEMENT OF PARTS, ADJUSTMENT and TROUBLESHOOTING.

The fi-4340C is a very fast and highly functional color image scanner developed for high quality color image processing, using charge-coupled device (CCD) color image sensors. This scanner features high-speed duplex scanning with an automatic document feeder (ADF).

Important information that requires special attention is indicated as follows:

# 

WARNING indicates that serious personal injury may result if you do not follow a procedure correctly.

# 

CAUTION indicates that minor personal injury, loss of data, or damage to the scanner may result if you do not follow a procedure correctly.

# 

A NOTICE provides "how-to" tips or suggestions to help you perform a procedure correctly.



A TRIANGLE symbol indicates that special care and attention is required.

The drawing inside the triangle shows the specific caution.



A CIRCLE with a diagonal line inside shows action which users may not perform.

The drawing inside or under the circle shows the specific action that is not allowed.



Outline characters on a colored background show instructions users should follow.

It may also include the drawing that shows the specific instruction.

## Warning Label



The glass surface inside the ADF becomes hot during the operation. Be careful not to touch the glass surface inside the ADF.

# 

Do NOT remove from the scanner, stain or scratch the warning labels.

## About Maintenance

The user must not perform repairs on this scanner.

Contact the store where you purchased the scnner or an authorized FUJITSU Image Sanner service provider to make repairs to this product.

This section describes precautions to follow when installing the scanner.

To ensure the longevity and proper functioning of your scanner, do not install the scanner in the places and environments described below.



Important warnings employed in this manual are as follows.

#### Do not damage the power cable.



Damage to the power cable may result in fire or electric shock. Do not place heavy objects on power cables, or pull, bend, twist, heat, damage orr modify power cables. Also do not use damaged power cables or power plugs, or when the wall socket is loose.

### Use only the specified power cable or extension cable.



Use only the specified power cable or connector cables. Failure to use the correct cables might cause electric shock and equipment failure.

Use this scanner only at the indicated power voltage. Do not connect to multiple-power strips.



Use this scanner only at the indicated power voltage and current. Impropoer power voltage and current might cause fire or electric shock. Also, do not connect to multiple-power strips.

### Wipe any dust from the power plug.



Wipe off any dust from metal parts on the power plug or metal fitting with a soft, dry cloth. Accumulated dust might cause fire or electric shock.

# Do not install the device in locations subject to oil smoke, steam, humidity, and dust.



Do not install the scanner in locations subject to oil smoke, steam, humidity, and dust. Doing so might cause a fire or electric shock. Installation in areas with high levels of oil smoke, steam, humidity, or dust may result in fire or electric shock.

### Do not use the scanner if you smell a strange odor.



If you detect heat coming from the device or detect other problems such as smoke, strange smells or noises, immediately turn off the scanner and then disconnect its power plug. Make sure that the smoking has stopped, and then contact the store where you bought the scanner or an authorized FUJITSU scanner service provider.

# Ensure that water or foreign matter does not enter the equipment.



Do not insert or drop metal objects into the scanner. Do not scan wet documents or documents with paper clips or staples. Do not splash or allow the scanner to get wet.



If foreign objects (water, small metal objects, liquids, etc.) get inside the scanner, immediately turn off the scanner and disconnect the power plug from the power outlet, then contact the store where you purchased the scanner or the Maintenance Service Center. Pay particular attention to this warning in households where there are small children.

### Do not touch the inside of the scanner unless necessary.



Do not take apart or modify the scanner. The inside of the scanner contains high-voltage components. Touching these components might cause fire or electric shock.

# Before moving the scanner, disconnect the power plug from the power outlet.



Do not move the scanner with the power and interface cables connected as this might damage the cables, causeing fire, electric shock or injuries. Before moving the scanner, be sure to disconnect the power plug from the power outlet, and disconnect data cables. Also, make sure that the floor is free of obstructions.

### Switch power OFF if the equipment is damaged.



If the equipment is dropped, or covers etc. have been damaged, switch power supply OFF, remove the plug from the socket, and call your dealer or maintenance service center.

### Do not place in wet areas.



Do not place the scanner where liquid spills may occur.

## Caution

Important cautions employed in this manual are as follows.

### Do not touch the power cable with wet hands.



Do not touch the power plug with wet hands. Doing so might cause electric shock.

### Earth the equipment.



This equipment must be earthed. Always connect the power cable to a 3-pin socket. If earthing is not possible, call your dealer or maintenance service center.

## Do not install the scanner on unstable sufaces.



Install the scanner on a desk so that none of its parts protrude outside of the desktop. Also, make sure that the scanner is installed on a flat, level surface. Do not install the scanner on unstable surfaces. Install the scanner on a level surface that is free of vibration to prevent it from falling.



Install the scanner on a strong surface that will support the weight of the scanner and other devices.

### Firmly insert the power plug.

Firmly insert the power plug into the power outlet as far it can go.



Do not block the ventilation ports.



Do not block the ventilation ports. Blocking the ventilation ports generates heat inside of the scanner, which may results in fire or scanner failure.

### Do not place heavy objects or climb on top of the scanner.



Do not place heavy objects on the scanner or use the scanner's top surface for performing other work. Improper installation might cause injuries.

# Before moving the scanner, disconnect the power plug from the power outlet.



Do not move the scanner with the power and interface cables connected as this might damage the cables, causing fire, electric shock or injuries. Before moving the scanner, be sure to disconnect the power plug from the power outlet, and disconnect data cables. Also, make sure that the floor is free of obstructions.

## Protect the scanner from static electricity.



Install the scanner away from strong magnetic fields and other sources of electronic noise. Also, protect the scanner from static electricity as this might cause the scanner to malfunction.

# Be careful not to get neckties, necklaces, hair, etc. entangled in the scanner.



You may get injured if your clothing, neckties, or hair, etc. is entangled in the moving components such as gears and rollers.

# Disconnect the power plug from the power outlet when the scanner is not used for a long period of time.



When the scanner is not used for a long period of time, be sure to disconnect the power plug from the power outlet for safety.

### Do not install the scannner in direct sunlight.

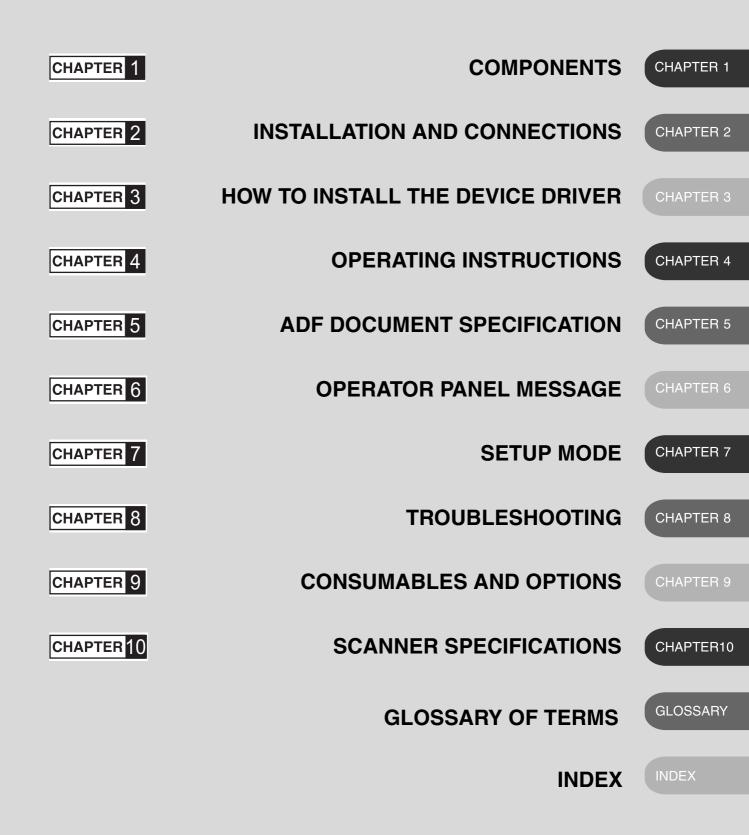


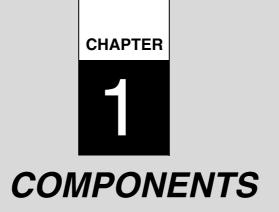
Do not install the scanner in the direct sunlight or near heating apparatus. Doing so might cause excessive heat to build up inside the scanner, causing fire or scanner trouble. Install the scanner in a well-ventilated location.

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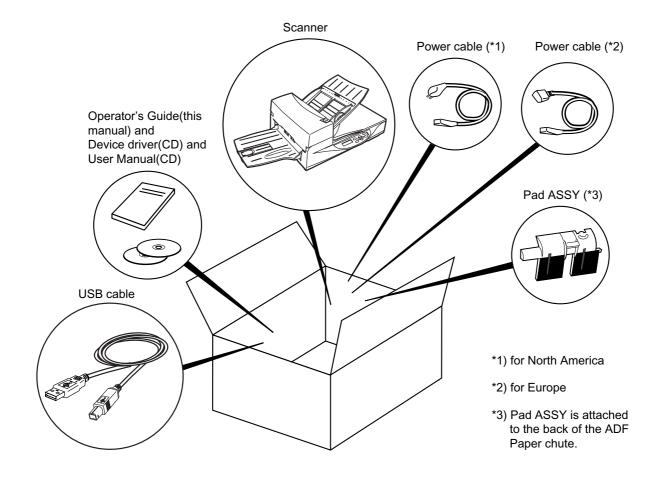


This chapter describes checking the Components, Units and Assemblies of the scanner, and operator panel arrangement, and the function of parts.

Checking the Components	1-2
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## **Checking the Components**

These high precision components must be handled carefully. Confirm that all the components shown in the following figure have been received. If any component is missing, please contact your sales agent.

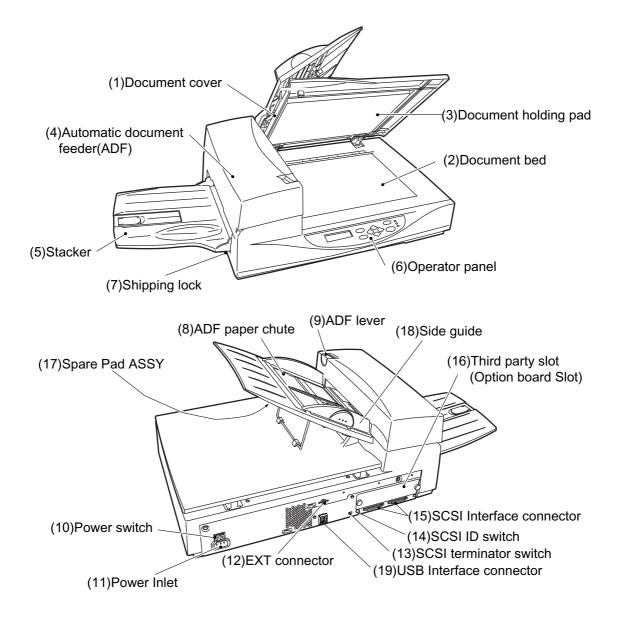


The CD-ROMs contains "Cleaning and Maintenance" and this manual.

## **Units and Assemblies**

This section shows the exterior view and assemblies of the scanner. This section also provides the name of each part and describes its functions.



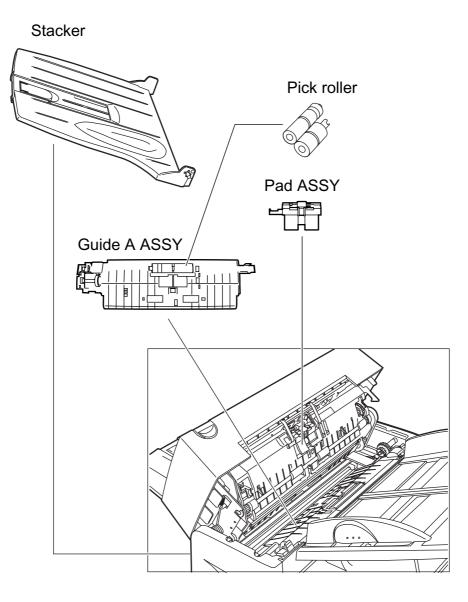


## 

The Shipping lock should be switched to the operating position when the scanner is to be used. Refer to Chapter2 "Placing the Shipping lock (page 2-3)" for details.

No .	Part	Function
1	Document cover	Closes over and keeps in place the document to be read.
2	Document bed	Holds document to be read. Also called Flatbed (FB).
3	Document holding pad	Presses document to the Document bed.
4	Automatic document feeder (ADF)	Automatically feeds documents to the reading position.
5	Stacker	Stacks the read documents.
6	Operator panel	Contains indicator panel that indicates scanner status.
7	Shipping lock	Secures the carrier unit. Set to locked position when moving scanner.
8	ADF paper chute	Holds the documents to be fed by the automatic document feeder (ADF).
9	ADF lever	Opens/closes the ADF to enable the removal of documents jammed in the feeder.
10	Power switch	Turns the power On or Off.
11	Power inlet	Connects to an AC power outlet with the power cable.
12	EXT connector	Connects to an optional imprinter.
13	SCSI terminator switch	Set to ON when the image scanner is the final device on the SCSI daisy chain. Otherwise, set to OFF.
14	SCSI-ID switch	Sets the SCSI ID. (Default ID is 5.)
15	SCSI Interface connectors	Connect to the host system with SCSI interface cables.
16	Third party slot	A Fujitsu VIDEO INTERFACE BOARD or fi-475CMP3(JPEG COMPRESSION BOARD) is installed.
17	Spare Pad ASSY	Spare pad assembly. (One spare pad assembly is provided as the default setting.)
18	Side guide	It is adjusted to the width of the paper in order not to scan skewed pages.
19	USB interface connector	Used for connecting a USB interface cable from a PC.

## Assemblies

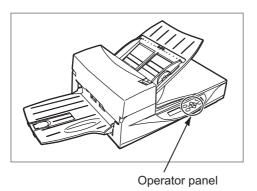


1-5

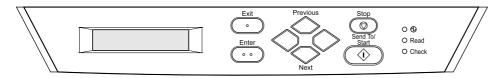
# **Operator Panel**

The operator panel is located on the upper right hand side of the scanner. The panel consists of an LCD display (16 characters x 2 lines), LEDs and buttons.

## Arrangement



Operator panel



## Button and LED

Name of the button and LED		Function
Button	Next 🔿	Displays the next LCD screen.
	Previous 🔿	Displays the previous LCD screen.
	$\diamond$	Moves the cursor to the left.
	$\diamond$	Moves the cursor to the right.
	Exit	When you are entering settings on the Operator panel, pressing this button returns you immediately to the Scanner Ready screen.
	Enter	Enters the parameter currently selected by the cursor.
	Send To/ Start	Operational only when Manual start mode is set or the Read lamp lights; Starts the reading when video interface option is used. Some application software packages make use of this button.
	Stop	When the Check LED lights, pressing this button releases the error status (turns off Check and returns to the Scanner Ready screen). Operational only during the reading operation; stops the reading when the video interface option is used. Also turns off the Check lamp.
LED	Ð	Indicates that the scanner is On.
	Read	Indicates the scanner is reading or ready to read.
	Check	If lit, this indicates that an alarm occurred. Pressing the Stop button turns the Check lamp Off. If it blinks at one second intervals, this means that a jam or Multi feed has been detected. If the problem is jammed paper, removing the jammed paper turns off the Check lamp. If the problem is Multi feed, pressing the Stop button turns off the Check lamp. If it blinks at four seconds intervals, this means that cleaning the ADF is necessary.





# **INSTALLATION AND CONNECTIONS**

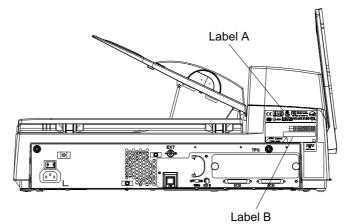
The chapter describes how to install and connect the scanner.

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Placing the scanner	2-3
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## **Confirm of the Manufacturing Labels**

This section describes how to check the labels.

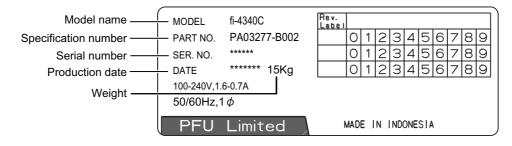
Position of two labels



Label A (Example; your actual label may differ) Indicates regulations and standards to which this scanner conforms.



Label B (Example; your actual label may differ) Indicates product information as follows:



## 

Serial Number for dual interface(i.e. SCSI/USB) model is 700001 or later.

## **Placing the scanner**

This section describes how to place the scanner.

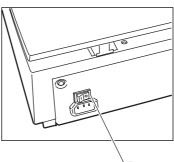
- 1. Place the Shipping lock.
- 2. Connect the interface cable (USB/SCSI).
- 3. Set the SCSI ID and the SCSI terminator (When using SCSI interface).
- 4. Mount the Stacker.
- 5. Connect the power cable.

Turn the power switch off, before placing the scanner. Turn the power switch off as follows:



## Turning the power switch Off

**1.** Press the "O" side of the power switch to turn the power Off.





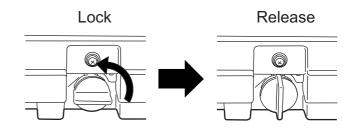


Power switch

### Placing the Shipping lock

To keep the scanner from being damaged during shipping, the carrier unit is fixed with a Shipping lock. After placing the carrier unit where it will be installed, release the Shipping lock as explained below.

**1.** Turn the Shipping lock 90 degrees counterclockwise.



# 

Before moving the scanner, make sure that the Shipping lock is locked to prevent possible damage. Before locking the Shipping lock, make sure that the carrier has returned to the home position.

### Connecting the interface cable

When running Windows 95 or Windows NT 4.0, connect the SCSI interface cable. When running Windows 98, Windows ME, Windows 2000 or Windows XP, connect either USB or SCSI cable.

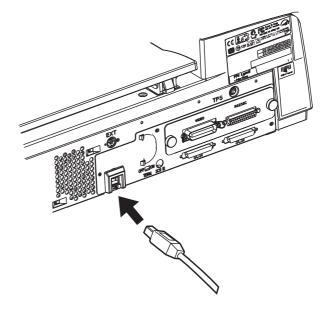
# 

1. If the scanner is connected to the computer with both interface cables, USB interface connection will be used.

2. Do not connect the scanner to 2 PCs, one with USB Interface and the other one with SCSI interface.

#### When connecting the scanner with USB interface cable.

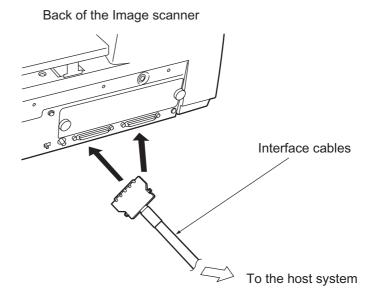
- 1. Connect the USB interface cable to the scanner.
- **2.** Connect the other end of the USB interface cable to the computer.



- 1. Be sure to use USB cable which is provided with the scanner.
- 2. When connecting to a USB hub, use the first stage hub that is closest to the computer. If you use a the second or later hub stages, the scanner may not operate properly.

### When connecting the scanner with SCSI interface cable.

- 1. Connect the SCSI interface cable to the scanner.
- 2. Connect the other end of the SCSI interface cable to the computer.





- 1. Factory default for the SCSI terminator is On. If the scanner is in the middle of the daisy chain or of two devices, turn the scanner termination Off via the operator panel.
- 2. The factory default for the SCSI ID is 5. If the ID of the scanner is the same as the other device, change the ID via the operator panel or change the ID of the other device.

## Setting the SCSI ID and the SCSI Terminator (when using SCSI interface cable)

The default of the SCSI ID is 5. The SCSI ID is set by using the Setup mode of the operator panel.

- 1. Turn the power Off by pressing the "0" side of the power switch.
- 2. Turn the SCSI-ID switch on the rear of the image scanner to set the SCSI-ID.

ID No.	Description	
0 to 7	Can be set	
8, 9	Return to default (Available ID NO. = 5) if set to 8 or 9.	

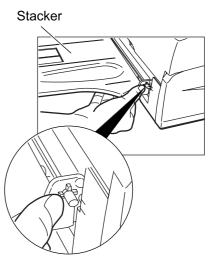
3. Set the SCSI terminator switch on the rear of the image scanner to ON or OFF.

# 

The SCSI terminator switch is set to ON before shipment from the factory. When the image scanner is located in the middle of a SCSI daisy chain, change the terminator setting to OFF. When the image scanner is located at the end the daisy chain, set the terminator to ON.

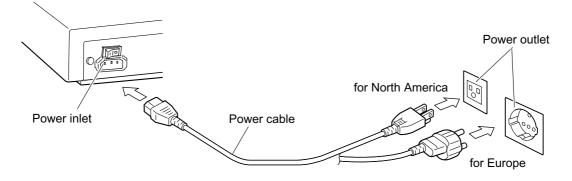
### Mounting the Stacker

1. Press in the bottom of the pins on both sides of the stacker with your fingertips, and insert the stacker pins until they slot into the holes on the image scanner.



### Connecting the power cable

1. Connect the power cable to the power inlet of the device and a power outlet.





# HOW TO INSTALL THE DEVICE DRIVER

This chapter describes how to install this software.

# Procedure

For details on how to install the device driver, refer to the attached installation guide and the device driver's user's guide in device driver's CD.

# CHAPTER

# **OPERATING INSTRUCTIONS**

This chapter describes this scanner's operations.

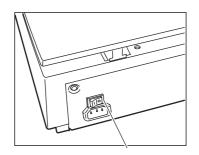
*Refer to the "Cleaning and Maintenance" manual for routine scanner maintenance.* 

Turning the Power On4-2
Waking up the Scanner from the Low Power Mode4-3
Manual Feed Mode Setting4-4
Loading Documents on the ADF4-5
Loading Documents on the Document bed4-9
Loading Documents Larger than the Document bed4-10
Reading a Page from a Thick Book4-11
Clearing Paper Jams4-12

# **Turning the Power On**

This section describes how to turn the power On.

Press the "I" side of the power switch. The power turns On and the green Power lamp at the operator panel lights.







## Waking up the Scanner from the Low Power Mode

This section describes how to wake up the scanner from the Low Power Mode.

To wake up the Scanner, simply press a button, set the papers on the ADF, or send a command to scan from the host computer.

## 

As an ENERGYSTAR<sup>®</sup> partner, PFU Limited declares that this scanner meets the ENERGYSTAR<sup>®</sup> guidelines for energy efficiency.

In this mode, the scanner waits for some predetermined time before issuing a "Paper Empty" message after all documents are read. This predetermined time (time-out limit) is specified in the Setup mode. Therefore, you can set the next documents on the ADF paper chute without interrupting the reading operation.

The procedures for setting the manual feed mode are as follows:

1. Turn the power On and verify that "Scanner Ready" is displayed on the LCD.

Screen M1

							Х	Х	Х	Х	
Re	а	d	у	Х	Х	Х	Х	Х	0	>	

2. Press Next then the scanner displays Screen M2.

Screen M2

1	R	е	а	d	i	n	g	Μ	0	d	е	

3. Press Next then the scanner displays Screen M3

#### Screen M3

	Μ	0	d	е		S	е	Ι	е	С	t		1	
М		Μ	а	n	u	а	Ι		F	е	е	d	?	

4. Press Enter then the scanner displays Screen M4.

#### Screen M4

М	0	1		Μ	а	n	u	а	Ι	F	е	е	d	
	=	Ν	0	/	Υ	е	s							

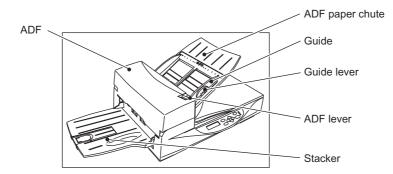
- **5.** Select "Yes" by pressing  $\bigcirc$ . Then press Enter .
- 6. Press Exit to return to the "Scanner Ready" screen. Note that "Manual Feed" is shown on the LCD. This means that the scanner is in Manual Feed mode.

#### Screen M1

М	а	n	u	а	Ι				Х	Х	Х	Х	
R	е	а	d	у		Х	Х	Х	Х	Х	0	>	

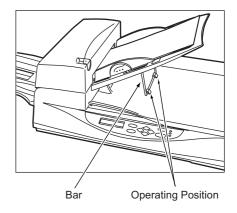
# 

Be sure to change the position of the Shipping lock according to the Chapter2 "Placing the Shipping lock (page 2-3)" procedure before operation.



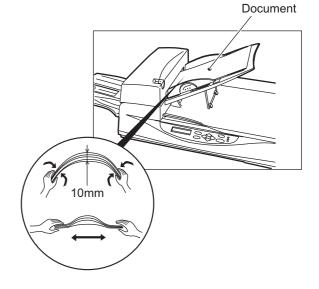


Lift up the ADF paper chute and lock the bar in its operating position.

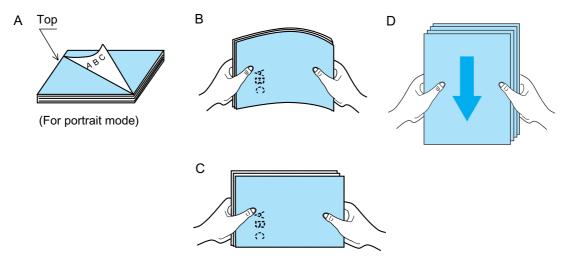




Fan the sheets before setting a stack of documents on the ADF paper chute. For details see the next page.



- Place the documents face down, with the top to the left as shown in A. (The long side is the top for landscape mode and the short side is the top for portrait mode.)
- Holding both ends with both hands, lift the documents.
- Hold the documents tightly with your left hand and bend them as shown in B.
- Grip the documents tightly with your right hand, loosen the grip of your left hand, and straighten as shown in C.
- Even up the feed edge of the batch of paper as shown in D.



#### 

Reduce the batch size of the documents if Multi feed or mispick occurs.

#### 

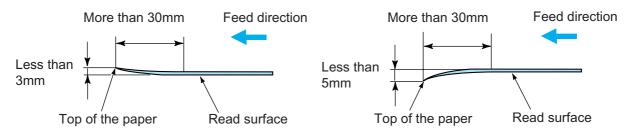
Note the following when preparing the paper.

- Remove paper clips and staples. Flatten the staple holes.
- A preliminary document feed test may be necessary to avoid unexpected errors. If document slip or jam in the ADF (JAM error) or Multi feed occurs frequently, read the documents manually using the Document bed.

The following documents may be difficult to be scanned successfully with the ADF:

- Documents of non-uniform thickness (e.g. envelopes)
- Wrinkled or curled documents
- Folded or torn documents
- Tracing paper
- Coated paper
- Carbon paper
- Carbonless paper

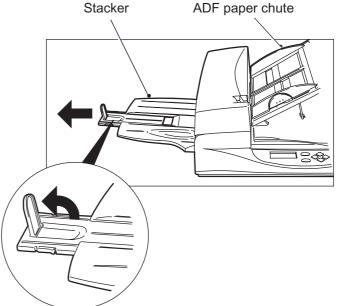
- Photosensitive paper
- Perforated or punched documents
- Documents that are not square or rectangular
- Very thin documents
- Do not use the following type documents for scanning with the ADF.
  - Paper-clipped or stapled documents
  - Documents on which the ink is still wet
  - Documents smaller than A8 (portrait) size
  - Documents wider than A3 or 11 in. x 17 in. size
  - Documents other than paper such as fabric, metal foil, or transparencies
- When using the ADF, the leading edge of all document sheets must be evenly aligned. Make sure that curling at the leading edge is withtin the following toleranaces:



• To avoid skewing, do not feed documents of different widths during the same batch.

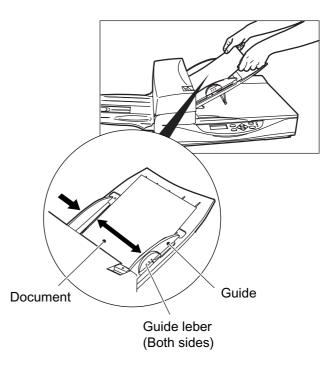


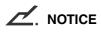
Adjust the stacker extension to the paper size.



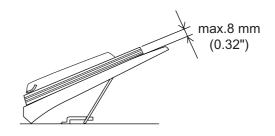


Set the guides so that there is a small Clearance between the document edges and the guides. Load the document face down on the ADF paper chute and adjust the guides to the document width.





- Squeeze the guide lever to free the guides.
- Do not load document stacks thicker than 8 mm.



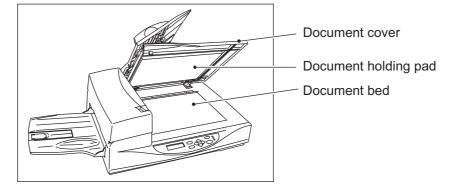
• Set the guides so that they touch the document sides.

After the read command is issued from the host system and the documents are read, scanned documents are expelled into the stacker for removal.

# Loading Documents on the Document bed

#### 

Do not look directly at the light source during the read operation.



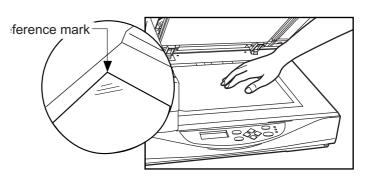


Open the document cover.





Place the document face down and align the top left corner with the reference mark.





Slowly close the Document cover.

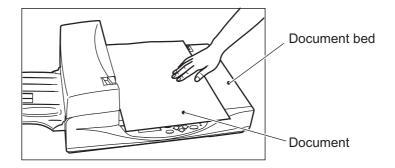


Issue the read command from the host system.

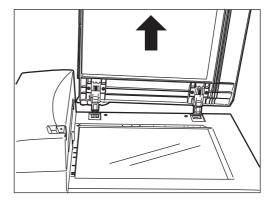
#### Loading Documents Larger than the Document bed

# 

Do not look directly at the light source during the read operation.

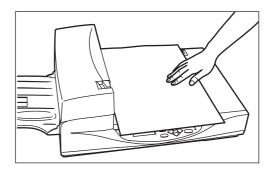


Open the Document cover to an angle of approximately 90 degrees, and lift up the cover (in the direction of the arrow) to remove it.



1	
	,

Place the document face down on the Document bed. Issue the read command from the host system.



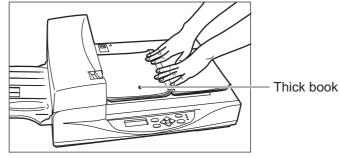


After the read operation, remove the document, re-attach the Document cover and close it gently.

# **Reading a Page from a Thick Book**

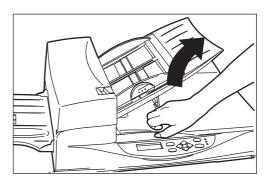
# 

Do not look directly at the light source during read operation.





Open the Document cover.

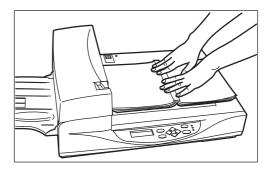




Place the book face down on the Document bed.



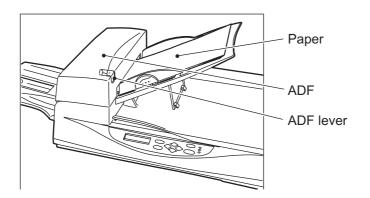
Issue the read command from the host system. Keep the cover open for the reading operation.





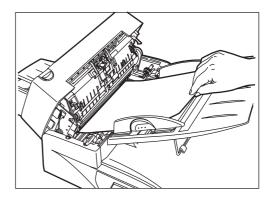
Do not move the book during the read operation.

#### **Clearing Paper Jams**





Remove all the documents from the ADF paper chute





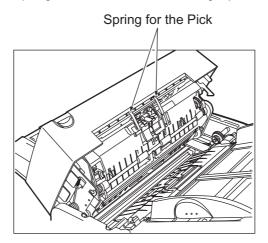
Pull the ADF lever to open the ADF.

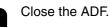
Remove the jammed document(s).



# 

- Inspect the paper and the paper path. Make sure no staples, paper clips or other materials caused the jam. All staples and paper clips should be removed from all documents before scanning.
- Be careful not to pull the spring for the Pick while removing a jammed document.





• 4 - 12

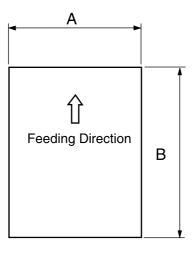


# **ADF DOCUMENT SPECIFICATION**

This chapter describes the document size and document quality required to use the ADF successfully.

Document Size	5-2
Document Quality	5-3
Maximum ADF Capacity	
Areas not to be Perforated	5-6
Grounding Color Areas	5-7
Multi Feed Detection Conditions	5-8
Job Separation Sheet	5-9

The following figure shows document sizes that the scanner can read using the ADF.



Scanner	Maxi	mum	Minimum			
Scallie	A	В	A	В		
fi-4340C	216 (8.5 in)	356 (14 in)	53 (2.1 in)	74 (2.9 in)		

(Unit : mm)

#### **Document Quality**

This section describes the types and weights of paper that the scanner can read and precautions in preparing documents to ensure maximal scanner functioning.

#### Document type

The recommended paper type for documents is as follows:

- Woodfree paper
- Wood containing paper

When using documents of a paper type other than the above, perform a test-scanning with a few sheets of the same type before executing the actual task in order to check whether or not the documents can be scanned.

Any paper can be used on the Document bed. However, the ground color specification must satisfy the specification described in the Grounding Color Area section.

#### Paper weight

The paper weight should fall within the following ranges:

• 52 to 127 g/m<sup>2</sup> (13.9 to 34 lb), 127g/m<sup>2</sup> (34lb) for A8

#### Precautions

A preliminary document feed test may be necessary to avoid unexpected errors. If document slip or jam in the ADF (JAM error) or Multi feed occurs frequently, scan the documents manually using the Document bed.

The following documents may be difficult to be scanned successfully with the ADF:

- Documents of non-uniform thickness (e.g. envelopes)
- Wrinkled or curled documents (Refer to NOTICE in this section)
- Folded or torn documents
- Tracing paper
- · Coated paper
- Carbon paper
- Carbonless paper
- Photosensitive paper
- Perforated or punched documents

- Documents that are not square or rectangular
- Very thin documents

Do not use the following type documents for scanning with the ADF.

- Paper-clipped or stapled documents
- Documents on which the ink is still wet
- Documents smaller than A8 (portrait) size
- Documents wider than A3 or 11 in. x 17 in. size
- Documents other than paper such as fabric, metal foil, or transparencies

# 

- When scanning semi-transparent documents, set the density to light to avoid a bleed through.
- Carbonless paper contains chemical substances that may harm the Pad or rollers (e.g. Pick roller). Pay attention to the following:

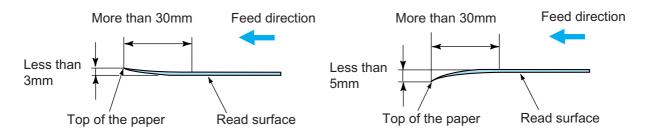
Cleaning

: If mispicks occur frequently, clean the Pad and Pick roller. For details on cleaning method, refer to the "Cleaning and Maintenance" manual.

Replacing parts

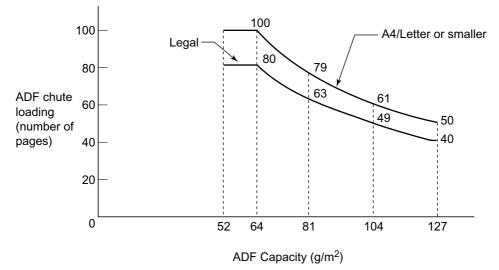
:The service life of the Pad and Pick roller may be shortened compared to the case of scanning wood containing paper documents.

• When using the ADF, the leading edge of all document sheets must be evenly aligned. Make sure that curling at the leadin edge is withtin the following toleranaces:



• To prevent rollers from becoming dirty, avoid scanning documents containing large areas written or filled in pencil. If scanning of such documents is inevitable, clean the rollers more frequently.

The maximum number of sheets that can be loaded on the ADF paper chute is determined by the size and weight of the documents. The following graph shows the maximjum documents loading capacity of the ADF based on paper weight.

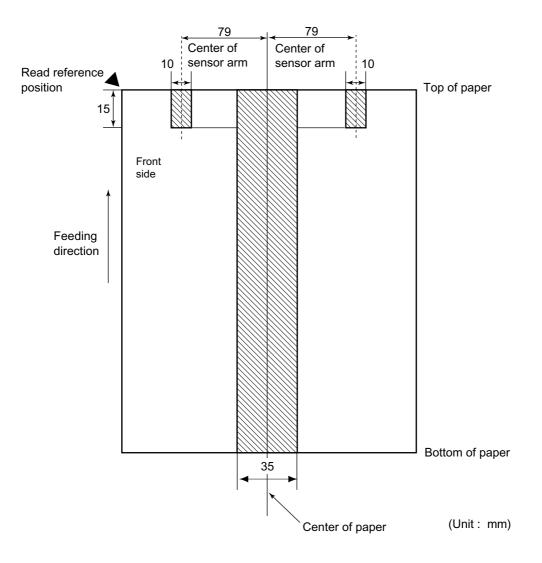


Paper weight conversion table

Unit	Conversion							
lb	13.9	17	20	24	27.9	34	41.8	
g/m <sup>2</sup>	52	64	75	90	104	127	157	

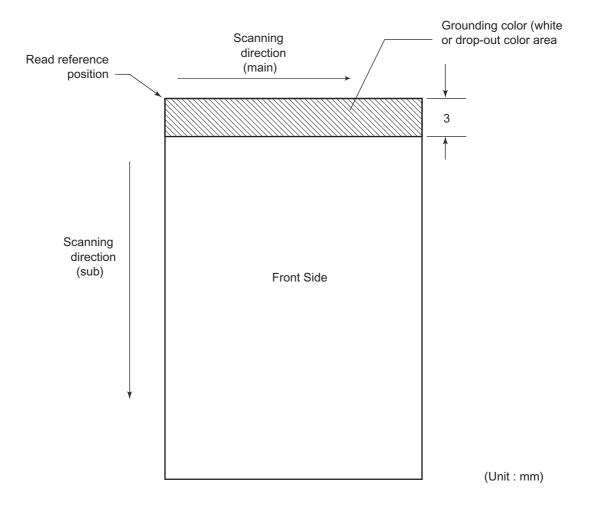
#### Areas not to be Perforated

With the ADF, perforations in the shaded areas may cause errors. If you must read data from such a paper, use the Document bed:



# **Grounding Color Areas**

The shaded area in the Figure below should have paper grounding color (white) or drop-out color. If not, turn the white level following Off when reading.



Select one of the following:

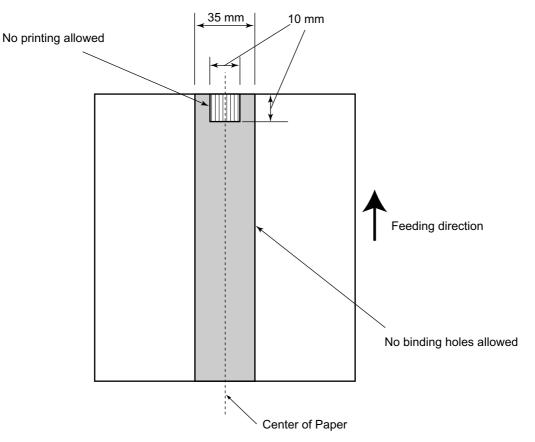
- Check thickness
- Check length
- Check thickness and length

The following conditions are required when any of the above option is selected:

- 1 Thickness: 0.065 mm to 0.15 mm
- 2 Paper length accuracy: 1% or less
- 3 Any black print at the center of the leading edge of the paper is not allowed. (10 mm x 10 mm)
- 4 No binding holes are allowed within 35 mm of the middle (halfway point) along the center of the paper.
- 5 Printing duty: 12 % or less
- 6 The deviation of the amount of transparent light on the base color area should be less than 10 %.

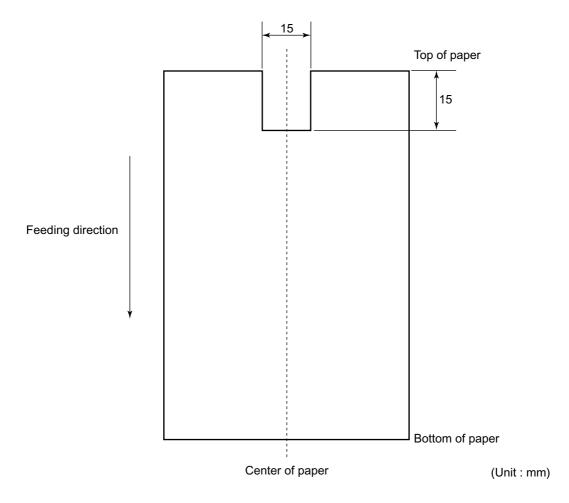
# 

Certain paper types or a certain condition of paper result in lower detection rates in terms of Multi feed detection.



1 Shape

The following shows the typical format of the job separation sheet.



#### 2 Paper conditions

Paper width must be A4 or larger (210 mm or larger in width).





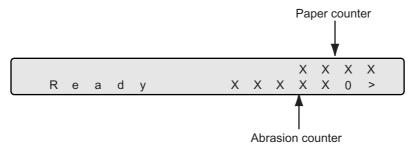
# **OPERATOR PANEL MESSAGE**

This chapter describes the components of the scanner, part names, and LED indicators. After unpacking the scanner, confirm that all components have been received by checking them against the list in the first section.

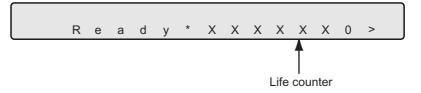
Counter Display	6-2
Operation status	6-3
Temporary error	6-4
Alarm	6-5

# **Counter Display**

The displays for the Paper and Abrasion counters are shown below:



Simultaneously press the  $\bigcirc$  and  $\bigcirc$  arrow buttons for at least 1 second, to switch to the Life counter panel display as shown below:

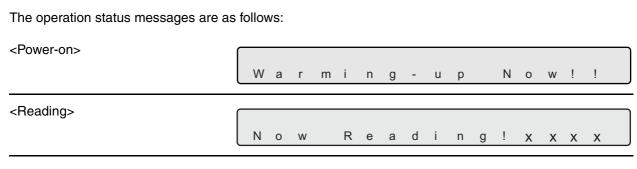


Counter	Function						
Paper counter	When the button is pressed for at least 1 sec- ond	The paper counter counts the number of scanned sheets from the start of reading until Paper Empty or an error is detected. The counter is automatically reset at the start of reading. The counter is used for checking the number of the sheets scanned in one batch.					
	When the button is pressed for at least 1 sec- ond	This counter increments each time a document is scanned. It is not initialized until the power is turned off. The counter can be used, for example, for checking the number of sheets that have been scanned in one day.					
Abrasion counter	counter increments	The abrasion counter counts the accumulated number of scanned sheets. This counter increments every 10 sheets. It is useful to check the cleaning cycle or the parts replacement cycle. How to reset it is described in Chapter7 "SETUP MODE".					
Life Counter	Keeps a cumulative count of the number of scans made after shipping. This counter increments by 1 after every 10 scans and may be used to estimate of the device's remaining scan life.						

# 

When the counter value is 0, no number is displayed.

#### **Operation status**



<Low Power Mode>

When the Scanner Display turns Off and the power indicator remains "On", the scanner is in the Low Power Mode.

#### 

One of the following will wake up the scanner:

- Pressing any button.
- Setting the paper on the ADF.

Sending a command from the host computer.

#### <Waiting for Start>

(Only When the Video Interface Option is installed.)

The scanner displays the following screen when waiting for the Start button to be pressed:

Start SW ON!

<Cleaning request>

When the ADF glass cleaning is necessary, the scanner displays the following on the LCD:

С	Ι	е	а	n		А	D	F		G	Ι	а	s	s	
	Ν	0	W		R	е	а	d	i	n	g	!			

When the Pick roller cleaning is necessary, the scanner displays the following on the upper line:

С	I	е	а	n		Ρ	i	С	k	r	0	Ι	I	е	r	
	Ν	0	W		R	е	а	d	i	n	g	!				

When the ADF glass and the Pick roller cleaning are necessary, the scanner displays the following:

С	Ι	е	а	n	Ρ	i	С	k	r	0	Ι	Ι	е	r
С	Ι	е	а	n	А	D	F		G	Ι	а	s	s	

Clean the Pick roller or the ADF glass in accordance with the manual, "Cleaning and Maintenance".

#### **Temporary error**

<Hopper empty> Paper Empty This message is displayed if there is no more paper on the ADF paper chute during a read operation in ADF mode. Fill the ADF paper chute with paper. To enable the read operation, press the stop button. <Jam> Paper Jam This message is displayed if a document is jammed in the ADF. See the "Cleaning and Maintenance" manual for removing jammed documents. <ADF cover open> ADF-Cover O p e n This message is displayed if the ADF is not closed completely. Close the ADF completely. To enable the read operation, close the ADF completely. <Multi feed error> Multi Feed This message is displayed when the ADF detects the Multi feed error. Check the document and re-scan the document. <No Ink Cartridge> е Ν 0 Ink Cartridg This message is displayed when the print cartridge is not put in fi-434PR (Imprinter). Please place the cartridge. <Print Error> Print Error This message is displayed when the print position mark of fi-434PR (Imprinter) is set to the area which is out of the paper path or when the stacker is full of ducuments. Please set the fi-434PR (Imprinter)

to the correct position or take the paper away from the stacker.

One of the following messages is displayed if an error occurs in the scanner. If one of the following error messages is displayed, turn the power Off and then On again. If the same message is displayed, contact your service representative.

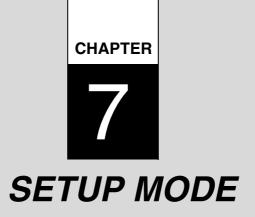
Ontion alore front	_																
<optical alarm="" front=""></optical>		0		r t	o i	n c	t a	I	S	i A	d I	e a	r	m			
<optical alarm="" back=""></optical>	_																
			В	а	С	k		S	i	d	е						
		0	р	t	i	С	а	Ι		А	Ι	а	r	m			
<fb alarm="" mechanism=""></fb>	$\square$					_											
						F	Ι			b		d					
		Μ	е	С	h	а	n	i	С	а			А	I	а	r	m

#### 

When the total number of sheets scanned by the ADF is less than 100, the message above and the message below are displayed alternately. Remove the bracket (Shipping Lock) that holds the carrier in place.

		С	h L		C C	k k		S	h	i	р	р	i	n	g	
<motor alarm="" fuse=""></motor>	_															
		М	0	t	0	r	f	u	S	е		А	I	а	r	m
<lamp alarm="" fuse=""></lamp>	ſ															
		L	а	m	р	f	u	S	е		Α		а	r	m	
<image alarm="" transfer=""/>						-		_				•		_		
		1	m	g			r	а	n	S		A		а	r	m
<memory alarm=""></memory>		Μ	е	m	0	r	у		A	I	а	r	m			
<eeprom alarm=""></eeprom>																
		Е	Е	Ρ	R	0	Μ		A	I	а	r	m			
<fan alarm=""></fan>		F	A	Ν		A	1	а	r	m						

<ipc alarm="" board=""> (Image Processing board)</ipc>	IPC Board Alarm
<self-diagnostics error=""></self-diagnostics>	The Power indicator (LED) and Check lamp blink alternately.
<imprinter alarm=""></imprinter>	I m p r i n t e r A I a r m The Power Indicator (LED) and Check lamp blink alternately.
<scsi alarm="" controller=""></scsi>	Hardware Error
<usb alarm="" controller=""></usb>	USBAIarm



This chapter describes the setup mode of the scanner.

Activating the Setup Mode	7-2
Contents of the Setup Mode	7-3

This section describes how to activate the setup mode.

1. Turn the power On. Then the scanner displays "Scanner Ready" on the LCD.

Screen M1



2. If the scanner does not have a video interface option, go to the procedure step 3.

Press Next then the scanner with the video interface option displays Screen M2. Screen M2

M	0	d	е		S	е	I	е	С	t		0	
1	R	е	а	d	i	n	g		Μ	0	d	е	

3. Press Next then the scanner displays Screen M3.

Screen M3

	Μ	0	d	е		S	е	Ι	е	С	t		1	
Μ		Μ	а	n	u	а	Ι		F	е	е	d	?	

4. Press Next then the scanner displays Screen M4.

Screen M4

М	0	1		Μ	а	n	u	а	Ι	F	е	е	d	
	=	Ν	0	/	Υ	е	s							

5. Press Enter. Now the scanner is at Screen 1 (page 7-5) in Setup mode.

#### 

Any time you press Exit, you can return to the "Scanner Ready" screen.

This section describes the contents of the setup mode.

No	Item	Description	Selectable parameters	Default
1	Multi feed check	Specifies the Multi feed detection. Multi feed is detected by checking the document length and/or paper thickness.(*1)	No/Yes	No
2	Length check =No/10/15/20 mm	Specifies the document length to enable Multi feed detection sets the document length.	Tolerance: No/10/15/20mm	No
3	IPC pre-setting	Scanner automatically sets the recommended reading parameters. 3 sets of parameters are available when IPC-4D is not installed.	Document: No 1: Sharpen 2: Darken Character 3: Copy Quality	No
4	Resetting of abrasion counter	Resets the abrasion counter.		
5	Pick start time setting	Specifies the time from document Insertion to the start of picking. User can select the most comfortable Pick start time for the job.	1 me: 0.2 to 29.8 sec	1.0 sec
6	Time-out limit setting	Specifies the time the scanner waits for the next document insertion after the last document was scanned.	Time: 27 values from 1 to 1999 sec	30 sec
7	ADF front offset setting(*2)	Specifies the horizontal and vertical offset of the front side image when using the ADF.	Offset: H:-2 to +3 mm V:-2 to +3 mm	Offset: H: 0 mm V: 0 mm
8	ADF back offset setting(*2)	Specifies the horizontal and vertical offset of the back side image when using the ADF.	Offset: H:-2 to +3 mm V:-2 to +3 mm	Offset: H: 0 mm V: 0 mm
9	Document bed offset setting(*2)	Horizontal and vertical offset of the FB image is specified.	Offset: H:-2 to +3 mm V:-2 to +3 mm	Offset: H: 0 mm V: 0 mm
10	IPC status display (*3)	Displays whether or not the image processing board (IPC-4D) and the Imprinter option are installed.		
11	Low Power Mode setting	Changes the default setting of the duration for power save.	5 min. to 60 min.	15 min.
12	Select Interface	Selects the interface when the scanner has a board in the third party Slot.	Auto/Standard/Tps	Auto
13	Display TPS Board ID Number	Displays the ID number of the board which is installed in the third party Slot.		

(Continued)

No	Item	Description	Selectable parameters	Default
14	IPC mode	When the IPC-4D image processing board is installed in the third party Slot, select this IPC-4D board or the image processing circuit built in the scanner.	Standard/IPC4D	Standard
15	ADF Edge Erasing	Adjusts the edge areas to be erased from the image scanned by the automatic document feeder (ADF).	Left/Right: 0 to 15 mm Top: 0 to 15 mm Bottom: -7 to 0 mm	Left/Right: 0 mm Top: 0 mm Bottom: 0 mm
16	FB Edge Erasing	Adjusts the edge areas to be erased from the image scanned by the flat bed (FB).	Left/Right: 0 to 15 mm Top: 0 to 15 mm Bottom: 0 mm	Left/Right: 0 mm Top: 0 mm Bottom: 0 mm
17	Select read color	Selects the color to be read in unicolor reading.	R/G/B/W	G
18	Gray mode	Switches between quality priority scanning and speed priority scanning when scanning grayscale images.	Normal/ Fast	Fast
19	Remaining ink	Displays the remaining amount of ink when the Imprinter option is attached and resets the remaining ink counter when replacing the ink.	Reset/No	No
20	Print No.	Selects printing of Nos. when the Imprinter option is attached.	on/off	off

\*1) Some restrictions apply to the detection of a Multi feed.

\*2) This offset refers to the difference from the value adjusted by automatic offset adjustment.

\*3) The display message may differ depending on the option installed.

#### 1 Setting Multi feed detection (Paper Thickness)

When you set the use of Multi feed detection, you must set it as follows:

1. Press Next or Previous and let the scanner display Screen 1.

Screen 1

!	0	1		Μ	u	Ι	t	i		F	е	е	d			
=	Ν	0	/	Υ	е	s	$\rightarrow$	1	/	2	:	S	t	0	р	

2. At Screen 1.

Press either the  $\bigcirc$  or  $\bigcirc$  button to set the Multi feed detection according to the paper thickness (transmitted light).

The paper thickness is checked using the difference between two consecutive sheets of paper fed from the ADF. On this screen, select whether or not to check for Multi feeding, and select the error processing.

Each time either of these buttons is pressed, the location of the blinking moves. When the  $\bigcirc$  button is pressed, the blinking moves from (1) to (3). When the  $\bigcirc$  button is pressed, the blinking moves in the opposite direction. However, if the setting by the host computer is valid, the location of the blinking does not move when either button is pressed.

- (1) "No" is blinking: Paper thickness is not checked.
- (2) "Yes" and "1" are blinking: Paper thickness is checked. However, a detected Multi feed error is displayed on the screen only; processing is continued.
- (3) "**Yes**" and "**2: Stop**" are blinking: Paper thickness is checked. When the Multi feed error is detected, the scan processing is stopped. The error is then reported to the host.

If you want to disable the Multi feed, select "No" then press Enter . Press Exit to return.

# 

- 1. Multi Feed detection might have better results when both the paper thickness and the paper length are used.
- 2. When the document in ADF is not the Multi fed document, the previous document might be Multi fed, in case the scanner stops feeding by using the Multi feed detection.
- 3. Depending on the type of printing on the document, a Multi feed may not be detected by the paper thickness.

#### 2 Setting Multi feed detection (Paper Length)

1. Press Next or Previous and let the scanner display Screen 2.

Screen 2

!	0	2		L	е	n	g	t	h		С	h	е	С	k	
=	Ν	0	/	Υ	е	s	$\rightarrow$	1	/	2	:	S	t	0	р	

2. Press either the  $\bigcirc$  or  $\bigcirc$  button to set Multi feed detection according to paper length. The paper length is checked using the difference between two consecutive sheets of paper fed from the ADF.

Each time either of these buttons is pressed, the location of the blinking moves. When the  $\bigcirc$  button is pressed, the blinking moves from (1) to (3). When the  $\bigcirc$  button is pressed, the blinking moves in the opposite direction. However, if the setting by the host computer is valid, the location of the blinking does not move when either button is pressed.

- (1) "No" is blinking: Paper length is not checked.
- (2) "**Yes**" and "**1**" are blinking: Paper length is checked. However, a detected Multi feed error is displayed only on the screen; processing is continued.
- (3) "**Yes**" and "**2: Stop**" are blinking: Paper length is checked. When the Multi feed error is detected, the scan processing is stopped. The error is then reported to the host.

If you want to disable the Multi feed, select "No" then press Enter . Press Exit to return.

After pressing Enter, the scanner displays the Screen 3.

Screen 3

~											
	!	0	2	-	1	L	е	n	g	t	h
	=										

- Press either the <> or <> button to set Multi feed detection (paper length). When the <> button is pressed, the blinking moves from (1) to (3). When the <> button is pressed, the blinking moves in the opposite direction.
  - (1) The "10" is blinking: Threshold is 10mm
  - (2) The "15" is blinking: Threshold is 15mm
  - (3) The "20" is blinking: Threshold is 20mm

#### 3 Setting IPC pre-set mode

When you set the use of the IPC pre-set mode, you must set it as follows:

**1.** Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 4.

Screen 4

Screen 5



2. At Screen 4, press  $\bigcirc$  or  $\bigcirc$  to select the pre-Setting and press Enter to activate the pre-setting. Then the scanner displays Screen 5.

0 3 1 Us Ρ С ! е 1 ? Υ Ρ е s e t е s 1 N 0 r

# NOTICES

The following IPC pre-settings can be selected when IPC-4D is installed:

Preset 1: Captures texts printed on the colored background

Preset 2: Produces an image with good contrast

Preset 3: OCR Smoothing

Preset 4 Image Smoothing

Preset 5: Dither

Preset 9: Pre-printed paper (color)

Carbonless paper:Carbonless paper

The following built-in IPC pre-settings can be selected even though IPC-4D is not installed:

Sharpen

•Darken Character

Copy Quality

At Screen 5, select "Yes" or "No". Note that when you select "Yes", the IPC setting from the Host computer is ignored. If you select "No", the IPC setting will be changed according to the host setting. Finally press Enter.

# 

When you select the Copy Quality, select the scanner and printer settings carefully to get the best quality.

#### 4 Reset of the abrasion counter

When you reset the abrasion counter, you must set it as follows:

**1.** Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 6.

Screen 6

!	0	4	А	b	r	а	s	i	0	n	С	Ν	Т
=	Ρi	c k	Rol	l e	r	/	Ρa	d					

2. At Screen 6;

If you want to reset the PickRoller counter, select "Pick Roller" through  $\bigcirc$  or  $\bigcirc$  button and press [Enter]. Go to procedure 3.

If you do not want to reset the Pad counter, select "Pad" through  $\bigcirc$  or  $\bigcirc$  button and press Enter . Go to procedure 3.

3. At Screen 7 or Screen 8;

If you want to reset the abrasion counter, select "Reset" through  $\bigcirc$  or  $\bigcirc$  button and press Enter . Go to procedure 4. If you do not want to reset the abrasion counter, select "No" and press Enter .Finally press Exit to return.

Screen 7 Ρi С k С ΝΤ 0 4 1 \_ = x x x x x x x Reset / Ν 0 Screen 8 ! 0 4 -2 P a d С ΝΤ X X X X X X = Reset / N o

#### 4. At Screen 9

If you want to reset the abrasion counter, select "Yes" and press  $\ensuremath{\,\mbox{Enter}}$  .

If you do not want to reset it, select "No" and press Enter .Press Exit to return.

#### Screen 9



#### 5 Setting the pick start time

When you set the pick start time, you must set it as follows:

1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 10.

Screen 10

!	0	5		Ρ	i	С	k	s	t	а	r	t		
=	1		0		S	е	С							

2. At Screen 10, press  $\bigcirc$  to increase the Pick start time or press  $\bigcirc$  to decrease the Pick start time. Then press Enter to activate the setting. Finally press Exit to return.

#### 6 Setting the time-out limit

1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 11.

Screen 11



2. At Screen 11, press  $\bigcirc$  to increase the number or press  $\bigcirc$  to decrease the time-out limit. Then press Enter to activate the setting.

Default is 30 seconds.

- 3. Press Exit to return.
- 7 ADF Front Offset Setting
- 8 ADF Back Offset Setting
- 9 Document bed Offset Setting
- 1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display the following:
  - For an ADF front offset setting

Screen 12

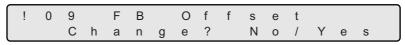
!	0	7		А	D	F		F	0	f	f	s	е	t	
L		С	h	а	n	g	е	?	Ν	0	/	Υ	е	s	

- For an ADF back offset setting

Screen 13

!	0	8		А	D	F		В	0	f	f	s	е	t	
		С	h	а	n	g	е	?	Ν	0	/	Υ	е	s	

- For a Document bed offset setting



**2.** At Screen 12, Screen 13, or Screen 14, select "Yes" by pressing the  $\bigcirc$  or  $\bigcirc$  button, then press Enter. The scanner displays Screen 15. (X = 7, 8, or 9)

Screen 15

!	0	Х	-	1	R	е	t	u	r	n		t	0			
	d	е	f	а	u	Ι	t	?		Ν	0	/	Υ	е	s	

- **3.** At Screen 15, if you want to let the offset return to default, select "Yes" otherwise "No" then press Enter. The scanner displays Screen 16,Screen 17 or Screen 18.
  - For an ADF front offset setting

Screen 16

!	0	7	-	2		F	r	0	n	t		Н				
Н	=	+	0		0	m	m	(	+	:	L	е	f	t	)	

- For an ADF back offset setting

Screen 17

!	0	8	-	2		В	а	с	k		Н					
Н	=	+	0		0	m	m	(	+	:	L	е	f	t	)	

- For a Document bed offset setting

Screen 18

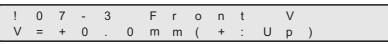
!	0	9	-	2		F	В		Н							
Н	=	+	0		0	m	m	(	+	:	L	е	f	t	)	

**4.** At Screen 16,Screen 17 or Screen 18, press ⊖ to increase the offset or press ⊖ to decrease offset. The increment or decrement is 0.5 mm.

Then press Enter to activate the setting. The scanner displays Screen 19, Screen 20 or Screen 21.

- For an ADF front offset setting

Screen 19



- For an ADF back offset setting

Screen 20

!	0	8	-	3		В	а	С	k		V				
V	=	+	0		0	m	m	(	+	:	U	р	)		

- For a Document bed offset setting

!	0	9	-	3		F	В		V						
V	=	+	0		0	m	m	(	+	:	U	р	)		

At Screen 19, Screen 20 or Screen 21, press 
to increase the offset or press to decrease the offset. Then press Enter to activate the setting. The scanner displays the next item of the setup mode.

#### 10 IPC Status Display

This function allows you to check whether or not the IPC-4D(IMAGE PROCESSING CIRCUIT BOARD) is installed, and whether or not fi-475CMP3(JPEG COMPRESSION BOARD) is installed, and whether or not fi-434PR(IMPRINTER) is installed.

Check whether or not the respectively option is installed as follows.

**1.** Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$ .

if an IPC4D(IMAGE PROCESSING CIRCUIT BOARD) is installed, Screen 22 will appear.

Screen 22

!	1	0		Ι	Ρ	С
	Т	Ρ	С	-	4	D

if an IPC4D(IMAGE PROCESSING CIRCUIT BOARD) is not installed, Screen 23 will appear.

Screen 23

!	1	0	I	Ρ	С
			Ν	0	

if a fi-434PR(IMPRINTER) only is installed, Screen 24 will appear.

Screen 24

!	1	0	I	Ρ	С	Р	R	Т
			Ν	0		0	Κ	

if fi-434PR(IMPRINTER) and IPC4D(IMAGE PROCESSING CIRCUIT BOARD) are installed, Screen 25 will appear.

Screen 25



if a fi-475CMP3(JPEG COMPRESSION BOARD) only is installed, Screen 26 will appear. Screen 26



if IPC4D(IMAGE PROCESSING CIRCUIT BOARD) and fi-475CMP3(JPEG COMPRESSION BOARD) are installed, Screen 27 will appear.



if fi-434PR(IMPRINTER) and fi-475CMP3(JPEG COMPRESSION BOARD) are installed, Screen 28 will appear.

Screen 28



if fi-434PR(IMPRINTER), IPC4D(IMAGE PROCESSING CIRCUIT BOARD) and fi-475CMP3(JPEG COMPRESSION BOARD) are installed, Screen 29 will appear.

Screen 29

!	1	0		Ι	Ρ	С	Р	R	Т	J	Р	Е	G	
l	Ι	Ρ	С	-	4	D	0	Κ		0	Κ			

2. Press Exit to return.

#### 11 Low Power Mode Setting

**1.** Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 30.

Screen 30

!	1	3	Р	0	W	е	r	S	а	V	е	
=	1	0	1	5		2	0	m	i	n		

2. At Screen 30, press  $\bigcirc$  or  $\bigcirc$  to select the time duration. A minimum of 5 min to the maximum of 60 minutes can be selected. Then press Enter to activate the setting.

### 

The default time recommended by the ENERGYSTAR<sup>®</sup> program is 15 minutes. The default for the fi-4340C scanner is 15 minutes, as recommended.

**3.** Press Exit to return.

#### 12 Select Interface

**1.** Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 31.

Screen 31

ſ	! =	1 A	4 u	t	l o	n /	t S	e t				c a	e r	d	/	
S	cree	en 3 <sup>.</sup>	1-2													
ſ	!	1	4		Ι	n	t	е	r	f	а	С	е			
L	=	/	S	t	а	n	d	а	r	d	/	Т	Ρ	S		

## 

The Screen 31 and 31-2 will appear only when the scanner has proper interface boards or option boards in the third party slot.

2. At Screen 31 and 31-2, press  $\bigcirc$  or  $\bigcirc$  to select the interface type. Press Enter if you want to change the setting.

## 

1.Normally, this setting does not have to be changed.

2.When an appropriate board is installed in the third party slot of the scanner, the scanner automatically turns off the SCSI or USB interface, activating the board in the third party slot. Screen 31 and 31-2 can be used to forcibly change the selected interface. The selected interface is then forcibly changed.

3. The SCSI interface, USB interface and the board installed in the third party slot cannot be used at the same time.

4. The default is Auto.

3. Press Exit to return.

#### 13 Display the TPS Board ID Number

1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 32.

Screen 32

!	1	5		Т	Ρ	S		В	0	а	r	d		
l	Ι	n	t	е	r	f	а	С	е		Ι	D	=	0

The scanner displays the ID number if the applicable board is installed.

## 

If the Fujitsu video Interface Option board is installed properly, the display shows "ID=7".

2. Press Exit to return.

#### 14 Select Built-In/IPC-4D Image Processing

**1.** Press "Next"  $\bigcirc$  or  $\bigcirc$  and let the scanner display the Screen 33.

Screen 33

!	1	6		Ι	Ρ	С		Μ	0	d	е					
l	S	t	а	n	d	е	r	d	/	Ι	Ρ	С	-	4	D	

2. At Screen 33, press  $\bigcirc$  or  $\bigcirc$  to select "Standard" or "IPC4D".

When "Standard" is selected, the scanner uses its built-in image processing. On the other hand, the scanner selects the image processing of the IPC-4D(IMAGE PROCESSING CIRCUIT BOARD) when the "IPC-4D" is installed and selected.

### 

The factory default is "Standard".

## 

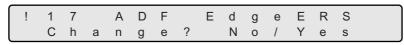
fi-4340C has built-in Image Processing. The following image processing is supported both by the fi-4340C and the IPC-4D(IMAGE PROCESSING CIRCUIT BOARD). As a default, the scanner built-in functions are enabled. By setting "On" using the Operator Panel, the IPC-4D image processing overrides the built-in functions.

	Image Processing	IPC-4D	fi-4340C
1	Emphasis/Smoothing	5 x 5 matrix	3 x 3 matrix
2	Outline	Pre-threshold Laplacian	Laplacian
3	Simplified Dynamic Threshold	IPC-2 like SDTC	3 x 3 max-min

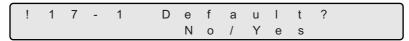
The IPC-4D(IMGGE PROCESSING CIRCUIT BOARD) support of those functions is intended for compatibility with the IPC-3/3D (except for image quality). The matrix size used in the IPC-4D(IMAGE PROCESSING CIRCUIT BOARD) is larger than the one in the fi-4340C. The fi-4340C Built-in Dynamic Threshold is a new algorithm.

#### 15 Adjust ADF Erasing Edges

**1.** Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 34.



2. At Screen 34, press  $\bigcirc$  or  $\bigcirc$  to select "Yes" and press Enter . Then the scanner displays Screen 35. Screen 35



**3.** At Screen 35, select "Yes" to return the settings to the factory default or select "No" to make new settings (as shown below). Then press Enter . The scanner displays Screen 36.

Screen 36

!	1	7	-	2		А	D	F	Т	0	р		
Т	0	р	=		0	m	m						

4. At Screen 36, press  $\bigcirc$  or  $\bigcirc$  to change the top setting. The value changes in 1 mm units. Then press Enter to activate the setting. The scanner displays Screen 37.

Screen 37

!	1	7	-	3		А	D	F		В	0	t	t	0	m	
В	t	m	=		0	m	m	(	+	:	U	р	)			

Screen 38

!	1	7	-	4	А	D	F	L	е	f	t	
L	е	f	t	=	0	m	m					

6. At Screen 38, press  $\bigcirc$  or  $\bigcirc$  to change the left setting. The value changes in 1 mm units. Then press Enter to activate the setting. The scanner displays Screen 39.

Screen 39



At Screen 39, press or or to change the top setting. The value changes in 1 mm units. Then press
 Enter to activate the setting. The scanner displays the next setup item.

#### 16 Adjust FB Erasing Edges

1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 40.

Screen 40

!	1	8		F	В		Е	d	g	е	Е	R	S
С	h	а	n	g	е	?		Ν	0	/	Υ	е	S

2. At Screen 40, press  $\bigcirc$  or  $\bigcirc$  to select "Yes" and press Enter . Then the scanner displays Screen 41. Screen 41

!	1	8	-	1	D	е	f	а	u	I	t	?	
							Ν	0	/	Υ	е	s	

**3.** At Screen 41, select "Yes" to return the settings to the factory default or select "No" to make new settings (as shown below). Then press Enter . The scanner displays Screen 42.

S	cree	en 4	2										
ſ	!	1	8	-	2		F	В	Т	0	р		
	Т	0	р	=		0	m	m					

4. At Screen 42, press  $\bigcirc$  or  $\bigcirc$  to change the top setting. The value changes in 1 mm units. Then press Enter to activate the setting. The scanner displays Screen 43.

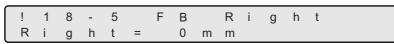
Screen 43

!	1	8	-	3		F	В		В	0	t	t	m
В	t	m	=		0	m	m	(	+	:	U	р	)

Screen 44

!	1	8	-	4	F	В		L	е	f	t	
L	е	f	t	=	0	m	m					

6. At Screen 44, press  $\bigcirc$  or  $\bigcirc$  to change the left setting. The value changes in 1 mm units. Then press [Enter] to activate the setting. The scanner displays Screen 45.



At Screen 45, press or or to change the top setting. The value changes in 1 mm units. Then press
 Enter to activate the setting. The scanner displays the next setup item.

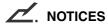
#### 17 Color to be Read in Unicolor Reading

1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 46.

Screen 46

!	1	9		R	е	а	d	С	0	Ι	0	r	
=	R	/	G	/	В								

2. At Screen 46, press  $\bigcirc$  or  $\bigcirc$  to select a light source. Press Enter if you want to activate the setting.



1. The specification from the host computer has priority.

2.The default is G (Green).

3. Press Exit to return.

#### 18 Setting the Grayscale Mode

1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  to display Screen 47 on the LCD.

Screen 47

!	2	0		G	r	а	у		Μ	0	d	е
=	Ν	0	r	m	а	Ι	/	F	а	s	t	

2. In Screen 47, press  $\bigcirc$  or  $\bigcirc$  to select "Normal", "Fast".

"Normal" refers to quality priority mode. When "Normal" is selected, scanning is performed at a quality higher than that of the Fast mode.

"Fast" refers to the regular mode. When "Fast" is selected, scanning is performed at the machine defaults for image quality and speed.

The lower display of Screen 47 is switched as follows:

1."Normal/Fast" is displayed, and "Normal" flashes.

2."Normal/Fast" is displayed, and "Fast" flashes.

Switch between the above states as follows:

Press  $\bigcirc$  : The lower display of Screen 47 is switched cyclically in order from 2 to 1.

Press  $\bigcirc$  : The lower display of Screen 47 is switched cyclically in order from 1 to 2.

Speed: 2 > 1

Image quality: 1 > 2

Changing this mode does not affect color and black-and-white scanning.

3. Then press Enter to activate the setting. The scanner displays the next item of the setup mode.

#### 19 Reset of the Ink Remain Counter

The ink remain counter checks the service life of the print cartridge and makes a message "Please a new Ink" to prompt you to prepare a new ink cartridge.When the imprinter cannot print any more, replace the print cartridge and reset the Ink remain counter as follows.You must reset the ink remain counter even if you replace the print cartridge before its service life.

1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 48.First,"No" blinks.

Screen 48

!	2	1	Ι	n	k	r	е	m	а	i	n			
=						R	е	s	е	t	/	Ν	0	

**2.** press  $\bigcirc$ ,then "Reser" blinks.(Screen 49).

Sc	ree	n 49	)											
	! =	2	1 □		n □	k □	r R	e e	m s	a e	i t	n /	N	0

3. Press Enter .The reset execution screen appears.First,"No" blinks.(Screen 50)

Screen 50

!	2	1	-	1	R	е	s	е	t		Ν	0	W	
l							Ν	0	/	Υ	е	s		

4. Press  $\bigcirc$  ,then "Yes" blinks.(Screen 51)

!	2	1	-	1	R	е	s	е	t		Ν	0	W	
							Ν	0	/	Υ	е	s		

5. Press Enter to perform reset operation. The ink remain indicator returns to **Screen 52**. (Screen 52)

Screen 52

6. Press Exit. The LCD returns to the "Ready" screen.

Screen 53

=



Reset /

i n

N o

#### 20 Setting the Numbering Print Function(for fi-434PR Imprinter Option)

You can specify conditions of the numbering print function from the operator panel when the scanner is equipped with the fi-434PR imprinter. The numbering counter increments 1 each a sheet of paper is read. Numbering print starts with a top margin of 7mm.

1. Press "Next"  $\bigcirc$  or "Previous"  $\bigcirc$  and let the scanner display Screen 54.

Screen 54

!	2	2		Ν	u	m	b	е	r	i	n	g	
=		0	n	/	0	f	f						

2. At Screen 54,press  $\bigcirc$  or  $\bigcirc$  to select "On" then Press Enter if you want to activate the setting function.The scanner displays Screen 55, indicating that the setting function is activated.

Screen 55

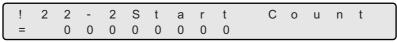


## 

When the setting function is disabled, the Screen 56.

Screen 56

**3.** At Screen 55,select the number of digits.press  $\bigcirc$  or  $\bigcirc$  to select "5" or "8" then press Enter. the scanner displays Screen 57.



4. At Screen 57,select the initial number.Press ○ or ○ to move the place of the blinking (changeable) digit and press ○ or ○ to change the value, than press Enter. The scanner displays Screen 58 Screen 58

ſ	!	2	2	-	3	Е	m	р	t	у	R	е	s	е	t	
	=															

#### 

The possible maximum number is 99999 (for five digits) or 16777215 (for eight digits).

5. At Screen 58, specify whether the number is initialized at hopper empty. Press  $\bigcirc$  or  $\bigcirc$  to select "On" if you want to initialize, than press Enter . The scanner displays Screen 59

Screen 59

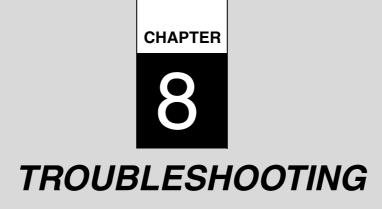


6. At Screen 59, specify whether the number is reset at once. Press  $\bigcirc$  or  $\bigcirc$  to select "yes" if you want to reset at once, than press Enter. The scanner terminates the setup mode.



The command from the host computer overrides the specification of the operator panel. When the host computer issues a command disabling the specification of the operator panel, Screen 59 does not appear.





This chapter describes some potential problems and solutions that may occur when using this scanner.

Troubleshooting......8-2

## Troubleshooting

This chapter describes some potential problems and solutions that may occur when using this scanner. Should any of the following problems arise, refer to the relevant section listed below.

- Power doesn't turn on	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Operator Panel goes blank	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Scan doesn't start	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Image or photo scan output is poor .	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Text or line scan output is poor	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Scan image is distorted or unclear	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Scan image is striped	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- "Check" LED turns on	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- "Clean pick roller" LCD message	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- "Clean ADF glass" LCD message	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Frequent Multi-feeds	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Frequent pick-misses	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance
- Frequent paper jams	Refer to "Chapter 4 Troubleshooting" of Cleaning & Maintenance

## 

If the problem cannot be solved, contact your sales or service representative.



## **CONSUMABLES AND OPTIONS**

This chapter describes the consumables and options.

Consumables	9-2
Options	9-3
VIDEO INTERFACE BOARD	9-4
IPC-4D(IMAGE PROCESSING CIRCUIT BOARD)	9-9
fi-434PR(IMPRINTER)	9-10
fi-475CMP3(JPEG COMPRESSION BOARD)	9-11

The following table lists consumables used for the scanner. Be sure to keep some consumables in stock. The customer is responsible for changing these items periodically, in accordance with the guidelines given below and in the "Cleaning and Maintenance" manual. If they are not changed as recommended, the scanner may not function properly. The abrasion counter can be used to check the total number of documents scanned since the last replacement(s).

Name	Specification	Remarks
Pad ASSY	PA03277-0002	Up to 100,000 sheets or one year.
Pick rollers	PA03277-0001	Up to 200,000 sheets or one year. (Two rollers are included.)

## 

Refer to the Cleaning and Maintenance guide for replacing the consumables.

## 

Certain paper types or conditions might reduce the life of consumables.

The following table lists options available for the scanner.

Product name	P/N
VIDEO INTERFACE BOARD	CA02956-2391
IPC-4D(IMAGE PROCESSING CIRCUIT BOARD)	CA02919-0521
fi-434PR(IMPRINTER)	PA03237-D103
fi-475CMP3(JPEG COMPRESSION BOARD)	CA02956-2398

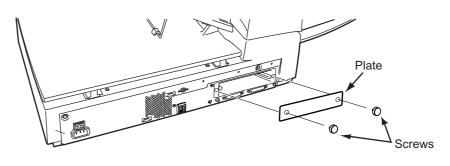
Contact your sales agent or PFU Limited and Fujitsu Group Offices for more information.

## **VIDEO INTERFACE BOARD**

#### How to Install the VIDEO INTERFACE BOARD

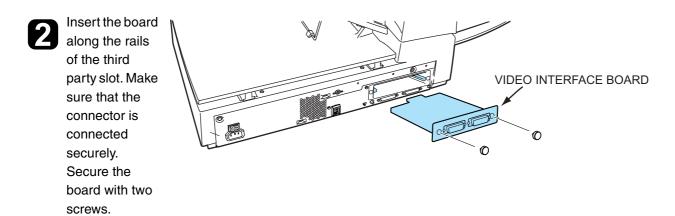


Loosen the two screws to remove the plate.



## 

Turn Off the power before removing the Third Party slot plate.



## 

Protective measures are required to prevent damage from static electricity.

## 

When the scanner power is turned On again, the scanner automatically recognizes the video interface board.

#### Reading Mode Setting When the VIDEO INTERFACE BOARD is Installed

This section describes the button specifications and setup details for reading modes when the scanner has the VIDEO INTERFACE BOARD in the third party slot.

When the reading mode is set by the command from the host computer, the following button operation is not required.

## 

When the VIDEO INTERFACE BOARD is installed in the scanner, the scanner automatically recognizes the board and changes the display.

Whenever you press Exit, the scanner returns to screen M1.

1. Turn the power On and verify that "Scanner Ready" is displayed on the LCD.

#### Screen M1

								Х	Х	Х	Х
R	е	а	d	у	Х	Х	Х	Х	Х	0	>

2. Press Next then the scanner displays Screen M2.

Screen M2

_	М	0	d	е		S	е	Ι	е	С	t		0	
		R	е	а	d	i	n	g		Μ	0	d	е	

3. Press Enter then the scanner displays Screen 1.

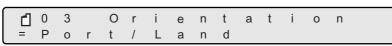
Screen 1

	0	1		Ι	m	а	g	е	S	0	r	r	С	е	
=	А	D	F	/	F	В									

4. Select ADF or FB by pressing  $\bigcirc$  or  $\bigcirc$  then press Enter . The scanner displays Screen 2.

Screen 2

<u> </u>	0	2		R	е	а	d	i	n	g		f	а	С	е	
=	S	i	m	р	Ι	е	х	/	D	u	р	I	е	х		



6. Select "Portrait" or "Landscape" by pressing  $\bigcirc$  or  $\bigcirc$ . Then press Enter . The scanner displays Screen 4.

Screen 4



7. Select Size by pressing  $\bigcirc$  or  $\bigcirc$ . Then press Enter . The scanner displays Screen 5.

Screen 5

0	5		R	е	s	0	Ι	u	t	i	0	n			
= 2	0	0	/	2	4	0	/	3	0	0	/	4	0	0	

Select Resolution by pressing <> or <> . As the cursor moves to the left 100/150 may appear. Then press Enter.
 The scanner displays Screen 6.

Screen 6

	0	6		F	r	0	n	t	D	e	n	s		
=	^	т	2	,				,		Ē	,			
_	~	1	2	/				/			/			

9. Select Front Density by pressing <> or <> . As the cursor moves to the right, ■ ► □ / ■ □ □ may appear. Then press Enter . The scanner displays Screen 7.

Screen 7

	0	7		В	а	С	k		D	е	n	s		
=	А	Т	2	/				/				/		

Density display

Without IPC-4D option	With IPC-4D option	Description
		Very dark
		Dark
	AT1 (*)	Dynamic Threshold (DTC mode)
	AT2 (*)	Simplified Dynamic Threshold (IPC mode)
		Normal
		Light
		Very light

\*) This parameter appears only when IPC-4D(IMAGE PROCESSING CIRCUIT BOARD) is installed.

**10.** Select Back Density (when "Duplex" was Selected) by pressing ○ or ○. As the cursor moves to the right, ■ ▶ □ / ■ □ may appear. Then press Enter . The scanner displays Screen 8.

Scr	ee	n 8									
		0 N	/	F H	H /			0 1	n /	e L	2

**11.** Select Front Halftone by pressing  $\bigcirc$  or  $\bigcirc$ .

Parameter	Description
No	Halftone is Off. Therefore binary reading is specified.
H1	Halftone with dither is specified.
H2	Halftone with error diffusion is specified.
L1 (*)	Automatic separation with dither is specified.
L2 (*)	Automatic separation with error diffusion is specified.

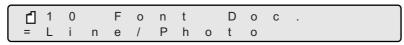
\*) This parameter appears only when the IPC-4D(IMAGE PROCESSING CIRCUIT BOARD) is installed.

Press Enter to confirm. The scanner displays Screen 9.

Screen 9

	0	9		В		Н	а	Ι	f	t	0	n	е	
=	Ν	0	/	Н	1	/	Н	2	/	L	1	/	L	2

Select Back Halftone (when "Duplex" was specified) by pressing ○ or ○. The parameters are the same as in step 11. Press Enter to confirm. The scanner displays Screen 10.



**13.** Select Front Document Type by pressing  $\bigcirc$  or  $\bigcirc$ .

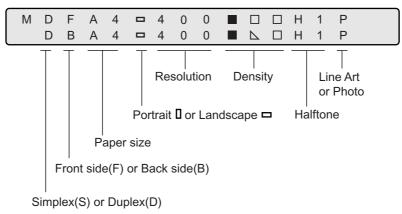
Parameter	Description
L. (Line)	White level following is ON. Top 3mm part of the document must be left blank (grounding color is drop-out color). Use this specification for reading line arts or texts.
P. (Photo)	White level following is Off. Use this specification for reading photographs.

Press Enter to confirm. The scanner displays Screen 11.

Screen 11

1	1		В	а	С	k		D	0	С	
= L	i	n	е	/	Ρ	h	0	t	0		

Screen 12(Examjple)



**15.** Confirm what you have specified.

If some parameter needs to change, press  $\boxed{Next}$  or  $\boxed{Previous}$  to select the corresponding screen and re-select the parameter by pressing  $\bigcirc$  or  $\bigcirc$  and finally press  $\boxed{Enter}$ .

If all parameters are acceptable, press Exit to return to the "Scanner Ready" screen.

## **IPC-4D(IMAGE PROCESSING CIRCUIT BOARD)**

The IPC-4D(IMAGE PROCESSING CIRCUUIT BOARD) performs the image processing. IPC-4D(IMAGE PROCESSING CIRCUIT BOARD) supports the following image processing.

Item	Description
Pre-Filter	BallPoint Pen Mode : Smooth ballpoint pen strokes into a single bold line.
Background Removal	Remove background tone and light dither.
Dynamic Threshold	Dynamic Threshold: Automatically optimize binary threshold level to separate text from back- ground, for high contrast output. IPC-2-like Dynamic Threshold: Optimizes the binary threshold level to separate text from background, allowing light text to be captured while maintaining sharpness.
Noise Removal	Dot removal size settable from 2x2 to 5x5. Optical noise (speckles, etc.) is automatically detected and removed from the output.
Auto Separation	Auto Separation : Automatically, detects the text area for binarizing and the photo area for dithering.
Outline Extract	Outline Extract outline of the image
Image Emphasys	Emphasis (Low/Middle/High/Smooth) : Emphasis contour.

## 

For the installation and functions of the IPC-4D(IMAGE PROCESSING CIRCUIT BOARD), refer to the supplied manual.

The following table shows specifications of the fi-434PR(IMPRINTER).

Item	Specification
Printing Method	Thermal inkjet printing
Printed Characters	Alphabet Letters : A to Z, a to z Numeric Characters : 0,1 to 9 Symbols : ! " # \$ % & ' ( ) * + , / : ; < = > ? @ [¥]^_`{   } ¯
Maximum Number of Characters Printed	40
Character Size	Height 2.91 mm to width 2.82 mm
Character Pitch	About 3.53 mm
Printing Area	The printable area of the backside of document is as follows: T Length of document $D \le 140.5mm$ (for 40 columns) $C \ge 70.0mm$ T - (C + D) $\ge 7mm$ [Backside] T D C enter of D C ument C enter
Consumable	Print Cartridge (CA00050-0262)

## 

For the installation and functions of the fi-434PR(IMPRINTER), refer to the supplied manual.

## fi-475CMP3(JPEG COMPRESSION BOARD)

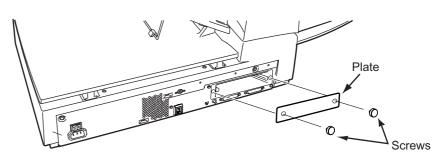
The following table shows specifications of the fi-475CMP3(JPEG COMPRESSION BOARD).

Item	Specification
Standard	Conforms to the ISO/IEC 10918-1 JPEG standard baseline process
Format	gray and multi-color images (JPEG)
Scan range	duplex A3/600 dpi, compression scans possible
Compressed Process- ing	Real time duplex compression processing
JPEG compression ratio	Built-in quantum table providing a 7 grade selection ranging from small compression rate (prioritizing image quality) to high compression rate (prioritizing size)
Other functions	Quantum table download function
Device	Slide-in type for easy installation

#### ■ How to Install the fi-475CMP3(JPEG COMPRESSION BOARD)



Loosen the two screws to remove the plate.

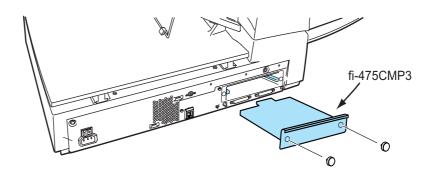


## 

Turn Off the power before removing the Third Party slot plate.



2 Slide the fi-475CMP3(JPEG COMPRESSION BOARD) fully into the option slot along it's internal rails, and fasten with the two screws provided.



## 

Protective measures are required to prevent damage from static electricity.

# CHAPTER 10 SCANNER SPECIFICATIONS

This chapter describes the basic product specifications, installation specifications, and dimensions.

Basic Product Specification	10-2
Installation Specification	10-3
Dimensions	10-4

1	Scanner Type	)	ADF (Duplex), Document bed	
2	Image sensor		CCD x 2	Front/Back
3	Light source		White Xenon discharge tube x 2	Front/Back
4	Document	Minimum	A8 (Portrait)	127g/m <sup>2</sup>
	Size	Maximum	A4/Letter/Legal	US Ledger
5	Paper Weight		52 g/m <sup>2</sup> (14 lb) to 127 g/m <sup>2</sup> (34 lb)	Note (*1)
6	Scanning Speed	Mono- chrome	40 pages/min simplex, 80 sides/min duplex	200 dpi Note (*3)
	Note (*2)	Color	34 pages/min simplex, 48 sides/min duplex	150 dpi
7	ADF Capacity		100 sheets	A4, 64 g/m <sup>2</sup> (20 lb) Note (*3)
8	Optical Resolution		600 dpi	
9	Output Res- olution Note (*4)	Binary	50 - 800 dpi	Standard gradient is 1 dpi, (multiples are possible)
		Grayscale	50 - 600 dpi	Standard gradient is 1 dpi, (multiples are possible)
		Color	50 - 600 dpi	Standard gradient is 1 dpi, (multiples are possible)
10	Grayscale lev	el (internal)	8 bits per Color	Internal 10 bits
11	Halftone Patte	erns	Dither/Error diffusion	
12	Other function	า	JPEG compression	Note (*5)
13	Interface Note (*6)		SCSI-2	Shield-type 50 pin (pin-type) half- pitch
			USB2.0	
			Third Party Slot	Note (*7)

#### NOTES

\*1: The details are described in Chapter5 "ADF DOCUMENT SPECIFICATION".

- \*2 ) The scanning speeds given are the maximum mechanical scanning speeds. During actual scanning some extra time will be required for data transfer and software processing.
- \*3 ) The maximum number will differ due to the paper thickness. Refer to Chapter5 "ADF DOCUMENT SPECIFICATION".
- \*4 ) Maximum output resolution may vary according to the scan size, and setting (simplex/duplex)
- \*5 ) fi-475CMP3 (JPEG compression board) must be installed.
- $^{\ast 6}$  ) USB, SCSI-2 and the Third Party Slot can not be used at the same time.
- \*7 ) The Power consumption of the boards should be as follows:
  - In the Low Power Mode : Less than 0.35 A

- Without IPC-4D(IMAGE PROCESSING CIRCUIT BOARD) : Less than 1.5 A

- With IPC-4D(IMGGE PROCESSING CIRCUIT BOARD) : Less than 3.0 A

The following table lists the installation specifications of the scanner.

	Item	Specification						
Dimensions (m		Depth	Width	Height				
(Without ADF paper chute and Stacker)		423 (16.6 in)	556 (21.9 in)	220 (8.7 in)				
Weight (kg)		15 (48.4 lb.)	15 (48.4 lb.)					
	Voltage	100 to 120 VAC ± 10	% or 220 to 240 VA	AC ± 10 %				
Input power	Phases	Single-phase						
Frequency		50/60 ± 3 Hz						
Power consum	ption	125 VA or less						
	Device status	Operating	Not ope	Not operating				
Ambient condition	Temperature	5 to 35 °C (41 to 95 °F)		-20 to 60 °C (-4 to 140 °F)				
	Humidity	20 to 80 %		8 to 95 %				
Heat capacity		110 kcal/H (442 BTU/H)						
Shipping Weig	ht (kg)	19 (41.9lb)						

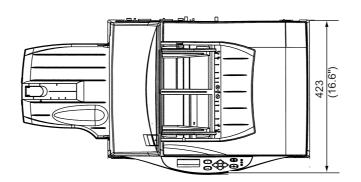
## 

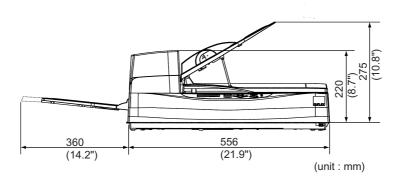
The service life is estimated at 5 years after purchase or 2 million scans, whichever comes first. The cumulative number of scans are recorded by the Life Counter. For details on how to view the Life Counter display, refer to Chapter6 "Counter Display (page 6-2)".

## 

Refer to the Cleaning and Maintenance guide for replacing the consumables.

## Dimensions





## GLOSSARY OF TERMS

#### A4 size

A standard paper size. Paper size is 210 x 297 mm.

#### A5 size

A standard paper size. Paper size is 148 x 210 mm.

#### A6 size

A standard paper size. Paper size is 105 x 148 mm.

#### A7 size

A standard paper size. Paper size is 74 x 105 mm.

#### A8 size

A standard paper size. Paper size is 53 x 74 mm.

#### **Abrasion counter**

Counts the cumulative number of documents read to indicate when belts/rollers should be replaced. The umber of read documents accumulates until an operator resets the counter. The counter should be reset when these consumables are replaced.

#### ASCII

The acronym for American Standard Code for Information Interchange.

ASCII is a set of 256 codes (numbered 0 to 255) used to communicate information between a computer and another device such as a scanner.

#### Automatic separation

An image processing method in which the scanner automatically detects difference between text and photos, and chooses the threshold accordingly. Automatic separation allows the scanner to switch between line mode and half tone mode in one pass.

#### Automatic start mode (<-> manual start mode)

In this mode, the reading operation is activated only by issuing the START command.

#### Backside reading = Back-side scanning

Refers to reading the backside of the document, specifically in Duplex reading mode.

#### Bit

The smallest unit of information in computer memory. A bit is a single digit, either a 1 or a 0, in the binary numbering system. Eight bits equal one byte.

#### Density

In this manual, refers to a measurement of the depth of the display.

#### Dither

Technique for producing halftone images by representing the entire grayscale with only two pixel levels, black and white.

#### Multi feed detection

A scanner function which detects the accidental feeding of multiple sheets by the ADF unit. Can be turned on or off by the operator.

#### **Double Letter Size**

A standard paper size used in the U.S.A. and other countries. Paper size is 11 x 17 inches.

#### dpi

Dots per inch.

#### **Dropout color**

A color which is used in the document but does not appear in the read image.

#### **Duplex reading mode**

A reading mode in which both sides of the document are read.

#### **Equipment Error**

An error that cannot be corrected by the operator. Call CE.

#### **Error diffusion**

High-quality halftone (pseudo-grayscale) image production based on black-and-white pixel binarization. A pixel's optical density and that of adjacent pixels are summed, with black pixels relocated in their order of density as they relate to adjacent pixels.

The purpose of this technique is to minimize the average error between read and printed densities. Density data for adjacent pixels is modified by diffusing errors on the objective pixel into several pixels, which are then binarized. This maintains high grayscale levels and resolution during reading, while suppressing more patterns by dotted halftone images such as newspaper photographs.

#### FB

In this manual, FB means flat bed.

#### Filtering

A correction method that improves the read quality of handwritten documents. The read quality of images written in pencil or ball-pointed pen depends on the reflective light characteristics of the specific ink or lead used. Dropped pixels may produce outlines, gaps, or thin, barely connected lines due to uneven optical density. Filtering detects areas lighter than their surroundings and increases their density to improve image clarity.

#### Front-side reading = Front-side scanning

Refers to reading the front side of the document, specifically in Duplex reading mode.

#### Halftone processing

Any method used to reproduce a photograph which includes a shade as an image composed of dots, namely, a binary image. Dithering and error diffusion processing are examples of halftone processing.

#### Hexadecimal

A base-16 numbering system (also commonly referred to as hex numbers). Since a base-16 system requires 16 digits, numbers 0 through 9 and letters A through F are used. It is convenient to express binary numbers in hexadecimal because fewer digits are required.

#### **Image emphasis**

Density is decreased for lighter but not completely white areas adjacent to black areas. Weakening this emphasis eliminates spot noise or produces softened images.

#### Image processing

An image is read with specified parameters.

#### Interface

The connection that allows communication from one part of a system to another. For example, electrical signals are transferred between the computer and scanner over an interface cable.

#### Inversion (Reverse-image reading)

In reverse-image reading, data is changed from black to white and vice versa.

#### **IPC** preset mode

While reading binary images, it is necessary to set the scanner according to the quality of the sheet to be read. In this mode, these settings can be performed in advance by corresponding each setting to a pattern number.

#### IPC-4D

Image processing option of this scanner.

#### IRAS

Initialization of the hardware.

#### Landscape orientation

A document is transported and read with the long side vertical to the moving direction.

#### Letter size

A standard paper size used in the U.S.A. and other countries. Paper size is 8-1/2 x 11 inches.

#### Linedrawing mode

Selecting linedrawing mode makes threshold and contrast settings effective but prevents brightness from being set. The specified threshold value determines whether black or white pixels are scanned. Line drawing mode is therefore appropriate for scanning text and line art images.

#### Manual Feed mode = Manual Mode

Requires the operator to feed each document manually into the ADF paper chute.

#### Manual start mode (<-> automatic start mode)

The reading operation is activated by pressing the START button in this mode. Available only when video option board is installed.

#### **Mirror image**

The read image is symmetrically flipped to produce a mirror image of the original detected in the main scanning direction.

#### Noise removal

Isolated noise from an image appearing as black spots in white areas and voids in black areas is removed to improve image quality.

#### **Operator panel**

A panel containing the scanner indicators and buttons. The operator panel is used to control scanner operations such as loading document, selecting features, and changing setup options.

#### **Outline extraction**

The boundary between black and white areas is traced and the outline extracted for closed areas.

#### PAPER JAM

A warning informing the user that document is jammed in the transport unit, or that transportation is disabled because the transport unit is slippery. This warning also appears when a Multi feed is de-tected.

#### Photograph mode (White level follower OFF)

Selecting photograph mode makes brightness and contrast settings effective but prevents the threshold from being set. With photograph mode, the darkness of image corresponds to the black-pixel density, making it suitable in scanning images such as photographs having gradations.

#### Photo mode = photograph mode

A photograph is read properly in this mode.

#### **Pick start time**

The period from the manual insertion of the document until picking starts after the document passes the hopper empty sensor.

#### **Portrait orientation**

A document is transported and read with the long side parallel to the moving direction.

#### Paper counter

Indicates the total number of read document from start of reading until the hopper becomes empty.

#### **Read operation**

Refers to the reading operation including Simplex reading and Duplex reading.

#### **RS-232C** interface

A type of serial interface. See Serial interface.

#### SCSI-ID

Used to specify a particular SCSI device when the initiator selects a target or the target reconnects to the initiator.

#### Serial interface

A standard computer interface. Information is transferred between devices over a single wire (although other wires are used for control).

With a serial interface, an interface cable greater than 3 meters (10 feet) can be used. This is often necessary in networking environments, where the scanner may be shared.

#### SETUP mode

In this mode, users can view or set a variety of function in off-line.

#### Simplex reading mode

Only the front side of the document is read in this mode. Place the documents face up at the center of the hopper table.

#### Smoothing

A process that eliminates "jaggies" from slanted lines and curves. Irregular convexities are deleted and irregular concavities filled in. This is useful in OCR applications, for example.

#### **Temporary Error**

An error correctable by the operator.

#### **Terminator**

Devices with a SCSI interface can be daisy-chained. A resistor that includes terminal circuits needs to be placed at both ends of a cable when devices are daisy-chained. If a device (such as a scanner) is the last device in a chain, leaving an interface connector unused, a Terminator theerfore must be attached to provide those terminal circuits.

#### **Third Party Interface**

Optional board provided by Fujitsu or interface board provided by a third party can be installed and used.

#### **Time-out limit**

This is the time the scanner waits for next document insertion after the last document feeding. The scanner returns Paper Empty when no document is set after time-out limit.

#### TPS

Third Party Slot.



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#### fi-4340C Image Scanner Operator's Guide

#### P3PC-E832-04EN

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