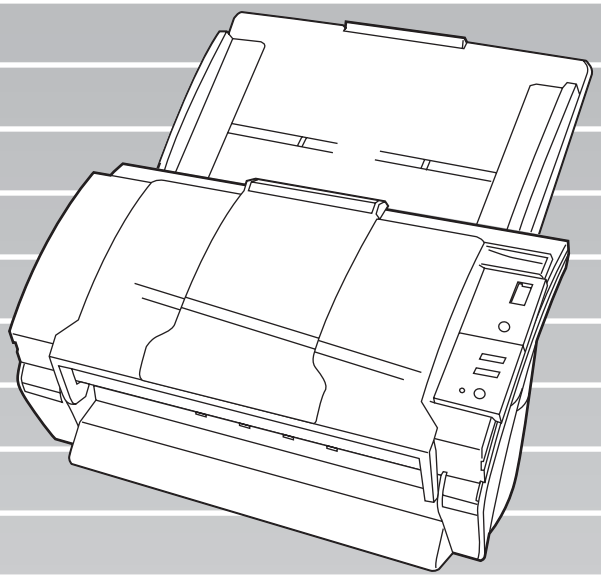
P3PC-E577-03EN

fi-4530C Image Scanner
Operator's Guide



FUJITSU

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Chapter 1

BASIC SCANNER OPERATIONS

This chapter describes basic scanner operations.

In this chapter Windows XP screenshots are illustrated.
The screens and operations may differ slightly if the OS you are using is not Windows XP.
Also, when FUJITSU TWAIN32 is updated the screens and operations noted in this chapter will differ slightly.

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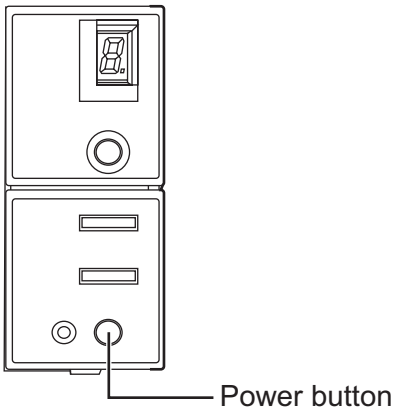
1.1 Turning the Scanner ON

1. Press the power button on the operator panel.

   The scanner is turned ON, and the green LED on the operator panel lights.
   During the initialization, the indication of the Function No. display changes as follows:
   “8”->"P" -> "0" -> "1"
   The indication "1" means that the operator panel is in the ready status.



HINT

To turn the scanner OFF, hold the power button down for two seconds.

■ Power Save Mode

The Power Save mode keeps the scanner in a low-powered state if no operation is performed on the scanner for 15 minutes after it has been turned ON. The scanner is automatically switched to the Power Save mode.
In the Power Save mode, the indication of the Function No. display on the operator panel goes out, while the green LED is kept lit.
To return the scanner from the Power Save mode, perform one of the following operations:

- Load documents on the ADF paper chute.
- Press any button on the operator panel.
  The scanner will be turned OFF when pressing down the power button for two seconds.
- Execute a command from the scanner driver.

1.2 Loading Documents on the ADF for Scanning

1. Align the edges of the documents.

   1) Confirm that all the documents have the same width.

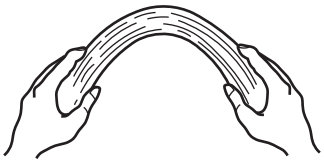
   2) Check the number of the sheets in the document stack.

   The standard number of sheets that can be loaded on the scanner is as follows:

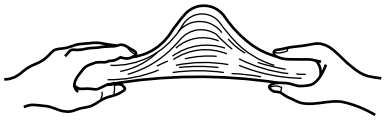
   - A4-size paper or smaller that makes a document stack of 10mm or less (100 sheets at 80 g/m^2 or at 20 lb)
   - Over A4-size paper that makes a document stack of 5mm or less (50 sheets at 80 g/m^2 or at 20 lb)

2. Fan the documents as follows:

   1) Lightly grip both ends of the documents with both hands, and bend the documents as follows.



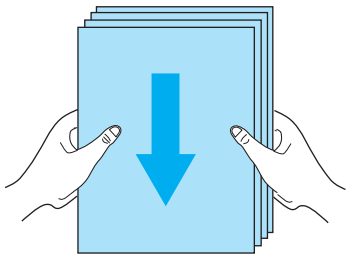
   2) Hold the documents firmly with both hands and bend them back as follows so that the bent section rises up in the middle of the stack as shown below.



   3) Repeat steps 1) to 3) a couple of times.

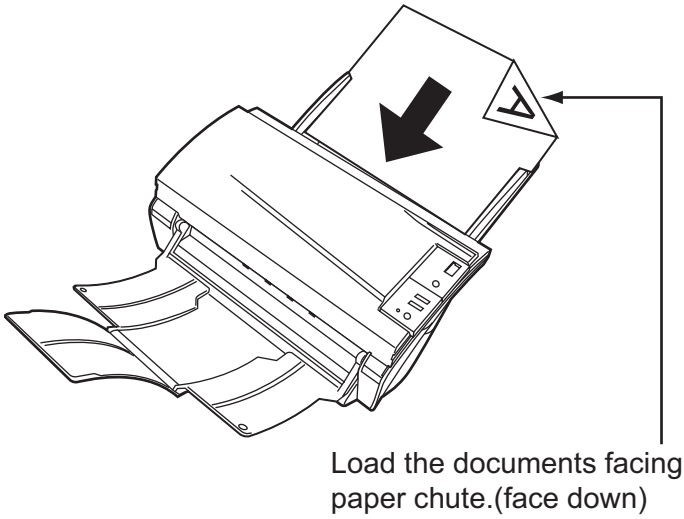
   4) Rotate documents 90 degrees, and fan again.

3. Align the top of the documents.



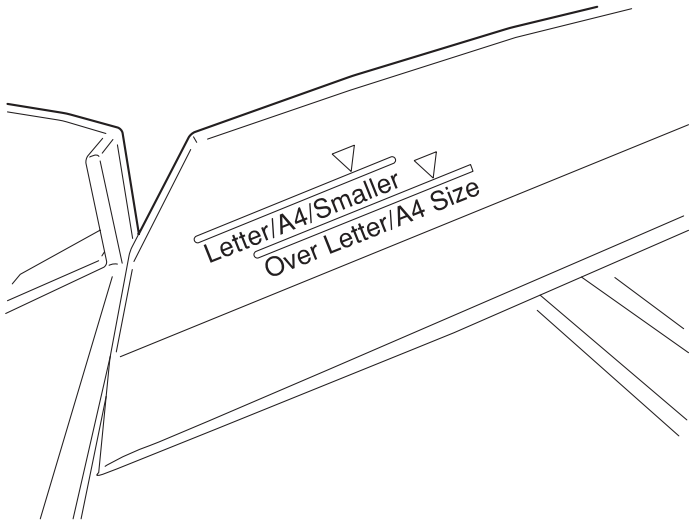
4. Load the documents on the ADF paper chute.

Set the documents face-down in the ADF paper chute (so that the side to be scanned faces towards the ADF paper chute).



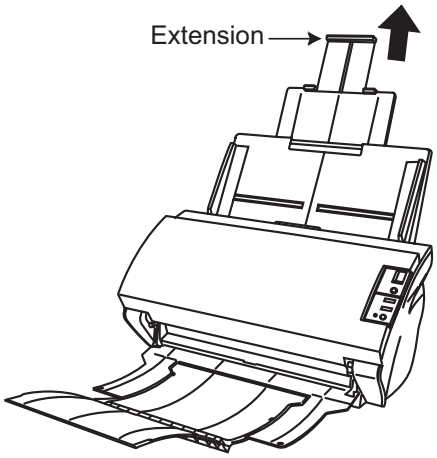
HINT

Set the documents so that the stack will be lower than the line mark.
For A4-size paper or smaller, set the documents so that the stack will be lower than the "Letter/A4/Smaller" line mark.
For paper over the A4-size, set the documents so that the stack will he lower than the "Over Letter/A4 Size" line mark.



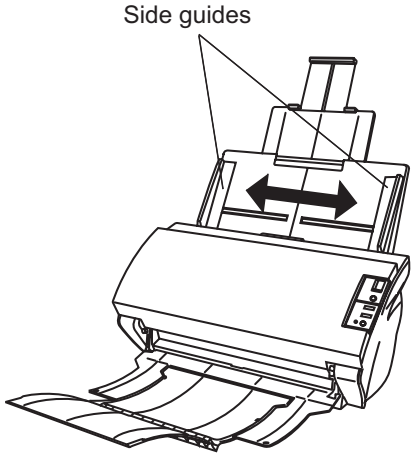
HINT

Before loading pull out the ADF paper chute extension according to the lengths of the documents.



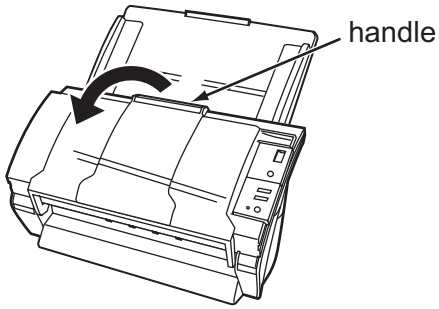
5. Adjust the side guides to the width of the documents.

   Move the side guides so that they touch both sides of the documents.
   If there is any clearance between the side guides and the edges of documents, the scanned image may be skewed.

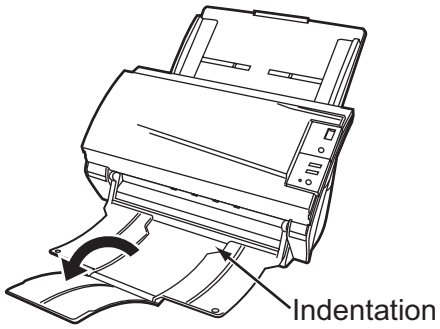


The stacker prevents document sheets from dropping after they were scanned.
Use the stacker as follows:

1. Lift up the stacker towards you by inserting your fingertips into the handle on the scanner.



2. Lift the paper stop and swing forward by inserting your fingertips into the indentations on the stacker.



6. Start up the scanner application and scan the documents.

For details on how to scan documents using the ScandAll 21 application, refer to "1.3 Scanning Documents" on page 7.

1.3 Scanning Documents

1. Load documents on the scanner's ADF paper chute.

   For details about loading documents, refer to "1.2 Loading Documents on the ADF for Scanning" on page 3.

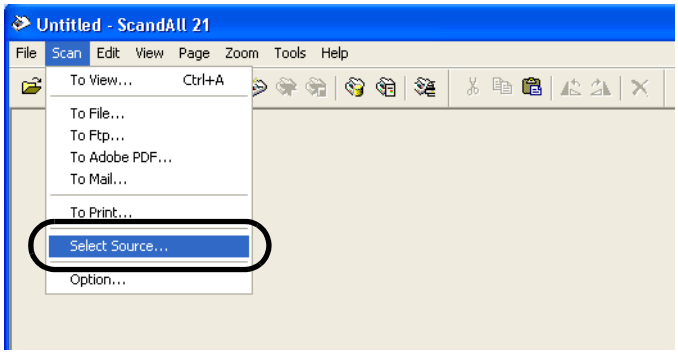
2. Start up ScandAll 21.

   Select [Start] - [Program] - [Scanner Utility for Microsoft Windows] - [ScandAll 21].

   ⇒ This starts up ScandAll 21.

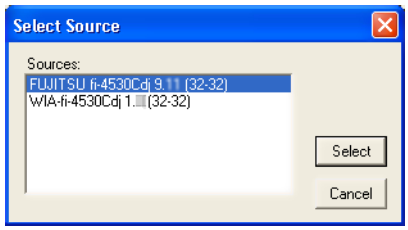
3. Select the scanner to use.

   Select [Select Source] from the [Scan] menu.

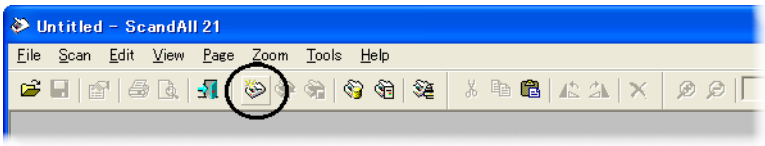


   ⇒ The [Select Source] dialog box appears.

   Select "FUJITSU fi-4530Cdj" (for Windows 95 and WindowsNT 4.0, select “FUJITSU TWAIN 32”) and click the [Select] button.



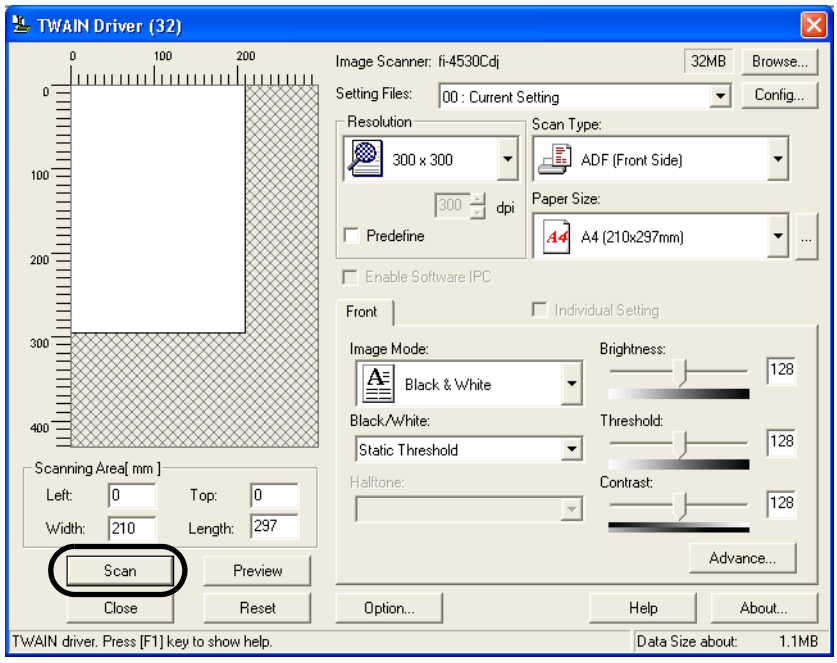
4. Click the [Scan To View] button on the tool bar.



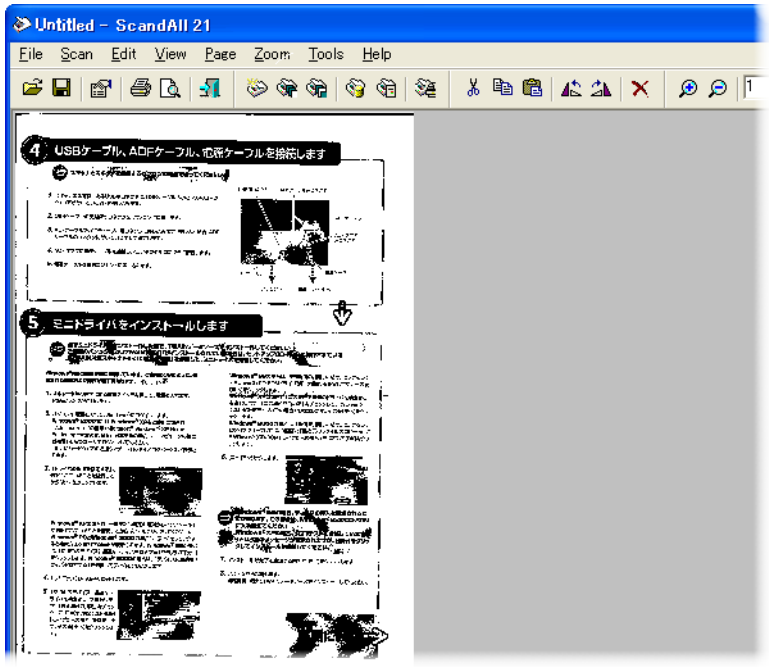
   ⇒ The [TWAIN Driver] dialog box (for setting the scan conditions) appears.

5. Set the scan resolution, paper size, etc., and click the [Scan] button.

   For details on settings in the [TWAIN Driver] dialog box, refer to "How to use the Scanner Driver" on page 9.



⇒ The images of scanned documents are displayed on the [ScandAll 21] window.



For details on different types of scanning, refer to "2 SCANNING VARIOUS TYPES OF DOCUMENTS" on page 25.

For details on functions and operations of ScandAll 21, refer to "ScandAll 21 Help".

1.4 How to use the Scanner Driver

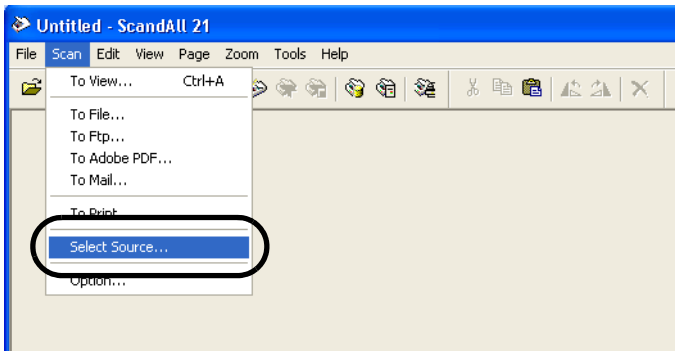
■ FUJITSU TWAIN32 Scanner Driver

FUJITSU TWAIN32 Scanner Driver is designed for scanning documents with FUJITSU image scanner fi series by using application software that complies with the TWAIN standard.
The following describes the procedure with examples of ScandAll 21 for ordinary scanning by using this driver software.

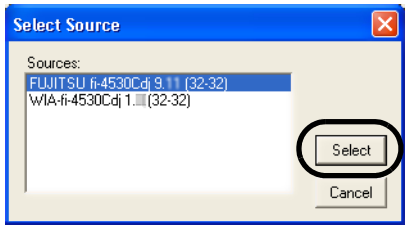
1. Procedure for Basic Scanning Operation

1) Startup the application.
From the [Start] menu, select [Programs]-[Scanner Utility for Microsoft Window] and click [ScandAll 21].

2) Select your scanner on the window below.
Select [Select Source] from the [Scan] menu.



3) Select the scanner to use, then click the [Select] button.



Select
- [FUJITSU fi-4530C] for FUJITSU TWAIN32 V9

or
- [FUJITSU TWAIN32] for FUJITSU TWAIN32 V8

then click the [Select] button.

4) Load the documents on the scanner.
For details on loading documents, refer to "1.2 Loading Documents on the ADF for Scanning" on page 3.

5) Open the TWAIN Driver window.
Select [Scan To View] from the [Scan] menu.

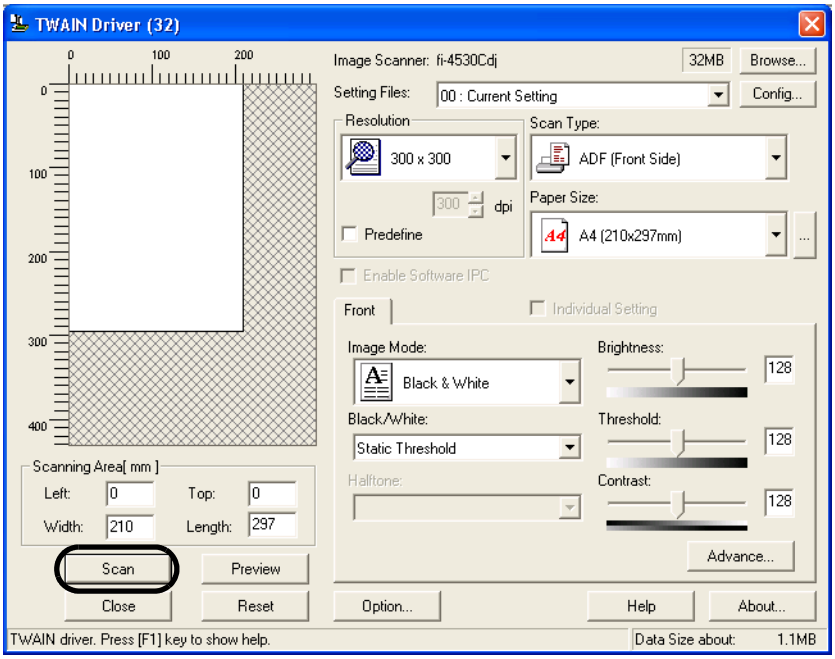
HINT

ScandAll 21 provide scanning methods as follows:

- [To View...] :Displays scanned images on the window.
- [To File...:] :Saves scanned images as files (*.BMP, *.TIF, *.JPG).
- [To FTP...:] :Transfers scanned images to a FTP server.
- [To Adobe PDF...:] :Saves scanned images as PDF files.
  (*Adobe Acrobat must be installed beforehand.)
- [To Microsoft SharePoint Portal Server...] :Transfers scanned images to Microsoft Share Point Portal Server.
- [To Mail...] :Launches mailer software and attaches scanned images to e-mail.

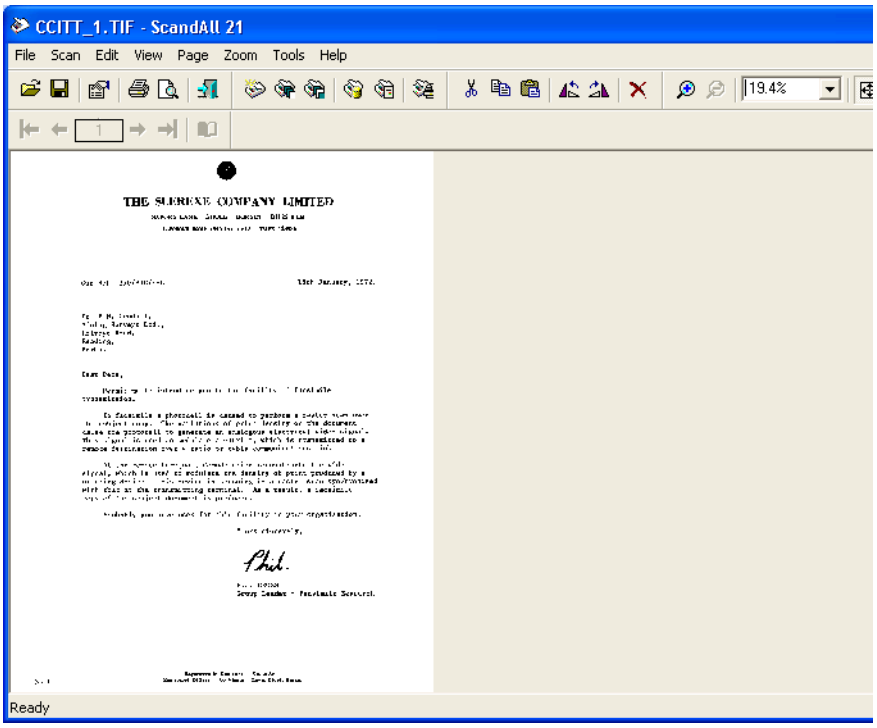
For details, refer to "ScandAll 21 Help".

6) Configure settings for scanning and click the [Scan] button.



For details about the settings on this window, refer to "Setting Window for FUJITSU TWAIN32 Scanner Driver" on page 12.

⇒ The images of scanned documents are displayed on the [ScandAll 21] window.



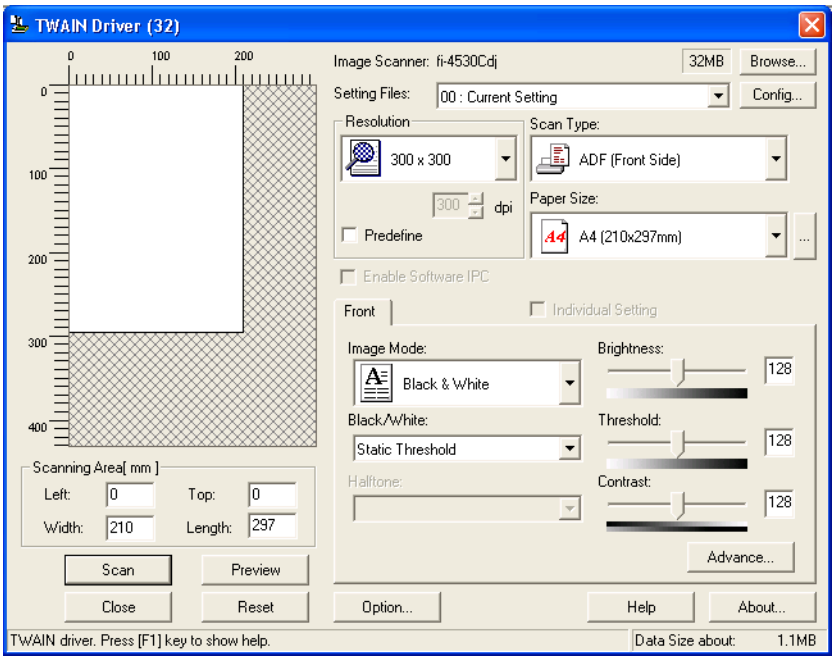
Depending on the settings of the application software, images may not be displayed. For details, refer to the documentation or Help file of your application.
e.x.) When you select [To File...] from the [Scan] menu of ScandAll 21, images of scanned documents are not displayed on the window.

7) Save the scanned images.
Select [Save As...] from the [File] menu to save the scanned images.

If you wish to start another scanning, return to procedure 4.

8) End the application.
Select [Exit] from the [File] menu.

2. Setting Window for FUJITSU TWAIN32 Scanner Driver



You can perform settings for the FUJITSU TWAIN32 Scanner Driver on this window. The following describes the main setting items.

- For details on each functions, refer to "FUJITSU TWAIN32 Scanner Driver Help" (appears by pressing [Help] or [F1] button).
- Depending on the type of your scanner, available setting items or range of setting values vary.

Resolution

Specifies the resolution of scanning.

It can be specified by selecting a default value from the list or customizing (specify any resolution in 1 dpi unit).

By marking the [Predefine] checkbox, you can select one from three predefined settings as [Normal], [Fine], [Super Fine] to scan documents instead of setting details by yourself.

Otherwise, you can change the details of the predefined settings on the [Resolution Setting] window, which appears when you click on the [...] button.

Scan Type

Specifies the feeding method, the side(s) to be scanned (Front Side, Back Side, Duplex) or details of Long page (the size of documents longer than A3).

Paper Size

Select the size of documents to be scanned from this list.

Windows for customizing the paper size will appear when you click on [...] besides the list. You can save any document size as a customized setting (up to three) or for changing the order of the paper size in the list.

Image Mode

Specifies the image type for the scanned documents.

Black & White	Documents are scanned in binary (black and white).
Halftone	Documents are scanned through halftone processing in black and white.
Grayscale	Documents are scanned with 256 gradations of black and white.
Color	Documents are scanned colored. For this mode, you can select 24 bit Color, 256Color or 8 Color.

[Scan] button

Starts scanning documents with the current settings.

[Preview] button

Documents are scanned preliminarily before the actual scanning.
You can confirm the image of the documents in the preview window.

[Close] button

Saves the current settings and closes this window.

[Reset] button

Used to undo changes of settings.

[Help] button

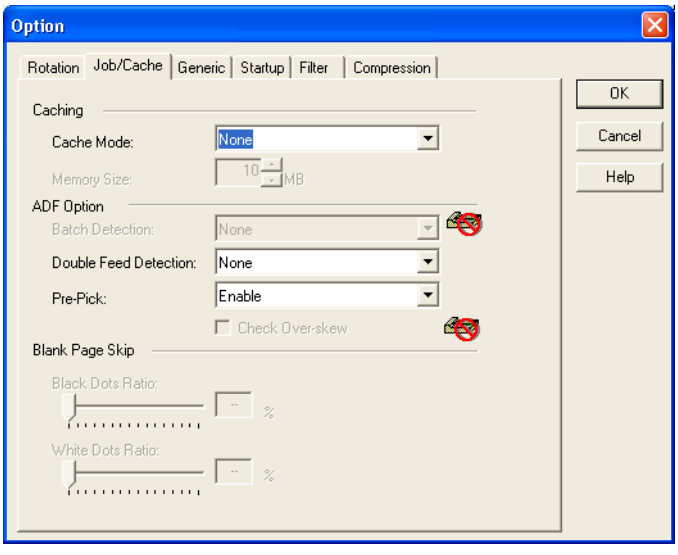
Opens the "FUJITSU TWAIN32 Scanner Driver Help" window. The window also opens by pushing the [F1] key.

[About...] button

Opens an information window about the FUJITSU TWAIN32 Scanner Driver's version.

[Option...] button

You can set up the details of optional functions on the window below.



[Rotation] tab
Select this tab when setting image rotation, detection of document size, etc.

[Job/Cache] tab
Select this tab when setting cache mode, job controls, double-feed detection, blank page skipping, etc.

[Generic] tab
Select this tab to change the unit displayed on the Setting Window for the FUJITSU TWAIN32 Scanner Driver. (Millimeters, Inches, and Pixels are available)

[Startup] tab
Select this tab for setting the Scanner Operation Panel.
(Displayed only when using the scanner of supported type.)

[Filter] tab
Select this tab for setting the image processing filter(s).
Page Edge Filler: Fills up the margins of the scanned documents with a selected color.

[Compression] tab
Select this tab for setting the compression rate of JPEG Transfer.

[Advance...] button
Click this button for settings of the advanced image processing.
You can set Edge Extract, Gamma Pattern, White Level Follower, Dropout Color, Reverse, etc.

[Config...] button
Click this button for configuring the Setting Files.
You can save the changed settings as a Setting File. From next scanning, the settings are quickly changed by using these Setting Files.

For details of each function, refer to the "FUJITSU TWAIN32 Scsnner Driver Help".

■ FUJITSU ISIS Scanner Driver

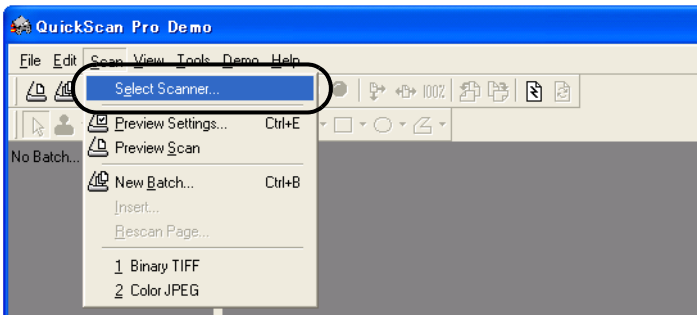
FUJITSU ISIS Scanner Driver is designed for scanning documents with FUJITSU image scanner fi series by using application software that complies with The ISIS standard.
The following describes the procedure with examples of QuickScan for ordinary scanning by using this driver software.

The procedure may vary depending on your application. If you use an application other than QuickScan, please refer to its Guide or Help for further information.

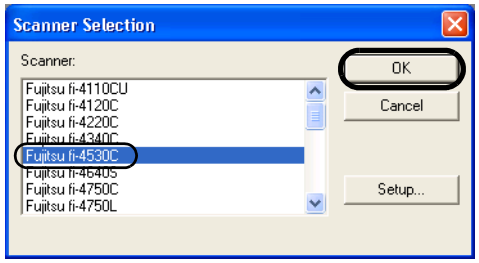
1. Procedure for Basic Scanning Operation

1) Startup the application.
From the [Start] menu, select [Programs]-[QuickScan] and click [QuickScan].

2) Select your scanner on the window below.
Select [Scan] - [Select Scanner] on the menu bar.

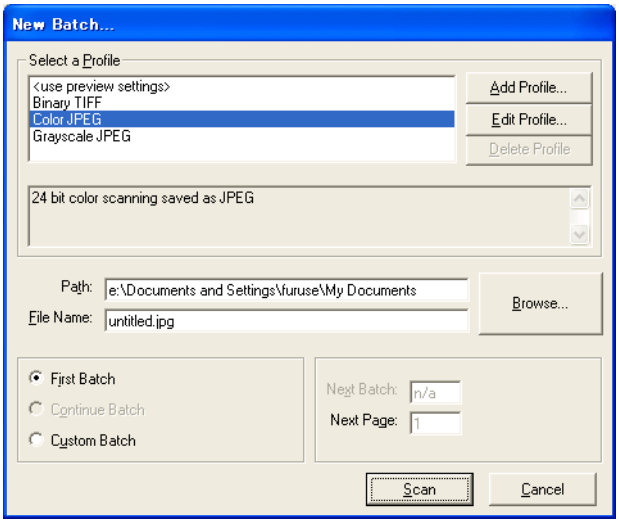


3) Select fi-4530C, then click the [OK] button.



4) Select [Scan] - [New Batch] on the menu bar.

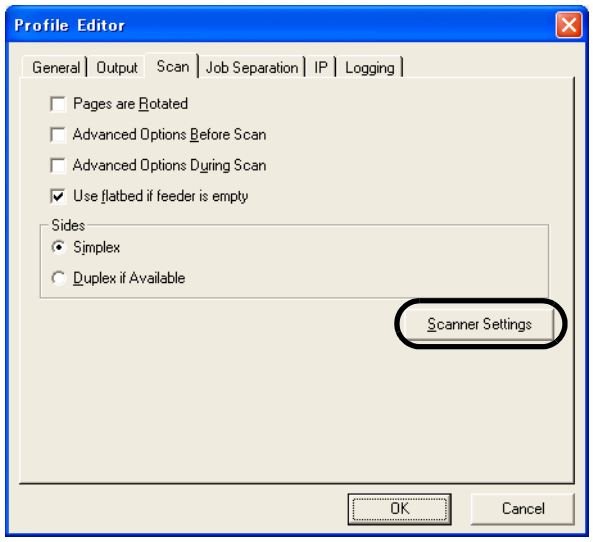
5) Select the profile for scanning.



- When creating a new profile
  Select one from already existing profiles and click [Add Profile...] button.
  ⇒ A new profile will be created based on the profile you select.
- When changing the settings of already existing profiles
  Select one from already existing profiles and click [Edit Profile...] button.
  ⇒ The settings of the selected profile can be changed.
- When deleting a profile
  Select the one to delete and click [Delete] button.
  ⇒ The selected profile will be deleted.

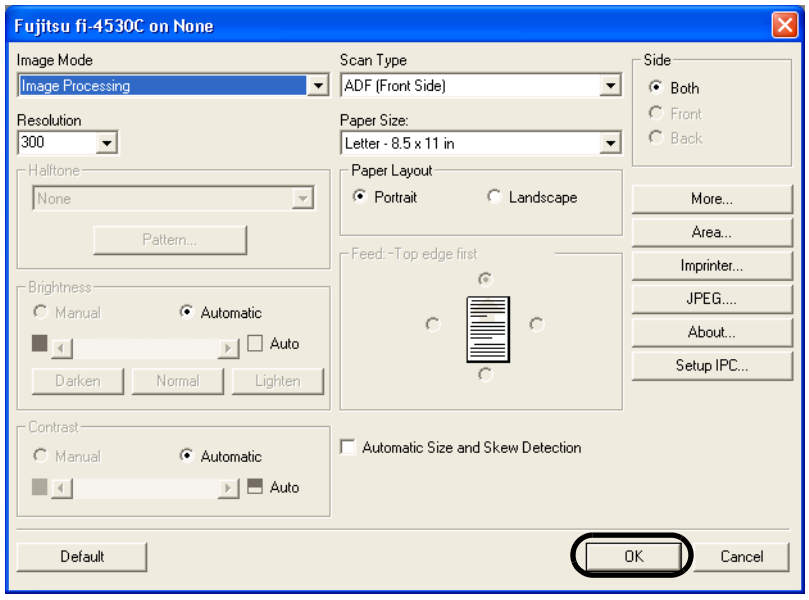
  When you added, edited or deleted a profile, go to the procedure 10.

6) Open the window of ISIS Driver.
   Select the [Scan] tab and click the [Scanner Settings] on the [Profile Editor] window.



⇒ The configuration window of ISIS driver appears.

7) Configure settings for scanning and click the [OK] button.



For details on this dialog box, refer to "Configuration Window of FUJITSU ISIS Scanner Driver" on page 18.

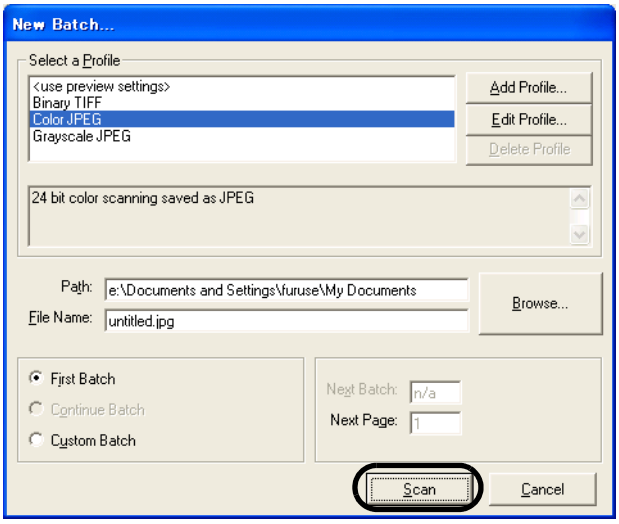
8) The [Profile Editor] window appears. Click the [OK] button to return to [New batch] dialog.

ATTENTION

Configure other settings of the profile, if necessary.
Refer to the "QuickScan Overview" or the "QuickScan Help" for further information on functions and operations of QuickScan. After the installation of QuickScan, it is registered in the [Start] menu.

9) Load the documents on the scanner.

10) Click the [Scan] button.



⇒ Scanned images are displayed on the window.

Refer to the "QuickScan Overview" or the "QuickScan Help" for further information on functions and operations of QuickScan. After the installation of QuickScan, it is registered in the [Start] menu.

2. Configuration Window of FUJITSU ISIS Scanner Driver

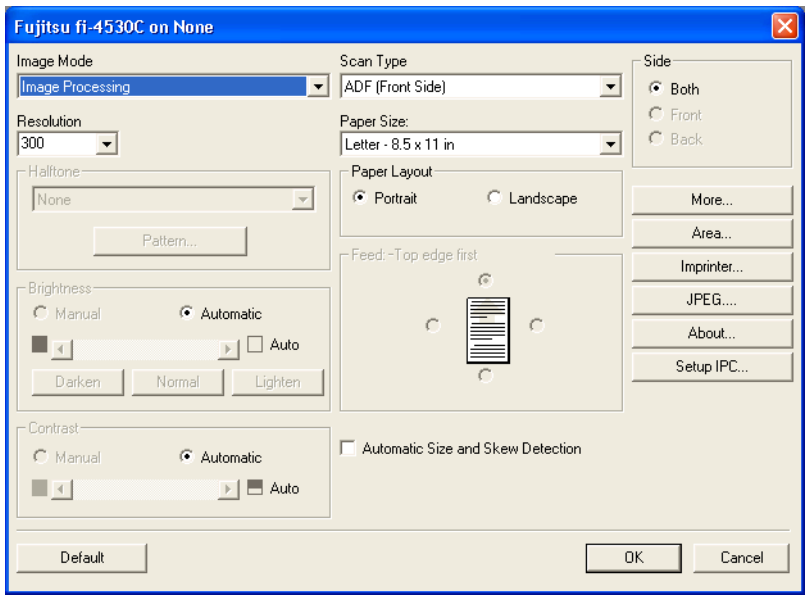


Image Mode

Select a color mode suitable for the purpose from the menu.

Black & White	Scans data in binary (black and white). Distinguishes black from white according to the fixed threshold. This scanning mode is suitable for scanning line drawings and text documents.
16-level Grayscale	Scans data by 14 shades of gray plus black and white. This mode uses 4 bits per pixel.
256-level Grayscale	Scans data by 254 shades of gray plus black and white. This mode uses 8 bits per pixel. This mode is switable for scanning monochrome photographs.
24-bit Color	Scans data as full-colored image using 24 bits per pixel. This mode is suitable for scanning color photographs.
Image Processing	Binary processing is applied to the scanned images This mode is available only when Image Processing Software Option (separately sold) is installed. Please refer to the "User's Guide of Image Processing Software Option" for details.

Resolution

Specifies the number of pixels (dots) per inch.
Select a fixed resolution from the list or enter any value (from 50 to 600) manually.
A higher resolution produces finer image, but requires much more memory.

Halftone

Select the halftone pattern for halftone scanning. This setting is available when "Black & White" is selected in the "Image Mode".

Dither Pattern 0	This setting is suitable for scanning dark photographs.
Dither Pattern 1	This setting is suitable for scanning dark-colored documents containing both text and photographs.
Dither Pattern 2	This setting is suitable for scanning light photographs.
Dither Pattern 3	This setting is suitable for scanning light-colored documents containing both text and photographs.
Error Diffusion	This function minimizes differences of color levels due to subtractive color process by diffusing the difference to the adjacent pixels. This mode is suitable for scanning images of photographs, etc.
Download	Executes processing with the dithered download pattern specified in the dithered download file.

Brightness

Sets the brightness of the entire image. Specify the brightness as a number within the range of 1 (dark) to 255 (bright). To brighten the entire image, decrease the value of the setting. To darken the entire image, increase the value.

Contrast

Sets the contrast between light and shadow of the scanned image. Specify the contrast as a number within the range of 1 (low [soft]) to 255 (high [sharp]). Increasing this value makes the contrast sharper.

Scan Type

Selects the scanning method.

ADF (Front Side)	Scans only the front sides of documents.
ADF (Back Side)	Scans only back sides of documents.
ADF (Duplex)	Scans both front and the back sides of documents. When this option is selected, the both sides of documents are scanned simultaneously. This option can be used only for the models that support duplex scanning.

Paper Size

Selects a paper size according to the size of the document to be scanned. Select a standard paper size from the list.

Paper Layout

Specifies orientation of the documents as portrait or landscape.

Automatic Size and Skew Detection

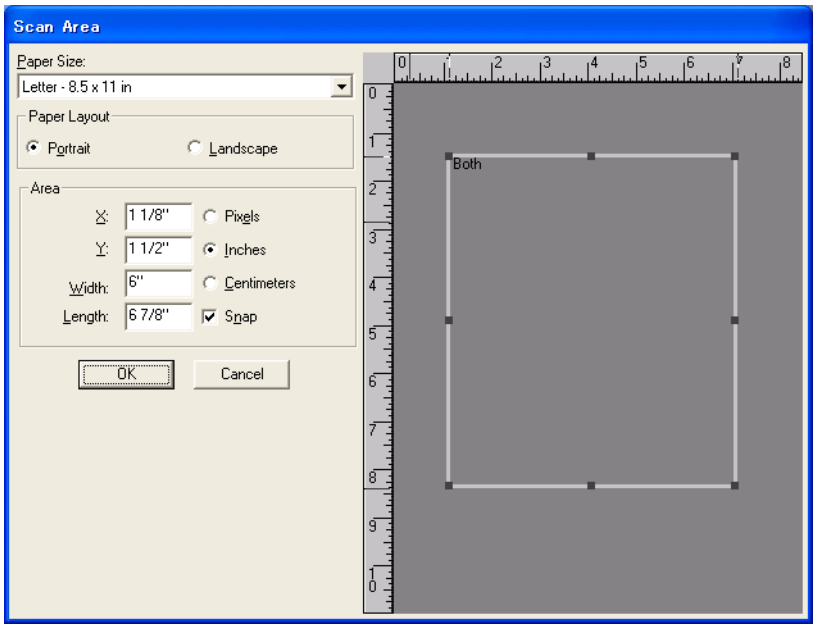
Automatically detects the document's page size, and the output will be adjusted to the detected page size. Document skewing is automatically detected and corrected for the output image.

[More...] button

Opens [More Settings] window. Used for setting advanced features.

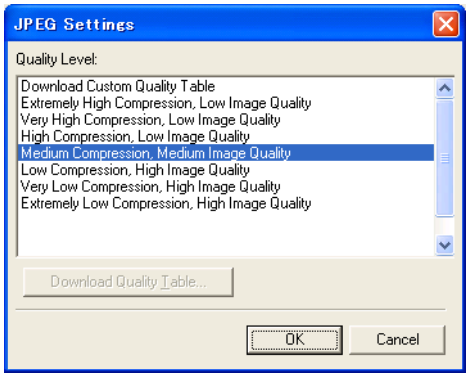
[Area...] button

Opens the Scan Area dialog box.
Specify scan area for the document size.
The size can be set by dragging the frame with mouse.
Otherwise, enter any value for the setting.



[JPEG...] button

Opens the JPEG Settings dialog box. Used for setting the compression rate of JPEG transfer.

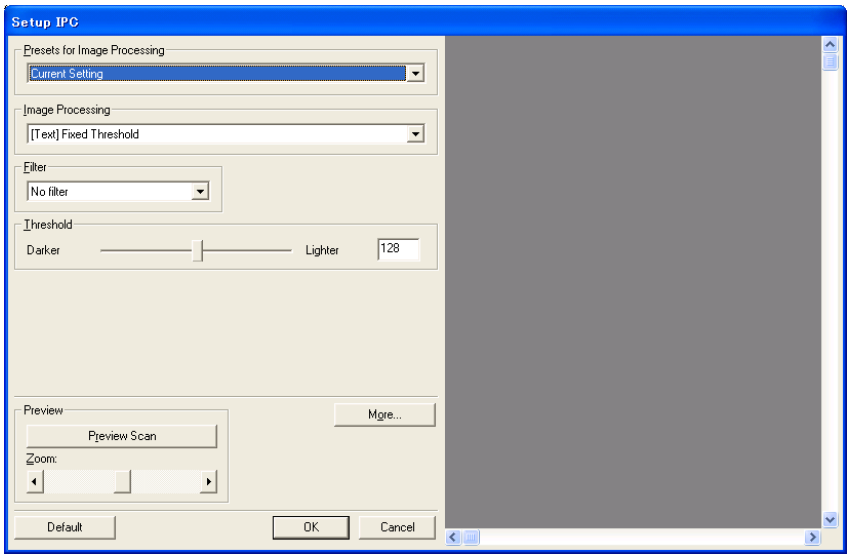


[About...] button

This button displays the version information.

[Setup IPC...] button

This button displays the Image Processing dialog. This button is enabled when Image Processing Software Option (separately sold) is installed and "Image Processing" is selected in the "Image Mode". Refer to the documentation provided with Image Processing Software Option.



End of Page Detection

Scans the edge (bottom) of the documents and outputs data adjusted to the document length. When any page shorter than specified "Paper Size" is included, the output size is adjusted to the detected short size.

Overscan

This option specifies the overscan function. This function makes the scanned images larger than the original documents by adding margins.

Gamma

Specifies Gamma correction. Correction patterns are: "Normal", "Soft", "Sharp", "Custom", or "Download".

DTC Variance

This option specifies the value for adjusting the variance based on the brightness of the image.

Edge Processing

This option specifies the sharpness of contour extraction.

Low, Mid, High	Emphasizes contour of images. Available settings are: Low, Mid, High
Smoothing	Smoothes jaggy images.

Dropout Color

This option excludes selected color (the three primary colors of light i.e. green, red, blue) from scanned images. For example, if the document contains black text in a red frame and when the red color is selected, the scanner reads only the text and eliminate (drop out) the red frame.

Reverse

Colors of scanned images are reversed.

Background

Specifies the Background color. Enabled only for the scanners equipped with Background color switching mechanisms.

Power saving

This option specifies the waiting time before the scanner switches to the Power save mode.

Double Feed Detection

Detects Double-feeds (phenomena that two or more sheets are accidentally fed). You can set conditions for detecting Double-feeds so that the scanner should stop and display error messages. Double feeds are scanned by the differences in document lengths or thicknesses.

Chapter 2

SCANNING VARIOUS TYPES OF DOCUMENTS

This chapter describes how to scan various types of documents.

In this chapter Windows XP screenshots are illustrated.
The screens and operations may differ slightly if the OS that you are using is not Windows XP.
Also, when FUJITSU TWAIN32 is updated the screens and operations noted in this chapter will differ slightly.

2.1 Scanning double sided Documents 26

2.2 Scanning Documents with different Widths 28

2.3 Scanning thin Documents 29

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2.6 Excluding a Color from the Image (dropout color) 43

2.7 Skipping blank Pages 45

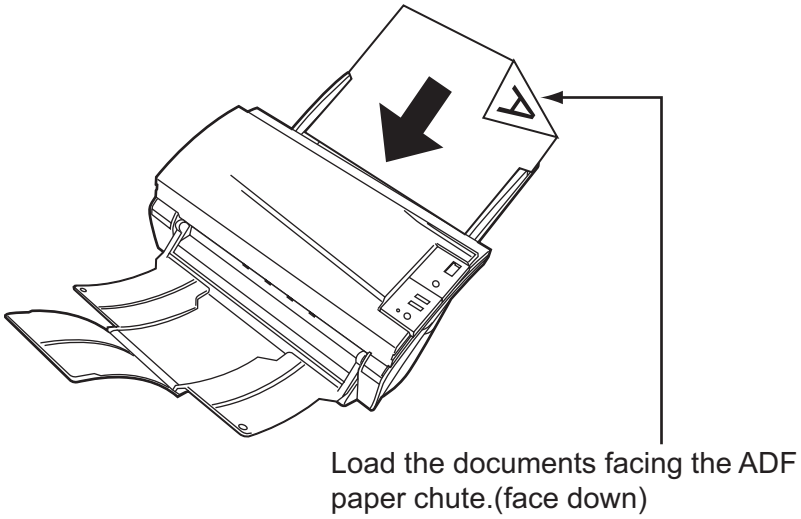
2.8 Detecting Double-Feeds 47

2.9 Correcting skewed Documents 49

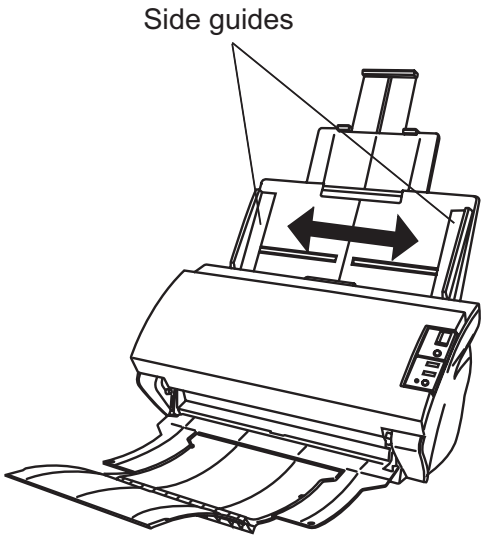
2.1 Scanning double sided Documents

1. Load documents on the ADF paper chute.

   For details on how to load documents, refer to "1.2 Loading Documents on the ADF for Scanning" on page 3.



2. Adjust the side guides to the width of the documents.

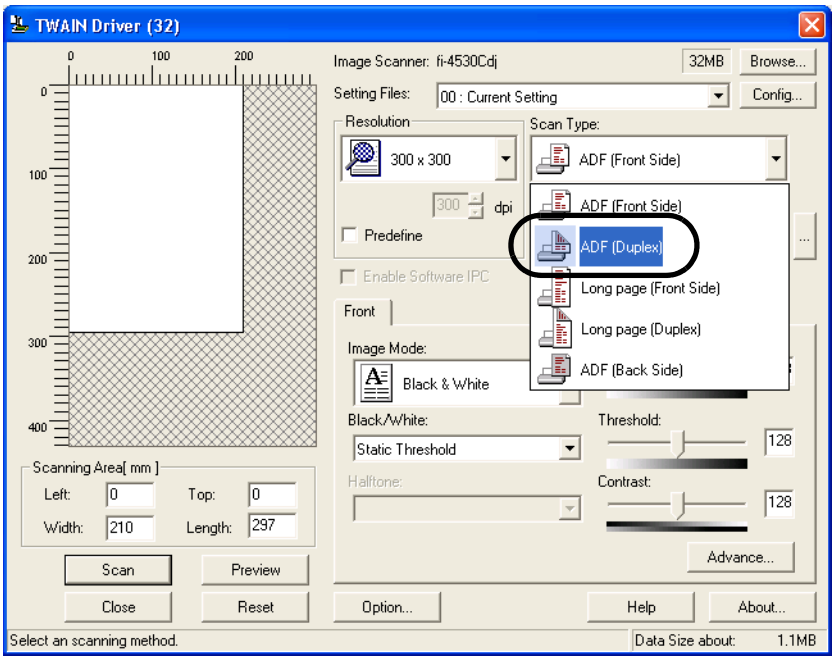


3. Start up ScandAll 21

   From [Start] menu, select [Program] - [Scanner Utility for Microsoft Windows] - [ScandAll 21]. This starts up ScandAll 21.

4. Select fi-4530C.

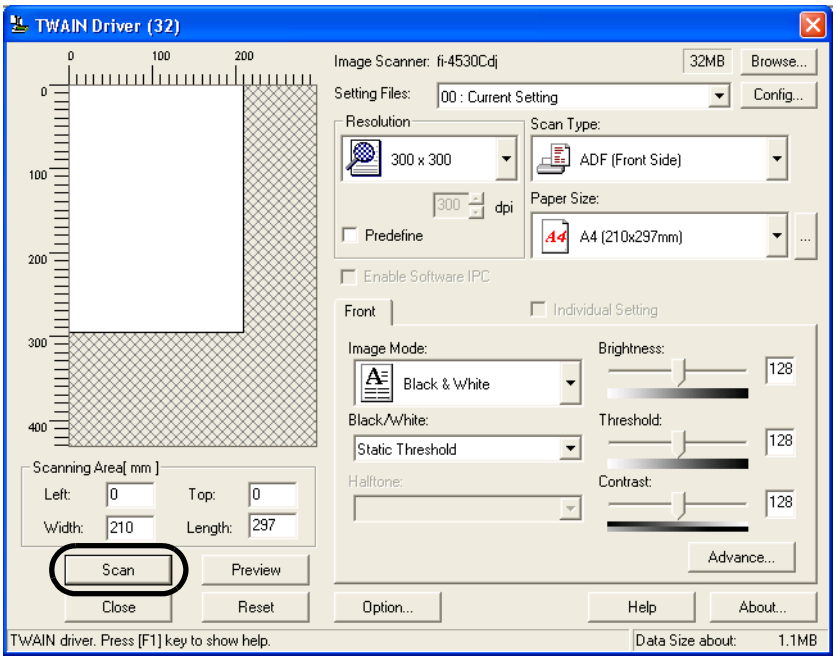
5. Click [Scan To View] on the tool bar. The [TWAIN Driver] dialogbox appears.



6. Select [ADF (Duplex)] from [Scan Type].

7. Click the [Scan] button.

   For settings in the [TWAIN Driver] dialogbox, refer to "1.4 How to use the Scanner Driver" on page 9.



⇒ The images of scanned documents are displayed on the [ScandAll 21] window.

For details on functions and operations of ScandAll 21, refer to "ScandAll 21 Help".

2.2 Scanning Documents with different Widths

When you scan a batch of documents with different widths by using the ADF, you may get skewed images from smaller sized documents.
Be sure to scan only documents of the same width together.
The following shows the procedure for scanning a batch of mixed size documents.

1. Sort out the batch into stacks of the same width.
2. Adjust the side guides to the width of each document stack.
3. Scan the batches of the same widths sparately one by one.

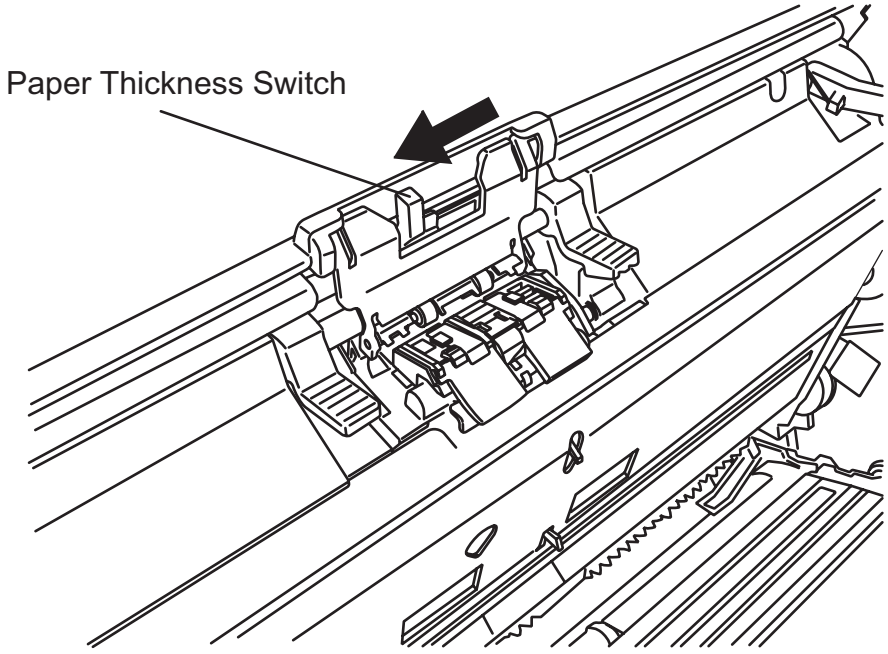
For details on how to scan documents, refer to "1.3 Scanning Documents" on page 7.

2.3 Scanning thin Documents

When you scan a batch of thin documents, document jams (double-feed) and mis-pickings may occur.

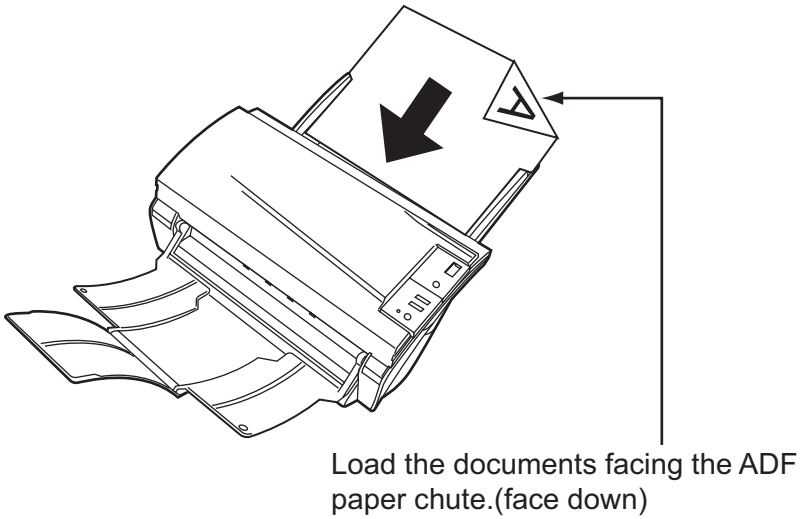
1. Confirm that the thin documents fulfill the requirements of "6.2 Document Quality" on page 103.

2. Shift the position of the paper thickness switch to the "Thin" position (the factory default is "Normal" position).

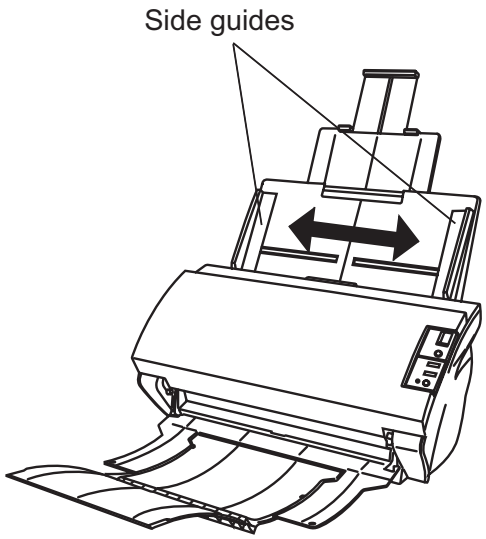


3. Load the documents on the ADF paper chute.

   For details on loading documents, refer to"1.2 Loading Documents on the ADF for Scanning" on page 3.



4. Adjust the side guides to the document width.

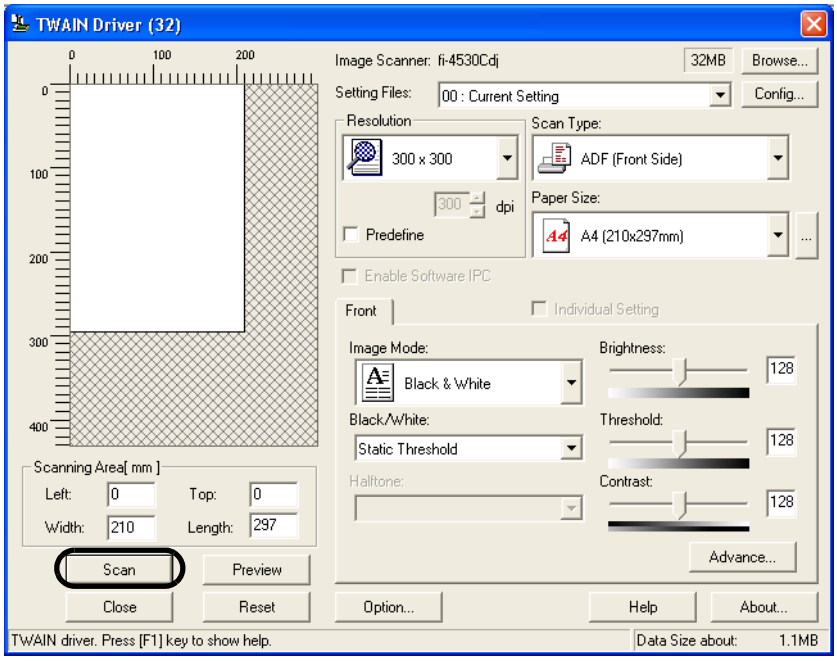


5. Start up ScandAll 21.
   For starting up ScandAll 21, select [Programs] - [Scanner Utility for Microsoft Windows] - [ScandAll 21] from [Start].

6. Select fi-4530C.

7. Click [Scan To View] on the tool bar.
   ⇒ The [TWAIN Driver] dialogbox appears.

8. Click the [Scan] button.
   For settings in the [TWAIN Driver] dialogbox, refer to "1.4 How to use the Scanner Driver" on page 9.

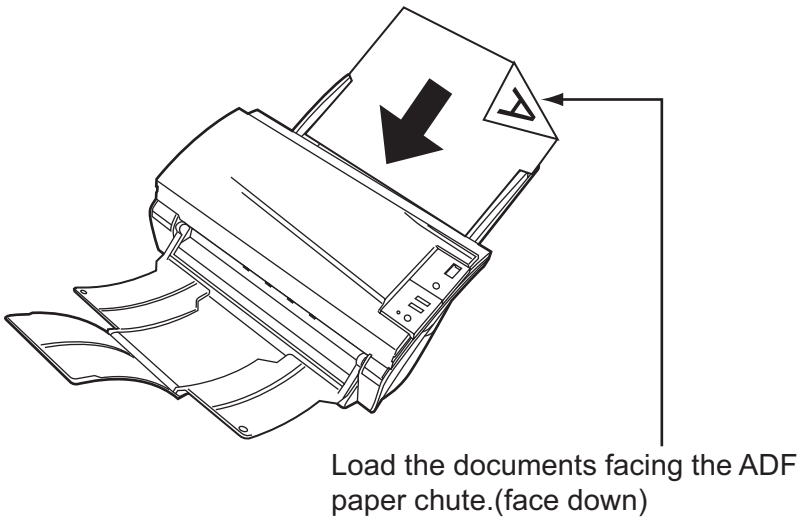


⇒ Images of scanned documents are displayed on the window of ScandAll 21.
For details on functions and operations of ScandAll 21, refer to "ScandAll 21 Help".

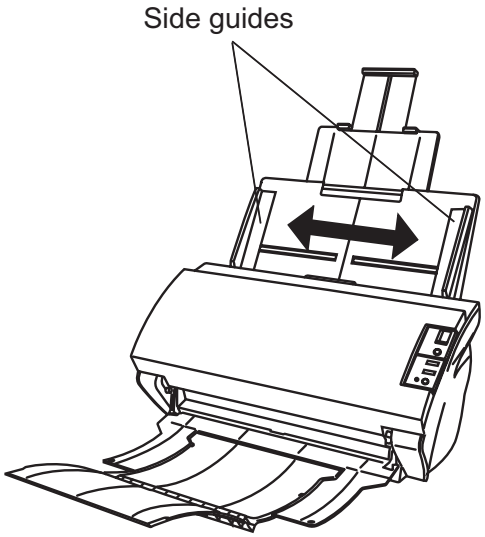
2.4 Scanning Documents longer than A3 size

1. Load the documents on the ADF paper chute.

   For details on loading documents, refer to "1.2 Loading Documents on the ADF for Scanning" on page 3.



2. Adjust the side guides to the document width.



3. Start up ScandAll 21.

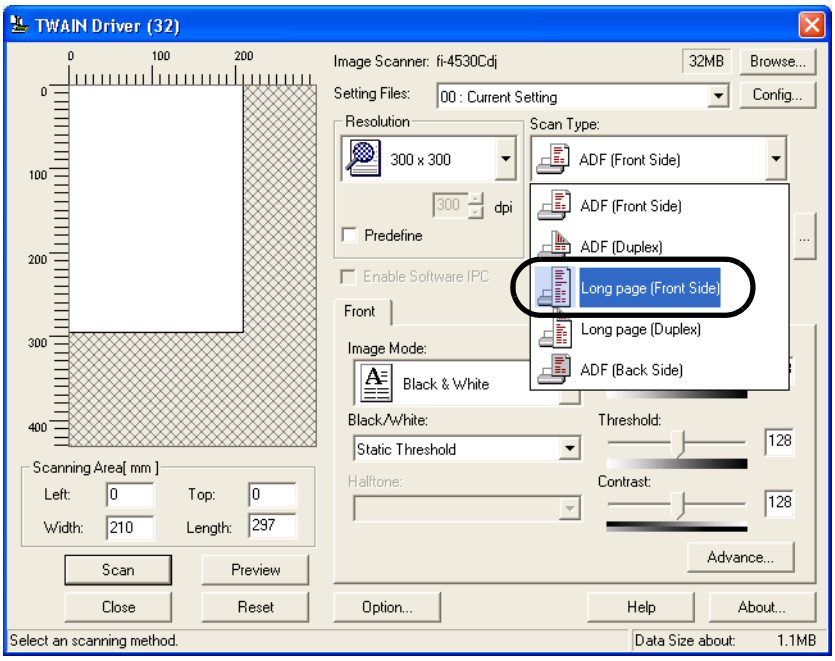
   For starting up ScandAll 21, select [Programs] - [Scanner Utility for Microsoft Windows] - [ScandAll 21] from [Start].

4. Select fi-4530C.

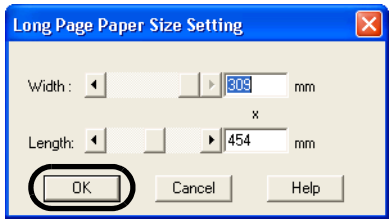
5. Click [Scan To View] on the tool bar.

   ⇒ The [TWAIN Driver] dialogbox appears.

6. Select [Long page (Front Side)] or [Long page (Duplex)] from [Scan Type].

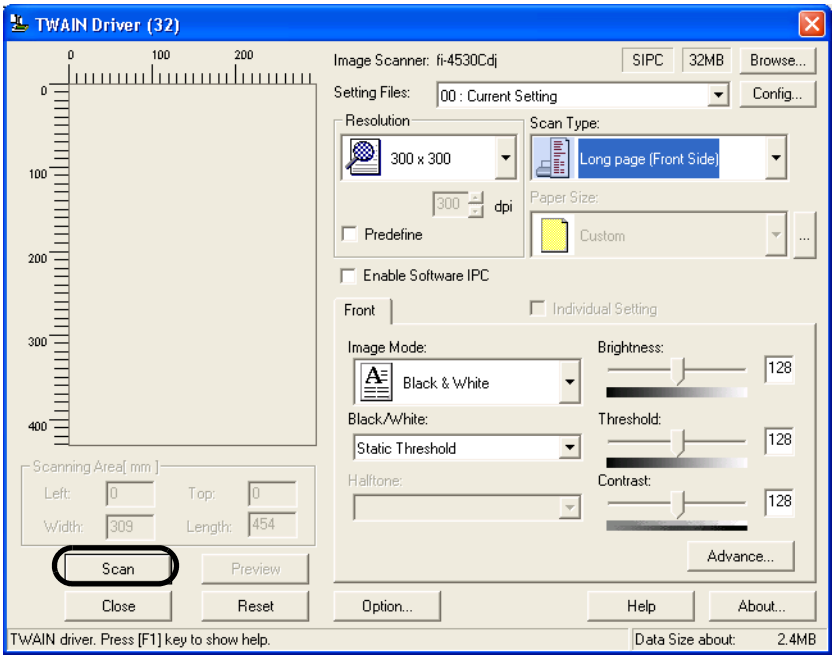


7. Specify the length of documents.



8. Click the [Scan] button.

   For settings in the [TWAIN Driver] dialogbox, refer to "1.4 How to use the Scanner Driver" on page 9.



⇒ Images of scanned documents are displayed on the window of ScandAll 21.

For details on functions and operations of ScandAll 21, refer to "ScandAll 21 Help".

2.5 Saving scanned Images in PDF Format

To save scanned images in PDF format, Adobe Acrobat 5.0 or later must be installed on your PC. Adobe Acrobat 5.0 can be installed from the provided Adobe Acrobat CD-ROM.

There are two methods for saving scanned images in PDF format.

1. Using ScandAll 21

   This method is recommended for color or grayscale scanning and when a smaller PDF file size is required.

   Your benefits are :

   - Reduced PDF data size
   - Simplified method for creating PDF files with no troublesome operations

2. Using Adobe Acrobat 5.0

   This method is recommended for faster creation of PDF files and for black and white scanning.

   Your benefits are :

   - Quick creation of PDF files with the original scan resolution
   - Flexibile creation of PDF files by changing the PDF compression rates

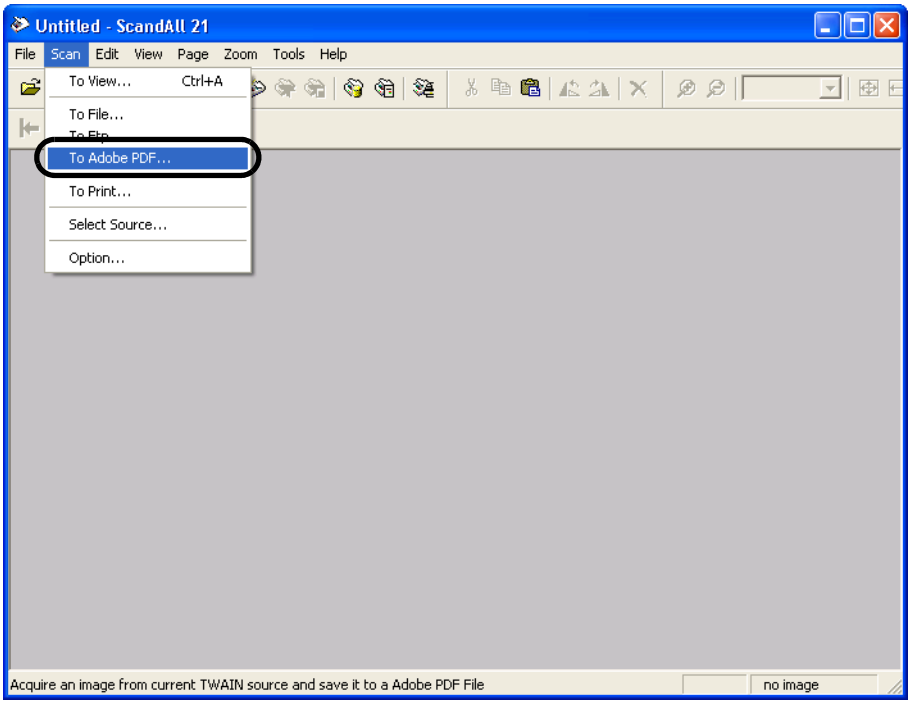
The file size increases when scanning color documents by an ordinary method. However, you can drastically reduce the size by using the Acrobat Distiller before saving the file.
For details, please refer to the hints on page 41.

■ Using ScandAll 21

1. Load the documents on the ADF paper chute.

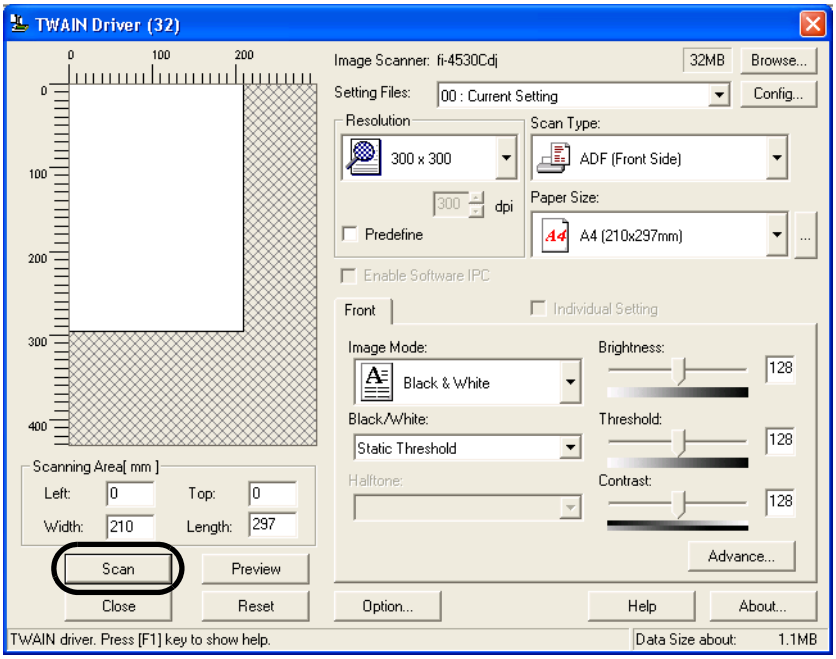
2. Start up ScandAll 21.
   Select [Program] - [ScannerUtility for Microsoft Windows] - [ScandAll21] from the [Start] menu. This will start up the application.

3. From the [Scan] menu select [To Adobe PDF].



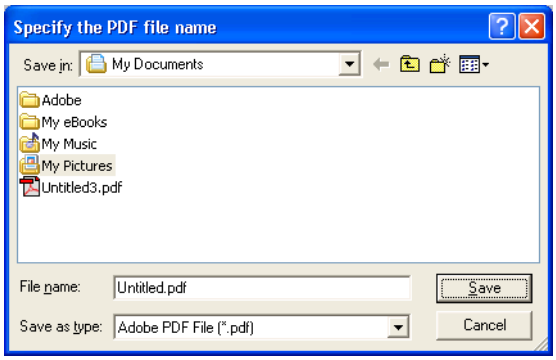
⇒ [TWAIN Driver] dialogbox appears.

4. Set the scan resolution, paper size, etc., and then click the [Scan] button.



5. To end scanning, click the [Close] button.
   ⇒ The scanned image is displayed.

6. Enter the file name and select the destination to save the scanned image.
   For details, refer to "ScandAll 21 Help".



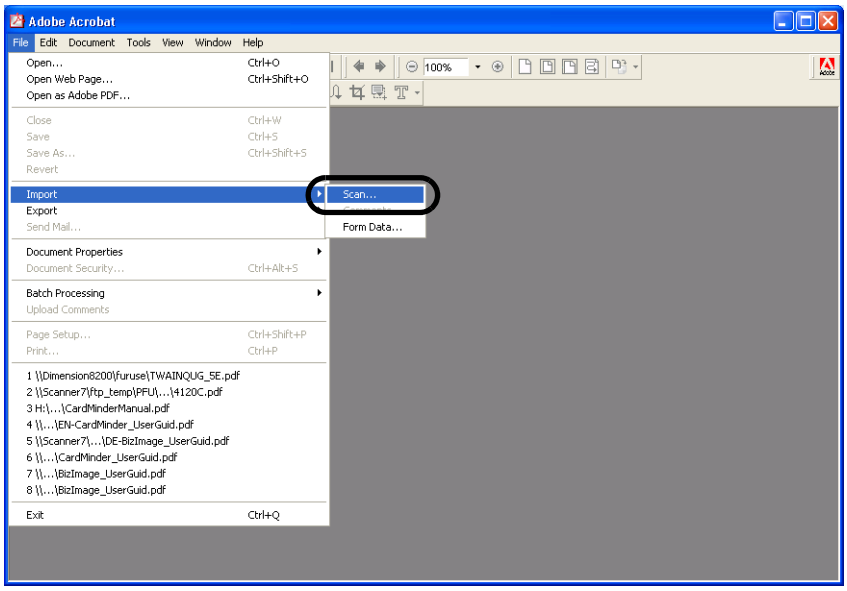
■ Using Adobe Acrobat 5.0

1. Load the documents on the ADF paper chute.

2. Start up Adobe Acrobat 5.0

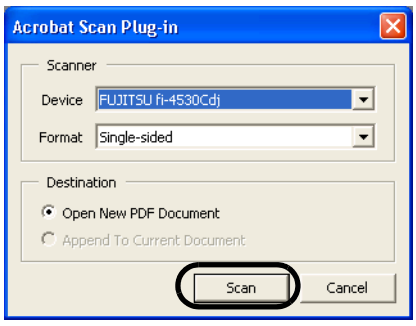
   Select [Program] - [Adobe Acrobat 5.0] from the [Start] menu. This starts up Adobe Acrobat 5.0.

3. From the [File] menu select [Import] - [Scan...].



⇒ The [Acrobat Scan Plug-in] dialogbox appears.

4. Select [FUJITSU fi-4530Cdj] ([FUJITSU TWAIN 32] for WindowsNT 4.0) at [Device] and click the [Scan] button.

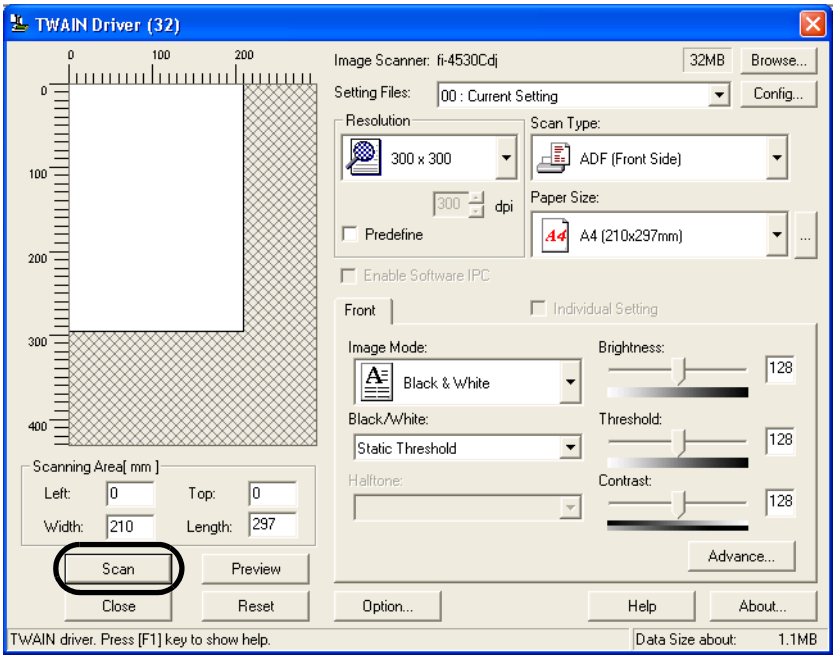


⇒ [TWAIN driver] dialogbox appears.

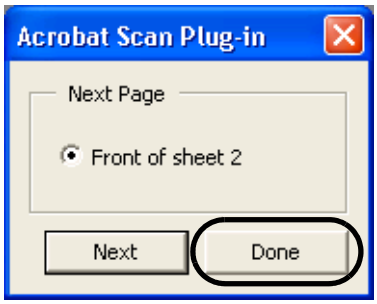
ATTENTION

Select [Simplex] even if you intend to do duplex scanning.

5. Select the scan resolution, document size, etc., and click the [Scan] button.

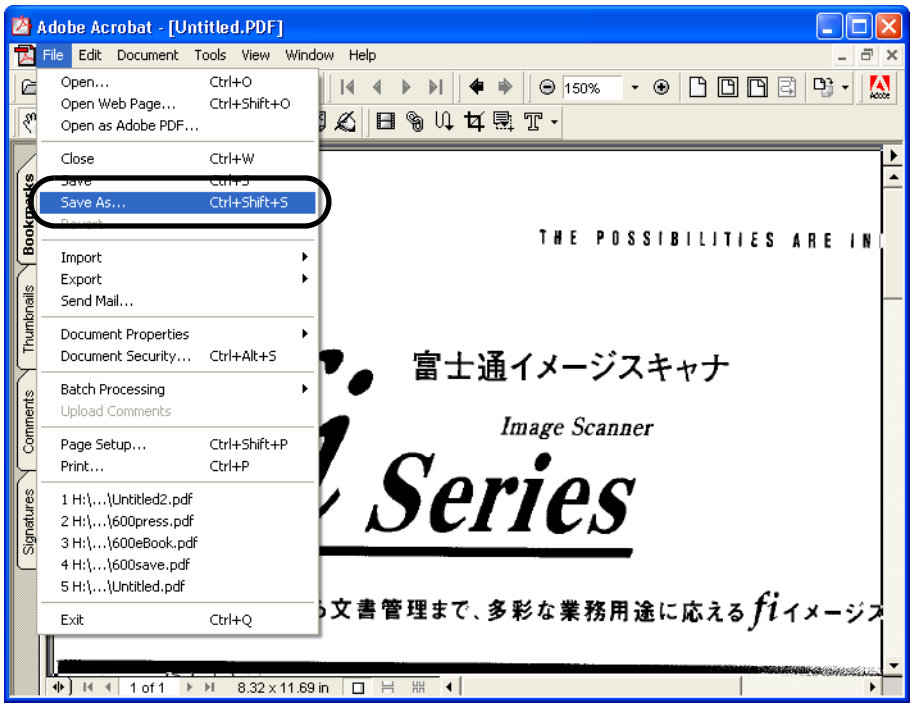


6. To end scanning, click the [Done] button.



⇒ The scanned image is displayed.

7. Select [Save as...] or [Save] from the [File] menu to save the scanned image.



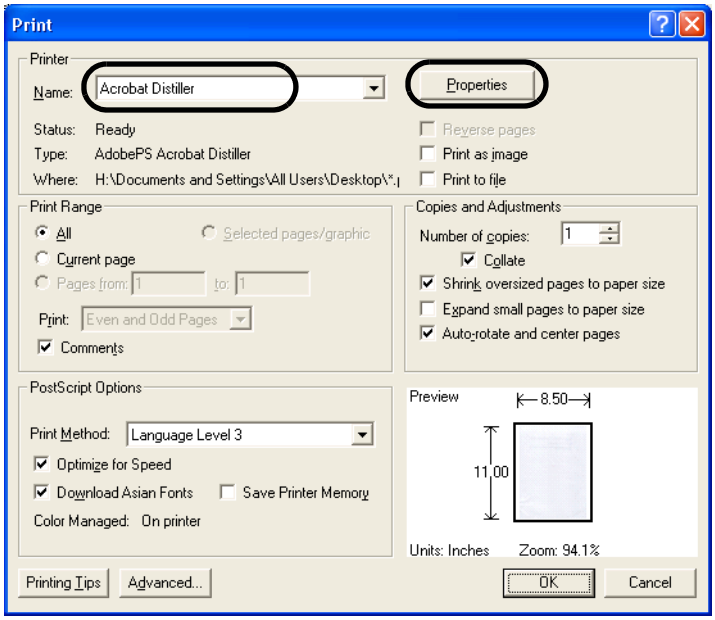
For the details on Adobe Acrobat 5.0 operations, refer to the Adobe Acrobat 5.0 manual and Help.

HINT

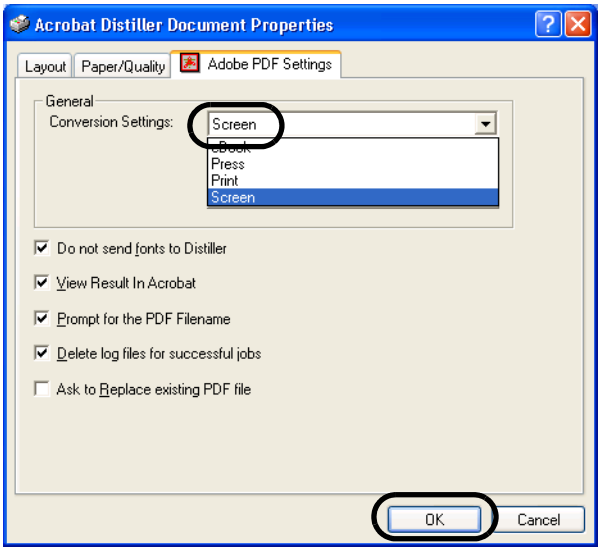
If you save scanned images by this procedure, the file size may increase greatly. For reducing the file size, follow the procedure below. (It may take much more time than the usual saving procedure.)

1. Select [File] - [Print...]
2. On the following dialog specify [Acrobat Distiller] for [Name]

.



3. Click the [Properties] button.
4. Click the [Adobe PDF Settings] tab.
5. Select [Conversion Settings] to [Print].
   The following shows an example of [Screen].



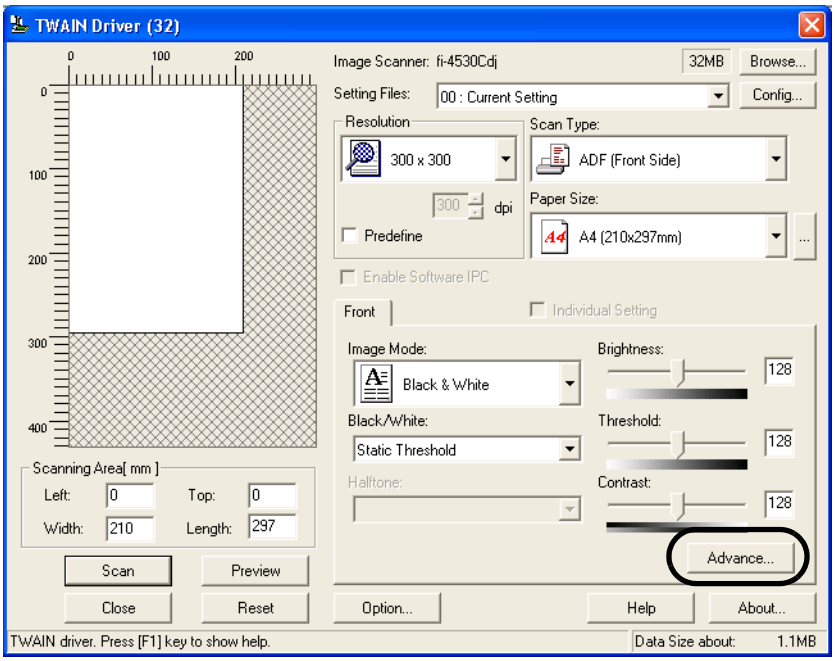
6. Click [OK].
7. Enter a file name and click the [Save] button on the [Save PDF File As] dialogbox.

2.6 Excluding a Color from the Image (dropout color)

A selected color (primary colors: red, green or blue) can be removed (dropped out) from the scanned image data. For example, if the document contains black text in a green frame, you can set the scanner to read only the text and eliminate (drop out) the green frame.
To set the scanner to drop out a color, change the settings in the [TWAIN Driver] dialogbox before scanning.

The following shows the procedure for changing the settings in this dialogbox.

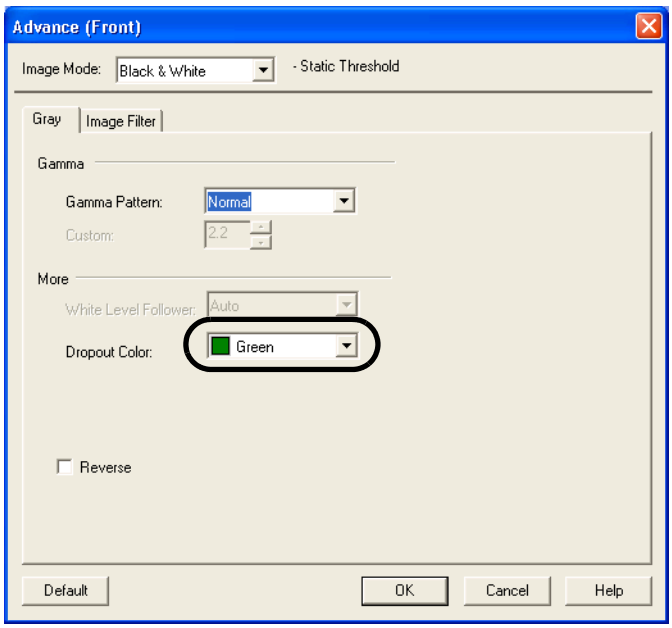
1. Click the [Advance...] button in the [TWAIN Driver] dialogbox.



⇒ The [Advance] dialogbox appears.

2. Select the color to be dropped out from [Dropout Color] under [More].

   For example, if the document contains black text in green frame, select [Green] so that the scanner only reads the text and eliminates the frames.



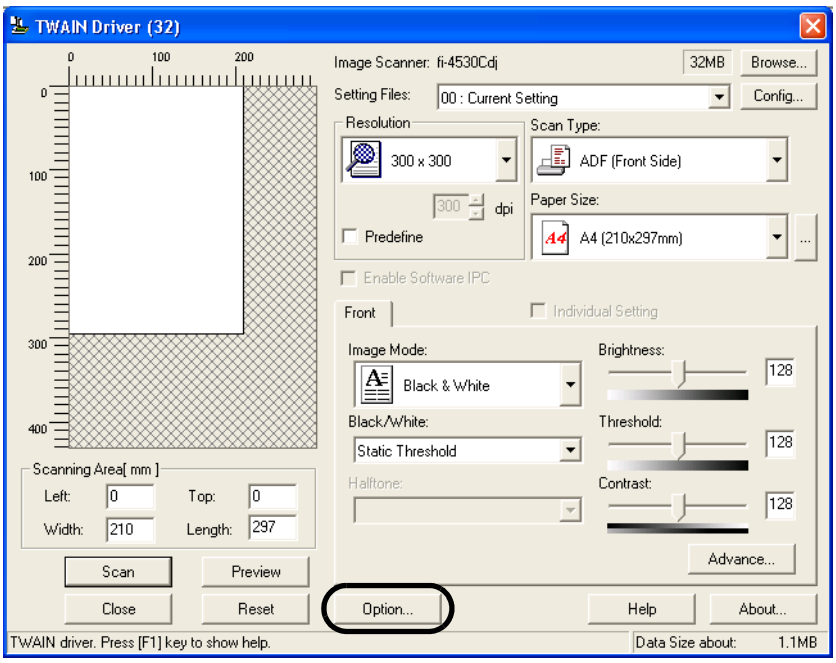
3. Click the [OK] button.

   The [TWAIN Driver] dialogbox will be redisplayed. Then, perform the scanning operation on the dialogbox.

2.7 Skipping blank Pages

Change settings in the [TWAIN Driver] dialogbox for skipping blank pages at scanning documents.

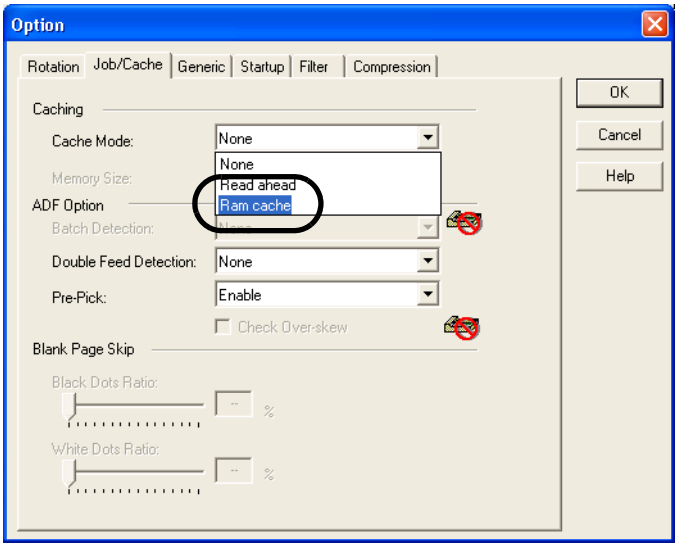
1. Click the [Option ...] button in the [TWAIN Driver] dialogbox.



⇒ The [Option] dialogbox appears.

2. Click the [Job/Cache] tab

3. Select [Ram Cache] from the [Cache Mode] menu under [Caching].



4. By using the slider control under [Blank Page Skip], specify the [Black Dots Ratio] or [White Dots Ratio] (ratio of black or white parts on the documents) for judging if the scanned documents are recognized as blank pages by the scanner.

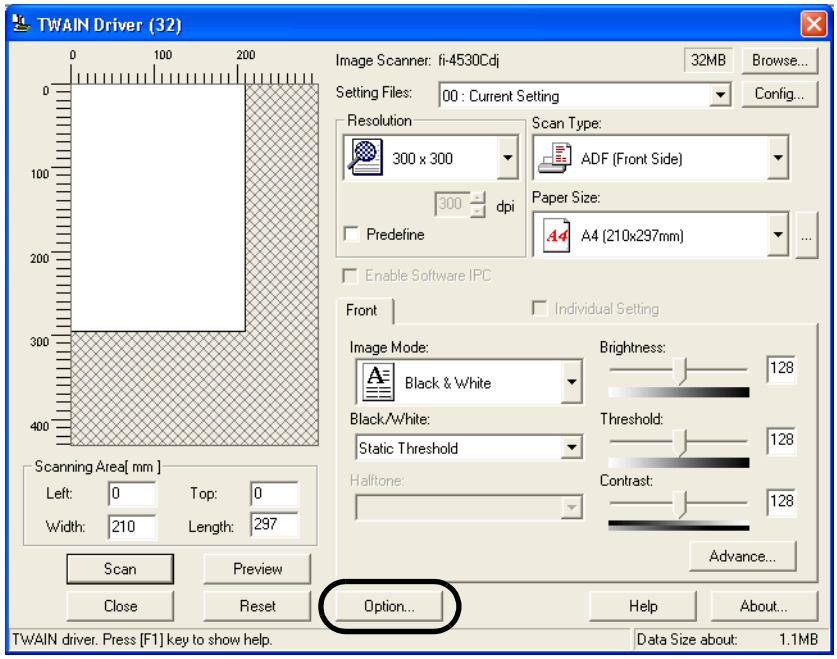
The [TWAIN Driver] dialogbox will be redisplayed. Then, perform the scanning operation on the dialogbox.

2.8 Detecting Double-Feeds

"Double-feed" is an error that occurs when two or more sheets are accidentally fed into the ADF at the same time. You can set the scanner to display an error message when it detects a double-feed. To set conditions for the double-feed detection, change the settings in the [TWAIN Driver] dialogbox.

The following shows the procedure for changing the settings in the dialogbox.

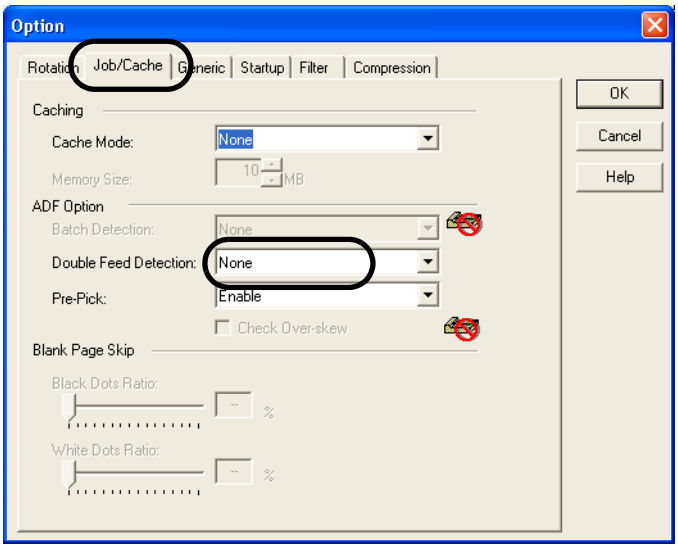
1. Click the [Option...] button in the [TWAIN Driver] dialogbox.



⇒ The [Option] dialogbox appears.

2. Click the [Job/Cache] tab.

3. Select the detection conditions from [Double Feed Detection] under [ADF Option].



The following are the detection conditions

None	Double-feed detection is not performed
Check overlapping	The scanner monitors the overlapping of documents. It detects a double-feed by differences in document thickness when two or more document sheets are fed overlapping.
Check length	The scanner monitors the length of documents. It detects a double-feed by differences in the document length when two or more document sheets are fed overlapping.
Check overlapping and length	The scanner monitors both document overlapping and length to detect double-feeds.

Furthermore, refer to "6.5 Double-feed Detection Conditions" on page 108 for detailed information about the document for double-feed detection.

4. Click the [OK] button.

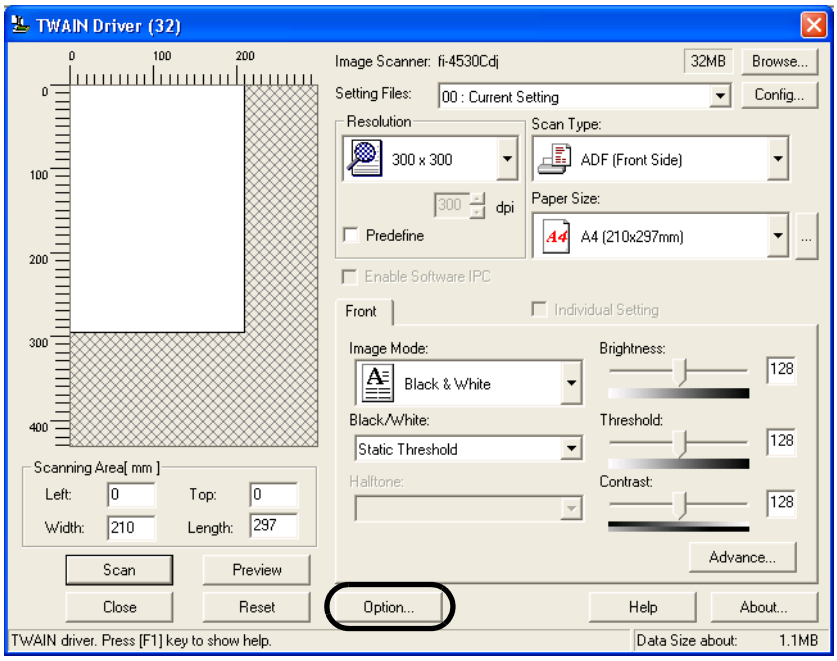
The display returns to the [TWAIN Driver] dialogbox. Then, perform the scanning operation on the dialogbox.

2.9 Correcting skewed Documents

You can set the scanner so that skew of documents are detected and corrected automatically when skewed documents are fed into the ADF.
Change the setting in the [TWAIN Driver] dialogbox to enable this function.

The following shows the procedure for changing the setting in the dialogbox.

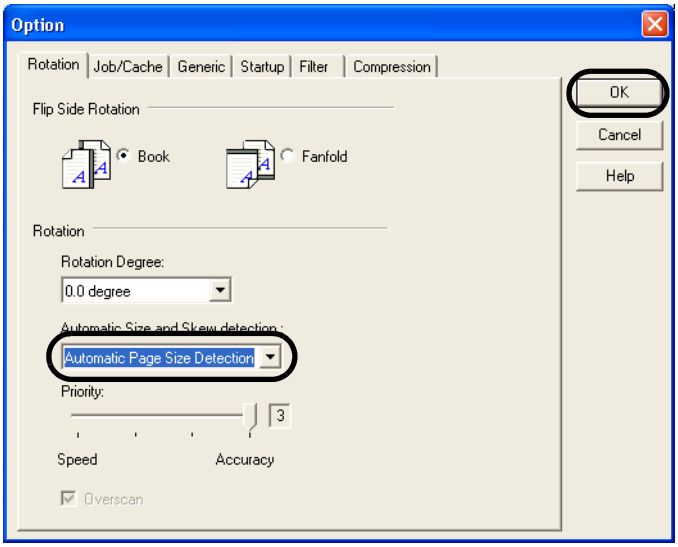
1. Click the [Option...] button in the [TWAIN Driver] dialogbox.



⇒ The dialogbox appears.

2. Click the [Rotation] tab.

3. Select the [Automatic Page Size Detection] from the [Automatic Size and Skew Detection] menu.



4. Click the [OK] button.

   The display returns to the scanninig operation [TWAIN Driver] dialogbox.
   Then, perform the scanning operation on the dialogbox.

ATTENTION

When using either of the following documents, the automatic page size detection may not function correctly.

1. Paper of weight 52g/m^2 or less.
2. Not rectangular documents.
3. Documents which their edges are filled.

Chapter 3

DAILY CARE

This chapter describes how to clean the scanner.

When cleaning the scanner, turn off the power, and unplug the AC cable from the outlet, except for replacing the feed rollers or the eject rollers.

3.1 Cleaning Materials and Locations requiring Cleaning 52

3.2 Cleaning the ADF 54

3.1 Cleaning Materials and Locations requiring Cleaning

■ Cleaning Materials

Cleaning Materials	Parts No.	Remarks
Cleaner F1 (or isopropyl alcohol) 	CA99501-0013	1 bottle Moisten a cloth with this fluid and wipe the scanner clean.
Lint-free dry cloth	- Commercially available one	

For details about the cleaning materials, contact the FUJITSU scanner dealer where you purchased the scanner.

■ Locations and Cycle for Cleaning

The following table shows the standard cleaning cycle for each location.

Part to clean	Standard Cleaning Cycle
Pad ASSY	Clean these parts after every 5,000 scans.
Pick roller	
Feed rollers	
Plastic rollers	
Eject rollers	
Sheet guides	
Glass	
Ultra sonic sensor	

The scanner must be cleaned more frequently if you scan any of the following type of sheets:

- Documents of coated paper
- Documents that are almost completely covered with printed text or graphics
- Chemically treated documents such as carbonless paper
- Documents containing a large amount of calcium carbonate
- Handwritten documents

3.2 Cleaning the ADF

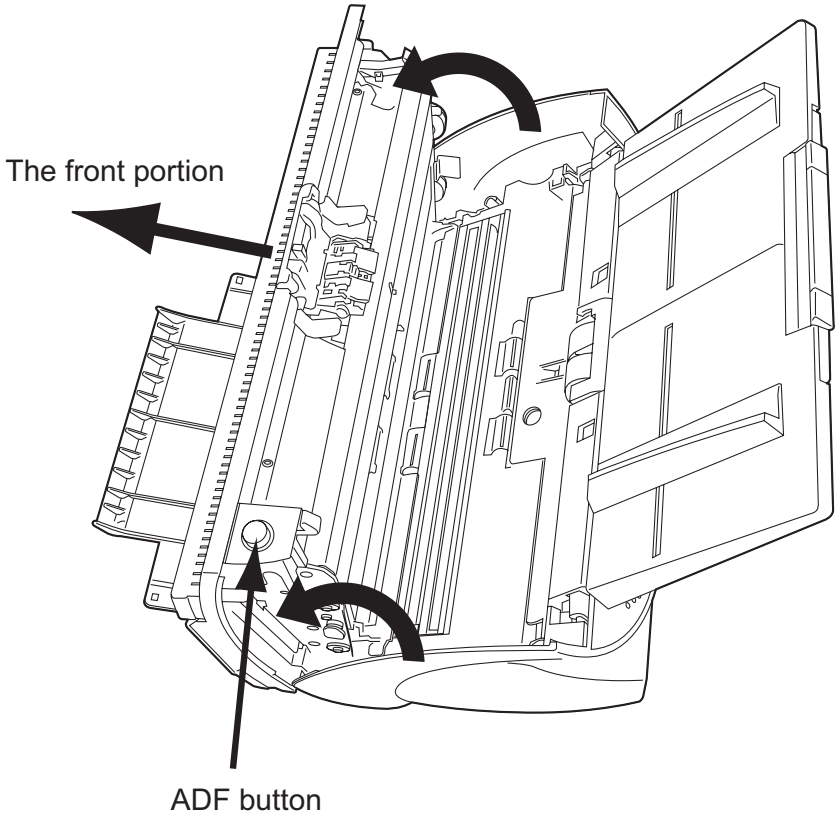
As a guideline, clean the ADF after every 5,000 scans. Note that this guideline varies according to the type of documents you are scanning. For example, it may be necessary to clean the ADF more frequently if documents are scanned when the toner is not sufficiently fixed on the printout.

CAUTION

The glass surface inside the ADF becomes hot during the operation of the scanner. Before you start to clean the inner parts of the scanner, disconnect the AC adapter from the power outlet, and wait at least 3 minutes to let the glass cool down.

■ Cleaning Method

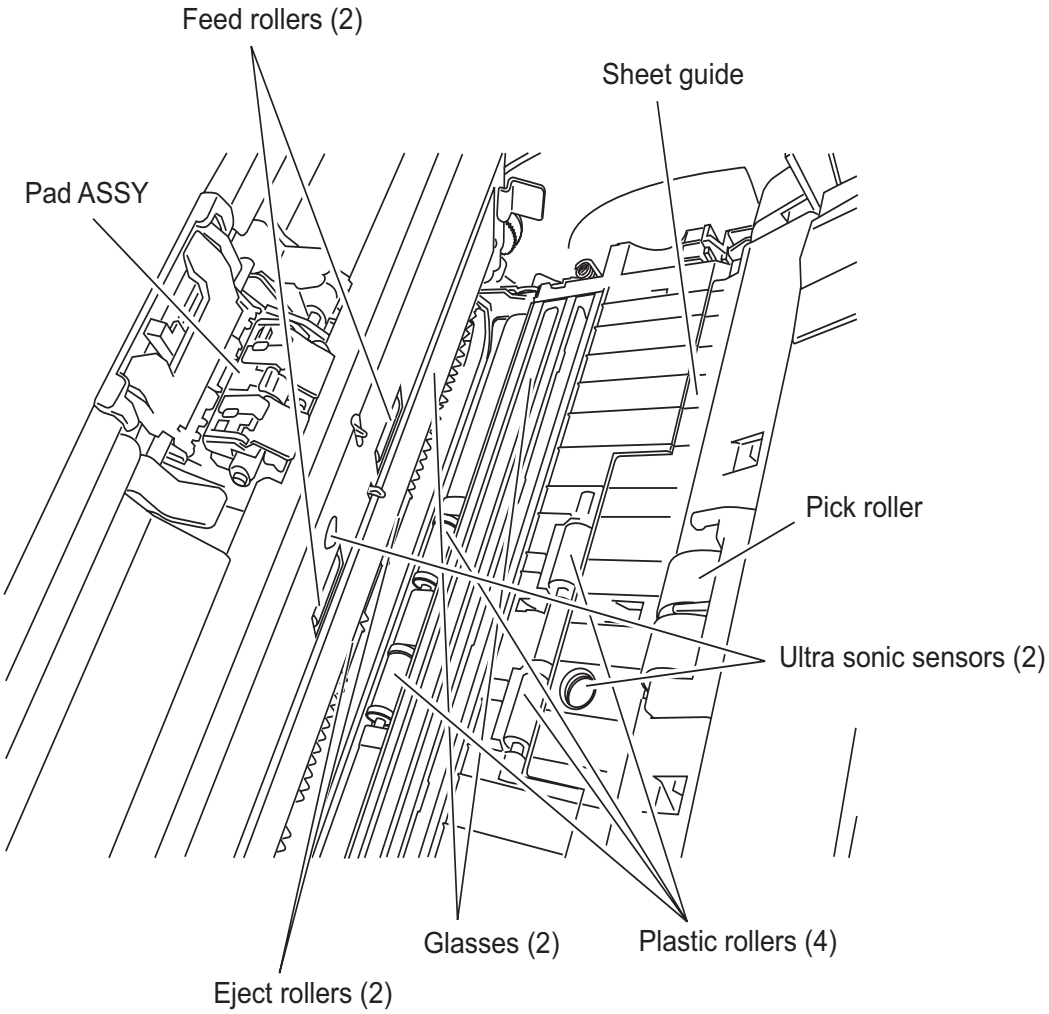
1. Open the ADF cover while pushing down the ADF button.



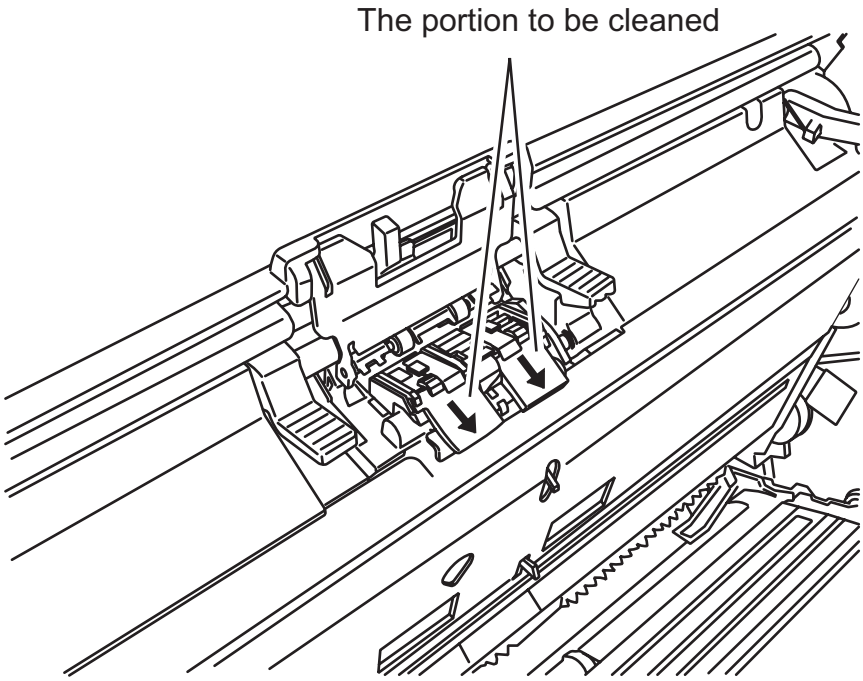
CAUTION

Be careful, the ADF cover may close and pinch your fingers.

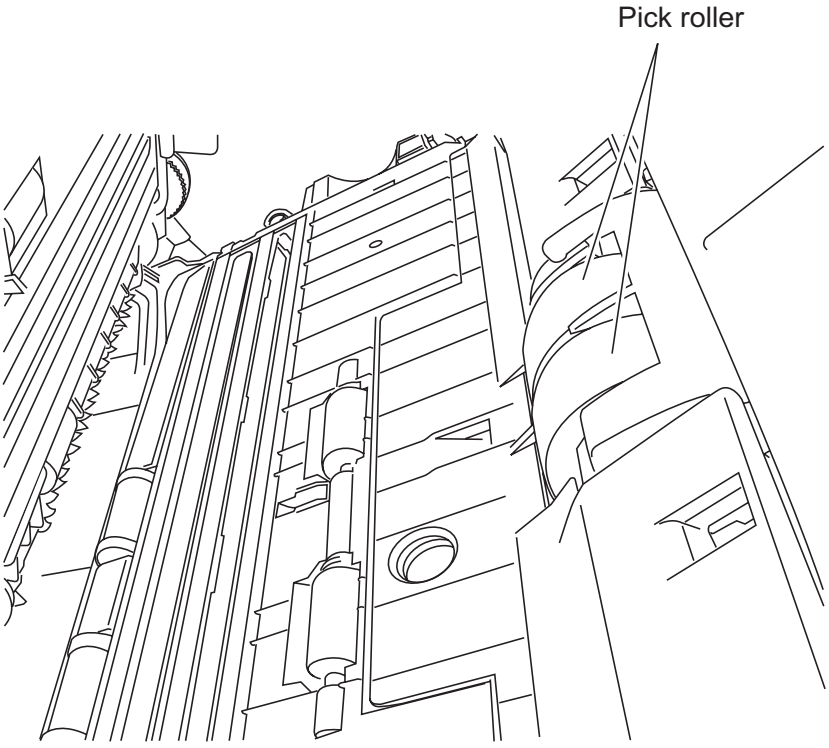
2. Clean the following locations with a lint-free cloth moistened with the Cleaner F1.



- Pad ASSY.
  Clean the Pad ASSY (rubber surface) downward (in the direction of the arrow).



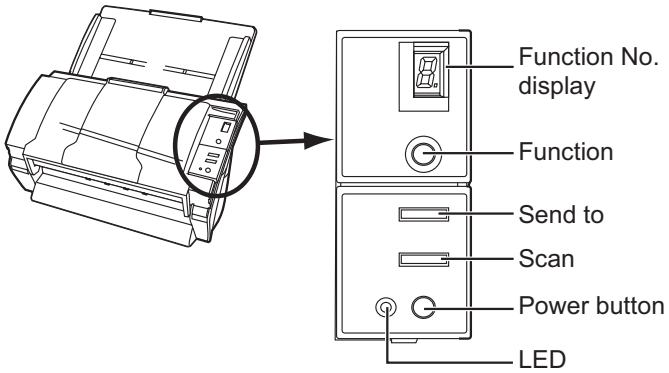
- Pick rollers
  Clean the Pick rollers lightly, not to roughen the roller's surface. Take particular care in cleaning this roller as black debris on it advesely affects the pickup performance.



- Feed rollers
  1) Open the ADF while pushing down the ADF button. If you open the ADF cover when the indication of the Function No. display is "P" or "0", the Feed rollers do not rotate even you perform the operation of step 2) below. So open the ADF cover when the indication is not "P" or "0".

  2) Simultaneously hold down the "Send to" and "Scan" buttons on the operator panel. The Feed rollers rotate a little. For details on locations of the "Send to" and "Scan" buttons, refer to "1.3 Operator panel" in fi-4530C Getting Started on the Setup CD-ROM.

  3) Hold a lint-free dry cloth moistened with the Cleaner F1 against the surfaces of the rotating Feed rollers so that it lightly cleans their surfaces. Take particular care in cleaning these rollers as black debris on them adversely affects pickup performance. As a guideline, seven presses of the "Send to" and "Scan" buttons rotates the Feed rollers one full turn.

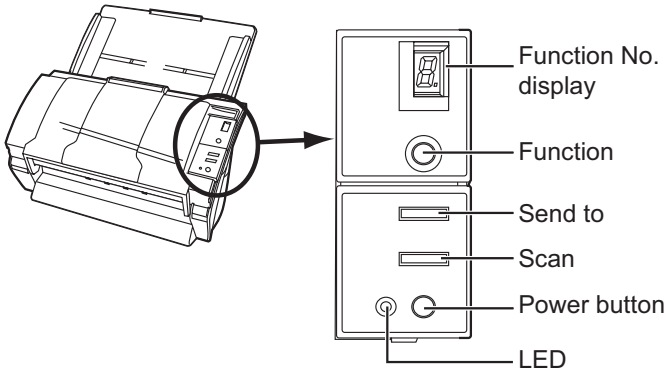


- Plastic rollers
  Clean the Plastic rollers lightly, not to roughen the roller surfaces. Take particular care in cleaning these rollers as black debris on them adeversely affects the pickup performance. Be careful no to damage the sponges beside the rollers.

- Eject rollers
    1) Open the ADF while pushing down the ADF button. If you open the ADF cover when the indication of the Function No. display is "P" or "0", the Eject rollers do not rotate even you perform the operation of step 2) below. So open the ADF cover when the indication is not "P" or "0".

    2) Simultaneously hold down the "Send to" and "Scan" buttons on the operator panel. The Eject rollers start to rotate a little. For details on locations of the "Send to" and "Scan" buttons, refer to "1.3 Operator panel" in fi-4530C Getting Started on the Setup CD-ROM.

    3) Hold lint-free dry cloth moistened with the Cleaner F1 against the surfaces of the rotating Eject rollers so that it lightly cleans the surfaces of the rollers. Take particular care in cleaning these rollers as black debris on them adversely affects the pickup performance. As a guideline, seven presses of the "Send to" and "Scan" buttons rotate the Eject rollers one full turn.



CAUTION

In step 2, the Feed rollers turn at the same time while rotating the Eject rollers.
When cleaning the Eject rollers, be careful not to touch the Feed rollers.

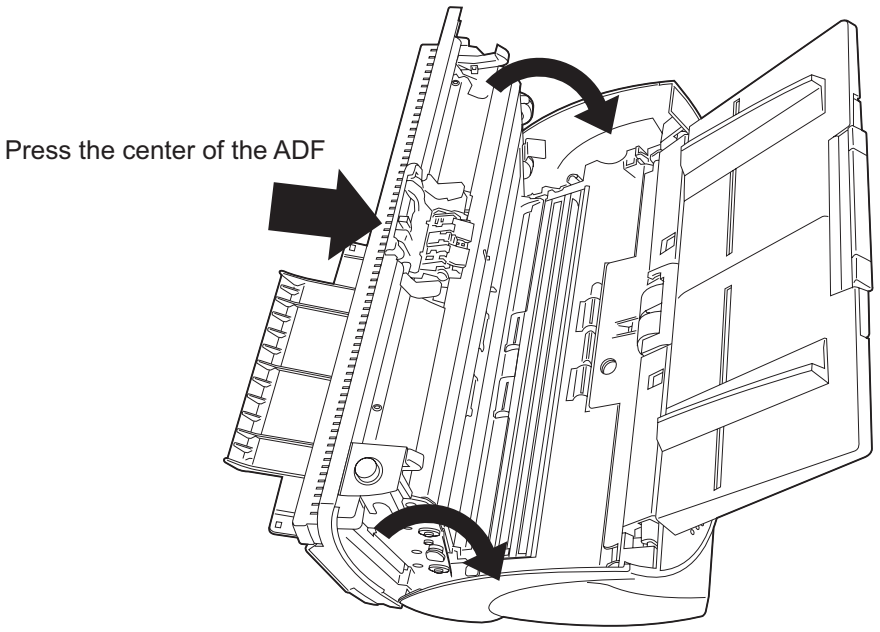
- Sheet guides
  Clean lightly.
- Glass
  Clean lightly.

ATTENTION

If the glass is dirty, vertical black streaks may apper in the scanned images.

- Ultra sonic sensor
  Clean lightly with a dry cloth.

3. Push in the center of the ADF to return it to its original position, until the ADF button locks.



ATTENTION

When the ADF has returned to its original position, make sure that it is completely closed. Paper jams or feeding errors may occur if the ADF is not closed completely.

Chapter 4

REPLACING CONSUMABLES

This chapter describes how to replace scanner consumables.

In this chapter Windows XP screenshots are illustrated.
The screens and operations may differ slightly if the OS that you are using is not Windows XP. Also, when FUJITSU TWAIN32 is updated the screens and operations noted in this chapter will differ slightly.

Turn off the power and unplug the AC adapter from the outlet before changing the scanner's consumable products.

4.1 Consumable and Replacement Cycle 62

4.2 Replacing the Pad ASSY 67

4.3 Replacing the Pick Roller 72

4.1 Consumable and Replacement Cycle

The following table shows the specifications of consumables and guidelines for the replacement cycle.

Description	Parts No.	Standard Replacement Cycle
Pad ASSY	PA03334-0002	After 100,000 scans or one year
Pick roller	PA03334-0001	After 200,000 sheets or one year

The replacement cycles above are rough guidelines for the case of using A4/Letter woodfree or wood containing paper 64 g/m^2 (17 lb). This cycle varies according to the type of the used paper and how frequently the scanner is used and cleaned.

Use only the specified consumables. Do not use other consumables.

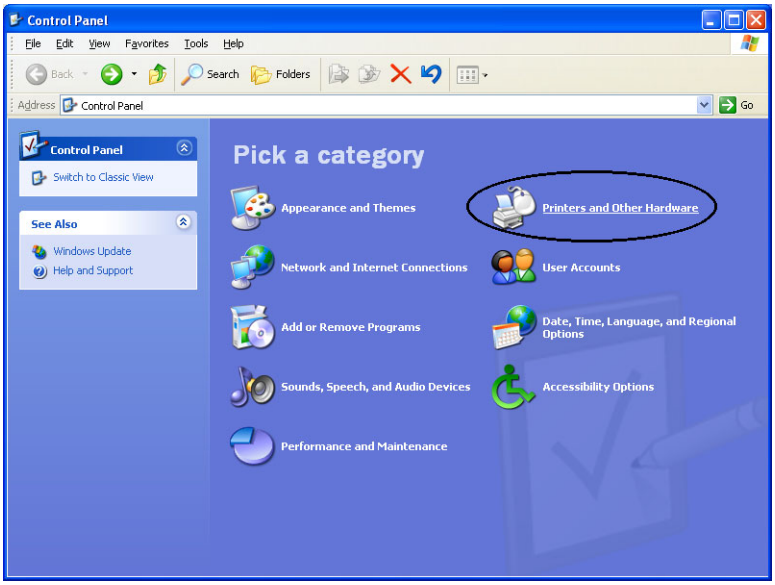
■ Guidelines for Consumable Replacement Cycle

With this product, you can learn how many times the consumables are used so that you can estimate the right timing for the replacement.

1. When turning on the power, check that the scanner is connected to your PC.

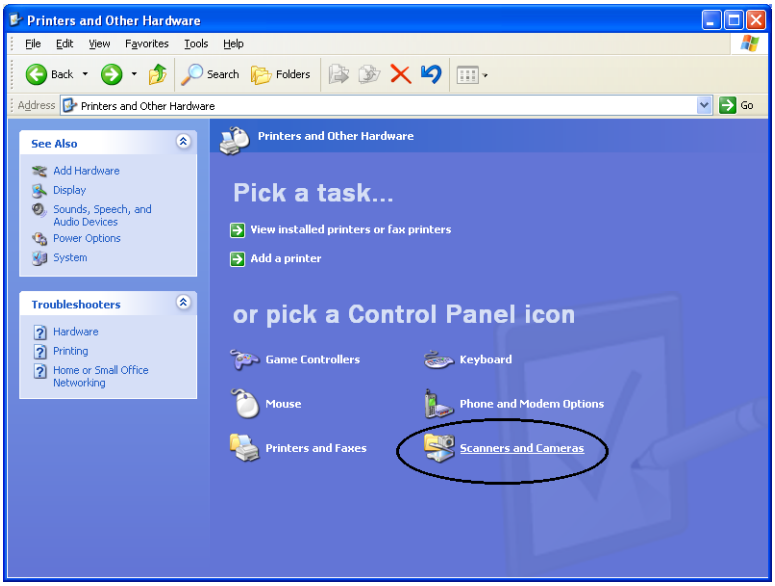
   Refer to "2.2 Connecting the Scanner to a PC" in fi-4530C Getting Started on the CD-ROM for information about connecting the scanner to your personal computer.

2. Double click the "Printer and Other Hardware" icon on the operator panel of your PC.



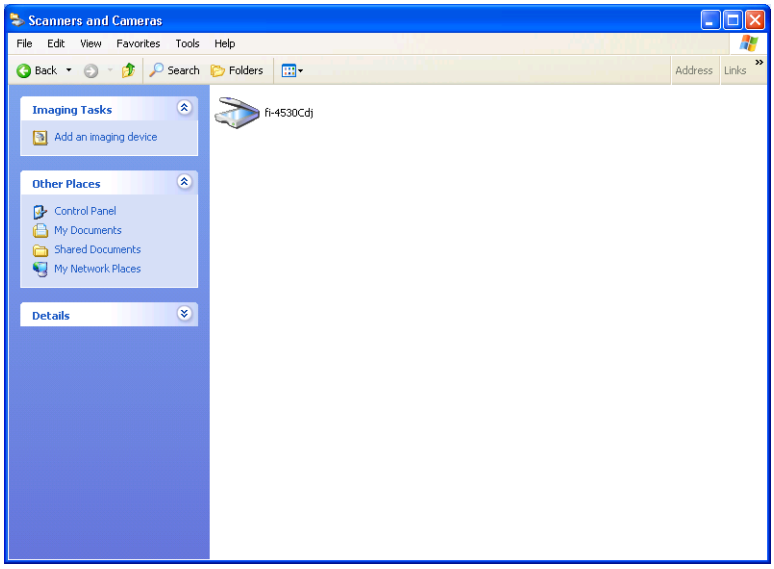
⇒ The [Printer and Other Hardware] window appears.

3. On the [Printers and Other Hardware] window, double click the [Scanners and Cameras] icon.

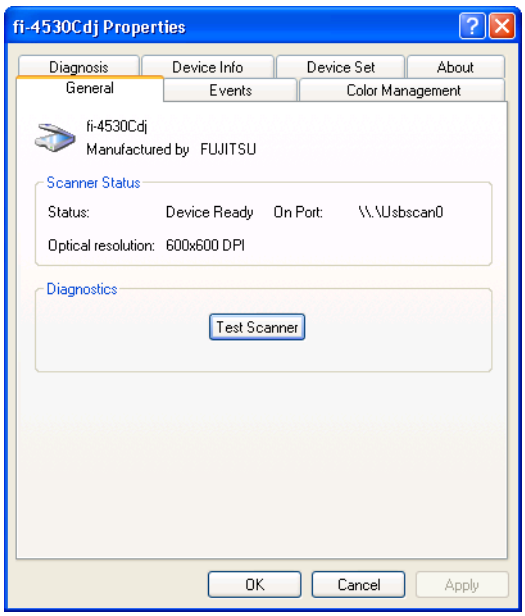


⇒ The [Scanners and Cameras] window is displayed.

4. Right click the "fi-4530Cdj", and select [Properties] from the menu.
(For Windows 95 and WindowsNT 4.0, select the [FUJITSU TWAIN 32] icon and click the [Properties] button.)

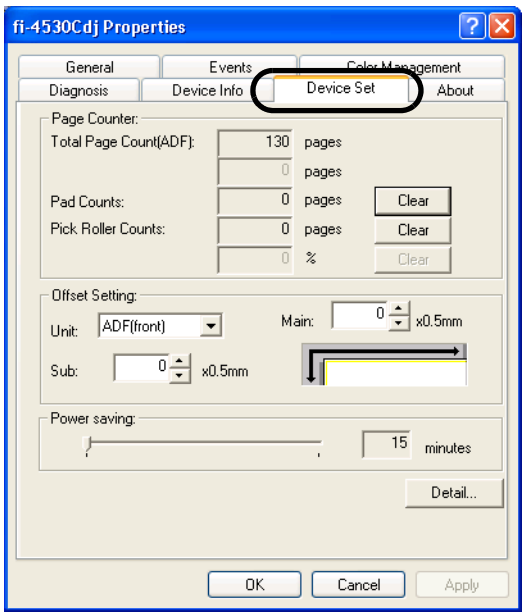


⇒ The [fi-4530Cdj Properties] dialogbox appears.



5. Click the "Device Set" tab.

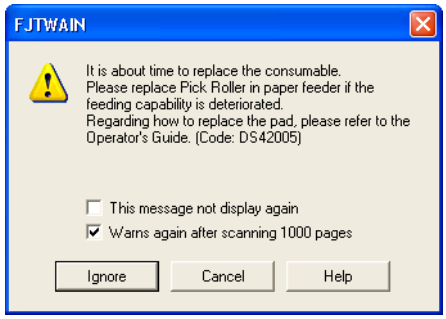
⇒ The following panel appears.



You can confirm the following information on this panel:

- Total number of scans
- Pad counter (approximate number of scans after resetting the pad counter)
- Pick roller counter (approximate number of scans after resetting the Pick roller counter)

The following message may appear while you use the scanner:



Replace consumables when this message is displayed.

■ When Replacing Consumables Immediately

1. To replace consumables after completing the scanning of all the document sheets in the ADF, click the [Ignore] button. To abort scanning and replace the consumables immediately, click the [Cancel] button.

2. Replace the consumables. For details on how to replace consumables, refer to "4.2 Replacing the Pad ASSY" on page 67 and "4.3 Replacing the Pick Roller" on page 72.

3. To disable display of this message, mark the "This message not display again" checkbox. Note that when the "This message not display again" checkbox is marked, this message is not displayed until the consumables counter is reset.

■ When Consumables Cannot Be Replaced Immediately

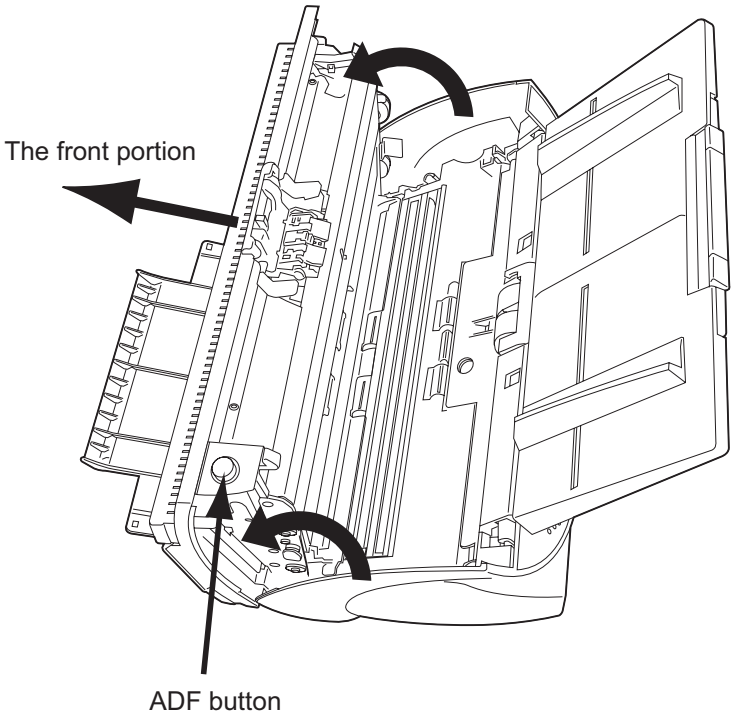
1. To continue scanning of the current document, click the [Ignore] button. To discontinue scanning, click the [Cancel] button.

2. Replace the consumable as soon as possible when the message is displayed. For details on how to replace consumables, refer to "4.2 Replacing the Pad ASSY" on page 67 and "4.3 Replacing the Pick Roller" on page 72.

3. To disable display of this message, mark the "This message not display again" checkbox. Note that when the "This message not display again" checkbox is marked, this message is not displayed until the consumables counter is reset. To display the message again after scanning 1,000 sheets, mark the [Warns again after scanning 1,000 pages] checkbox.

4.2 Replacing the Pad ASSY

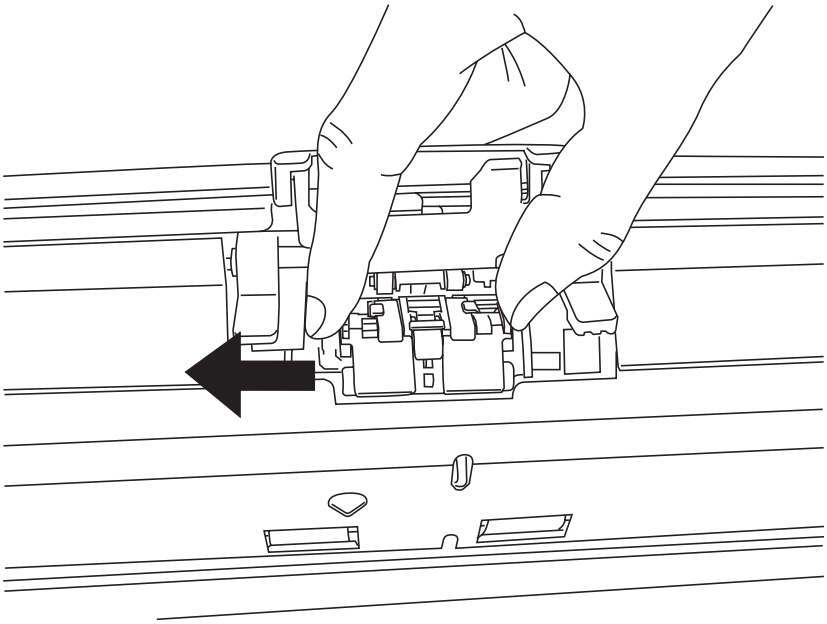
1. Remove all documents from the ADF paper chute.
2. Open the ADF cover by pushing down the ADF button.



CAUTION	Be careful, the ADF cover may close and pinch your fingers.

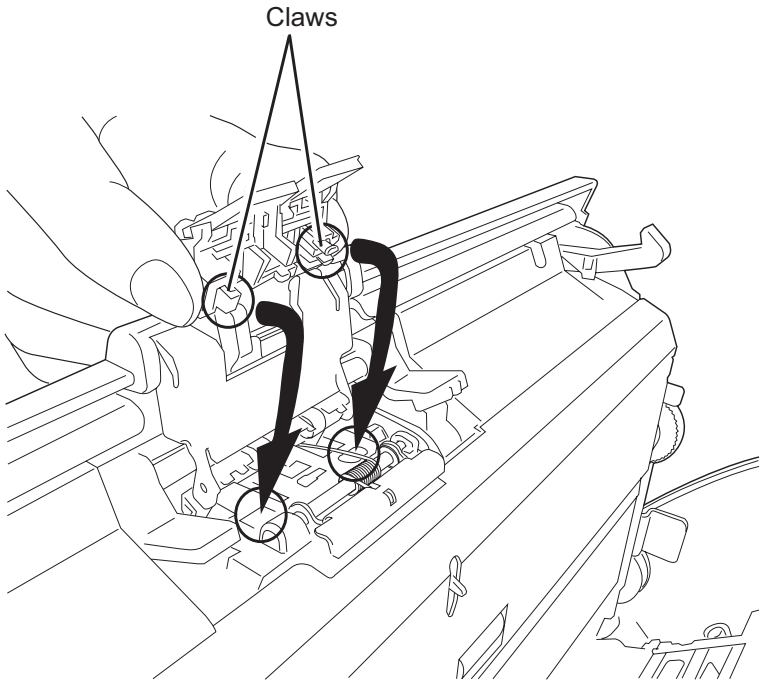
3. Remove the Pad ASSY.

Press down on the upside of the Pad ASSY, slide it to the left and remove it.



4. Attach the new Pad ASSY.

Insert the claws of the Pad ASSY into the holes on the ADF.

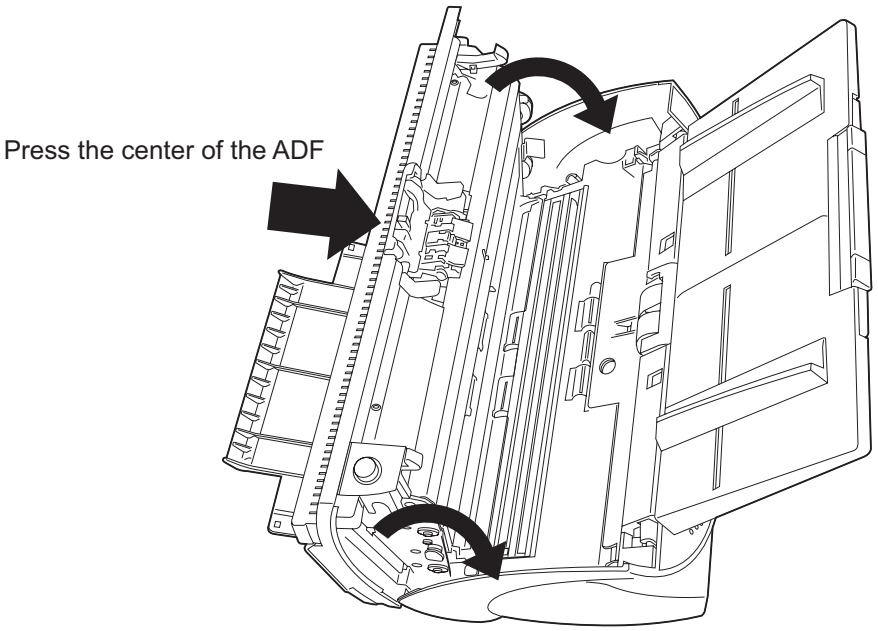


Pressing down the Pad ASSY and slide it to the right to fix.

ATTENTION

Make sure that the Pad ASSY is firmly attached. When the Pad ASSY is not correctly attached, document jams or other feeding errors may occur.

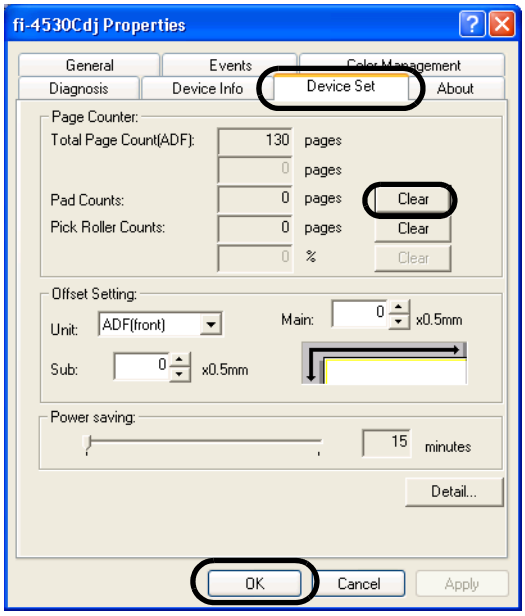
5. Push in the center of the ADF to close it until the ADF button is locked.



6. Reset the pad counter.

- For Windows 98 / Windows Me / Windows 2000 /Windows XP

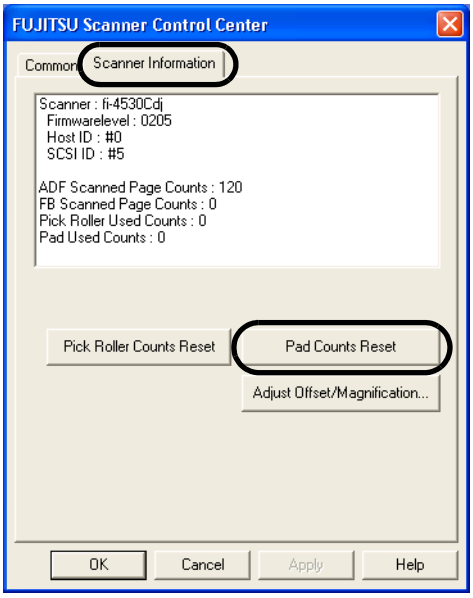
1) When turning on the power, check that the scanner is connected to your PC.
2) Open the [Scanners and Cameras] from the control panel of your PC.
3) Open the [Properties] of [fi-4530Cdj] from the [Scanners and Cameras].
4) The [Properties of fi-4530Cdj] dialogbox appears.
5) Click the "Device Set" tab. The following panel appears.



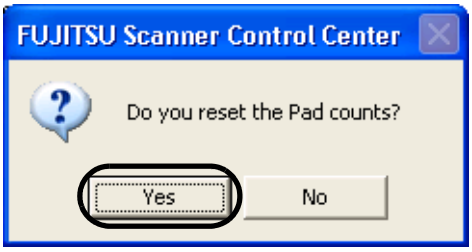
Click the [Clear] button beside the [Pad Counts] in [Pick Roller Counts], then click the [OK] button. This resets the pad counter to "0".

- For Windows 95 / Windows NT 4.0

1) When turning on the power, check that the scanner is connected to your PC.
2) Right click the [FUJITSU Scanner Control Center] icon in the task tray, then select [Option].
3) Select the [Scanner Information] tab. The following screen is displayed.



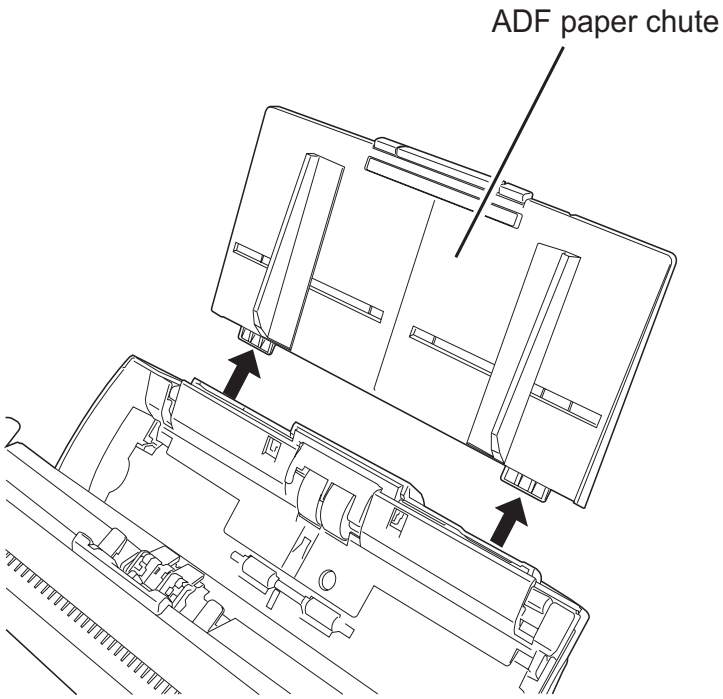
4) Click the [Pad Counts Reset] button.
   ⇒ The following message is displayed.



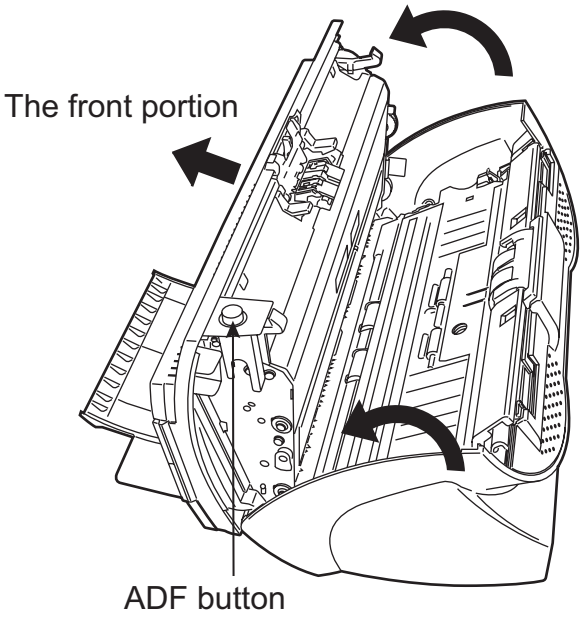
Click [Yes].
The Pad counter returns to “0”.

4.3 Replacing the Pick Roller

1. Remove all documents from the ADF paper chute.
2. Remove the ADF paper chute.

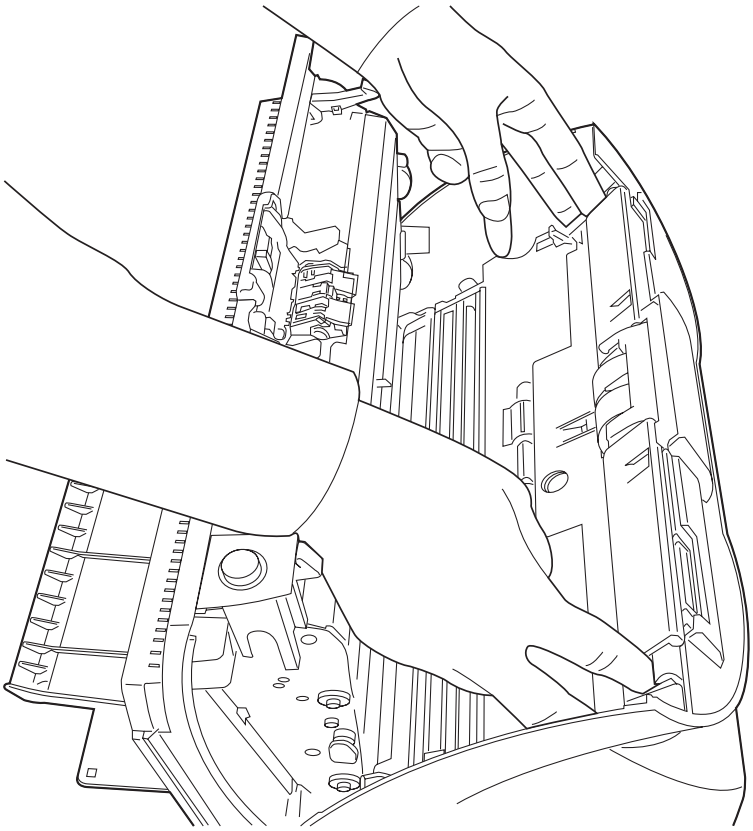


3. Open the ADF by pushing down the ADF button.

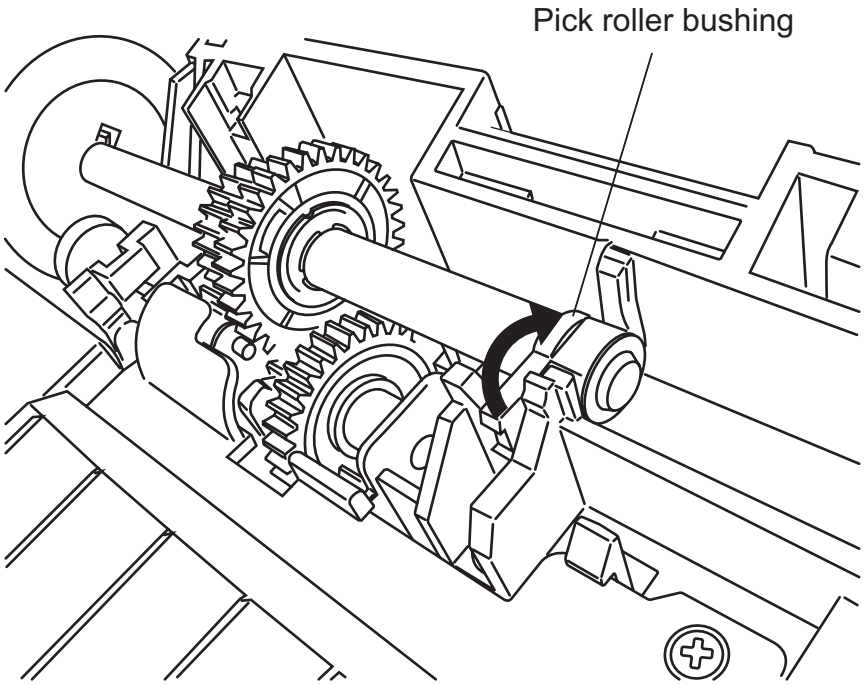


⚠ CAUTION	Be careful, the ADF cover may close and pinch your fingers.

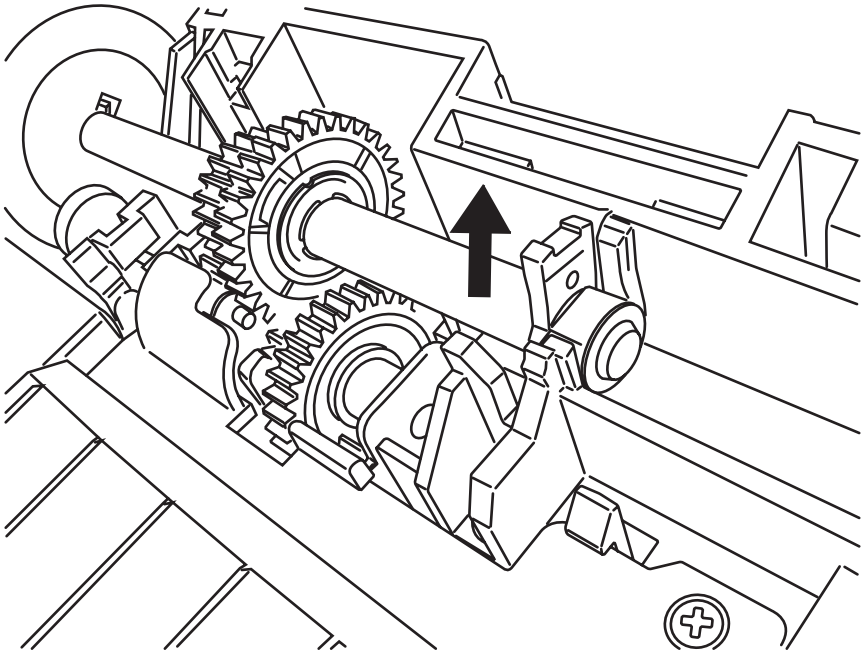
4. Remove the Pick roller from the scanner.
   1) Pinch the knobs on the sheet guide and lift up the sheet guide to remove it.



2) Rotate the Pick roller bushing in the direction of the arrow.

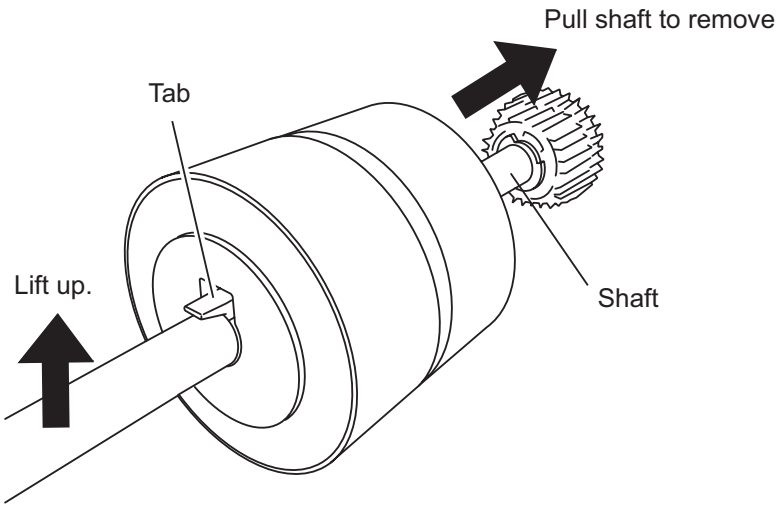


3) Remove the Pick rollers while lifting it up in the direction of the arrow.



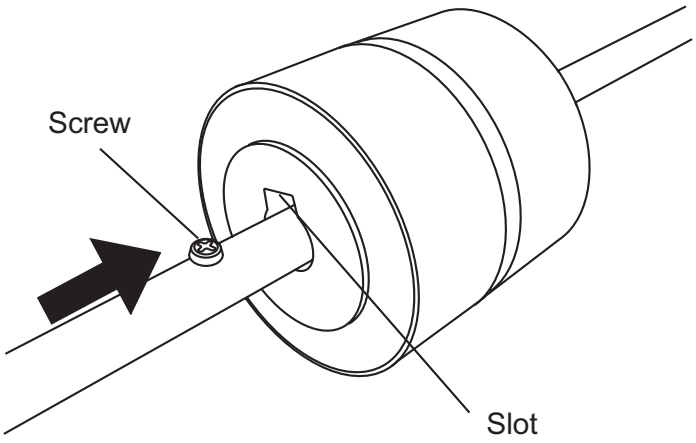
⚠ CAUTION	As the Pick roller bushing is firmly fixed, do not turn it with your fingernails.

5. Remove the Pick roller from the shaft while lifting up the tab on the Pick roller.

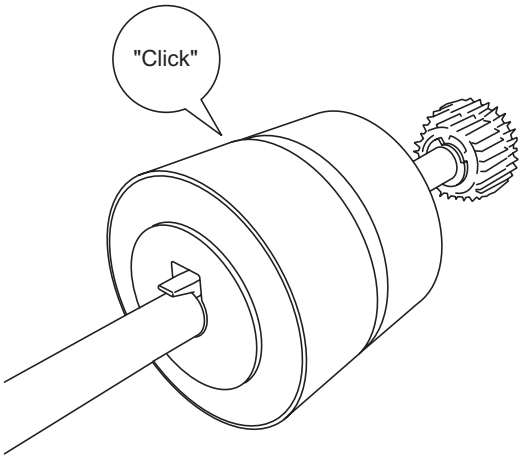


6. Attach the new Pick roller.

   Insert the new Pick roller aligning the screw on the shaft with the slot for the screw in the Pick roller.



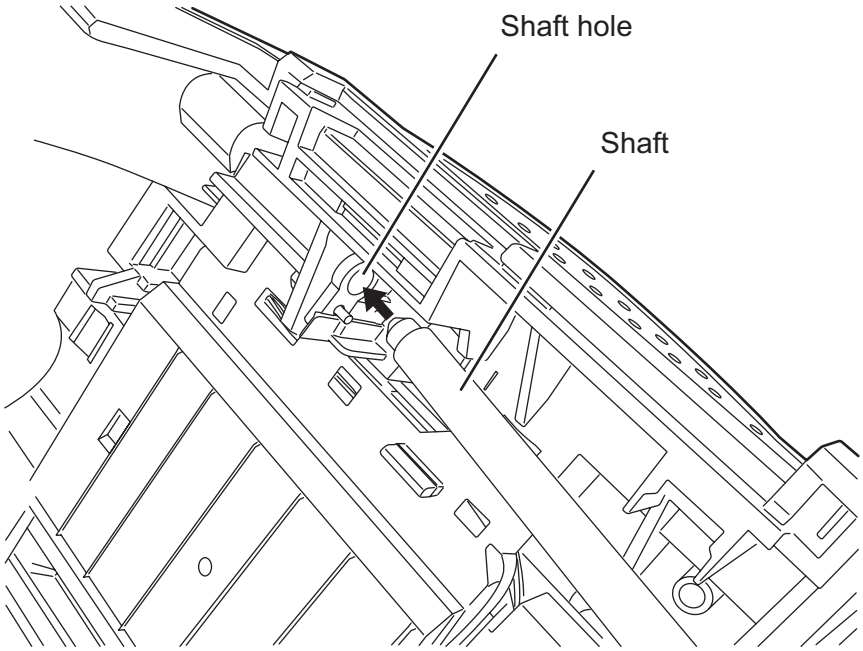
Be sure to insert the Pick roller until it makes a clicking sound.



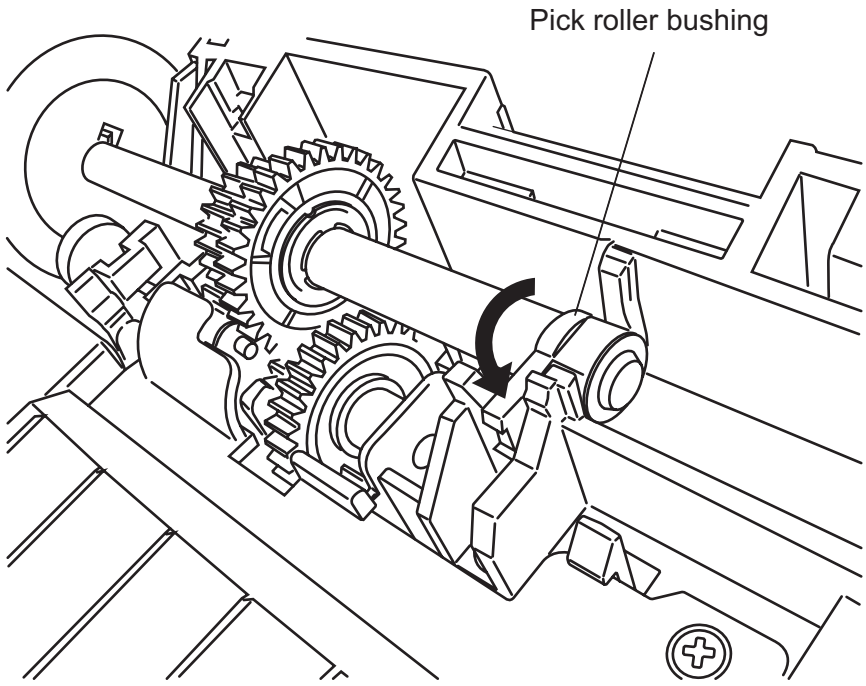
7. Attach the Pick roller to the scanner.

Attatch the Pick roller to the scanner in reverse order of the procedure for removing.

1) Set the Pick roller fixing the end of shaft into the shaft hole.

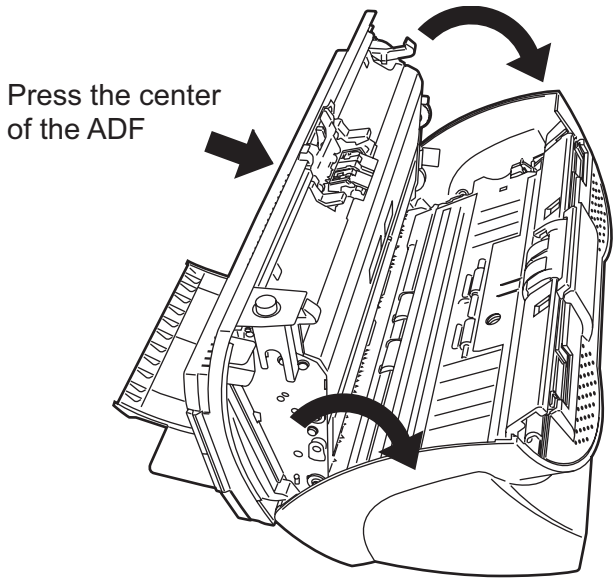


2) Turn the Pick roller bushing in the direction of the arrow.

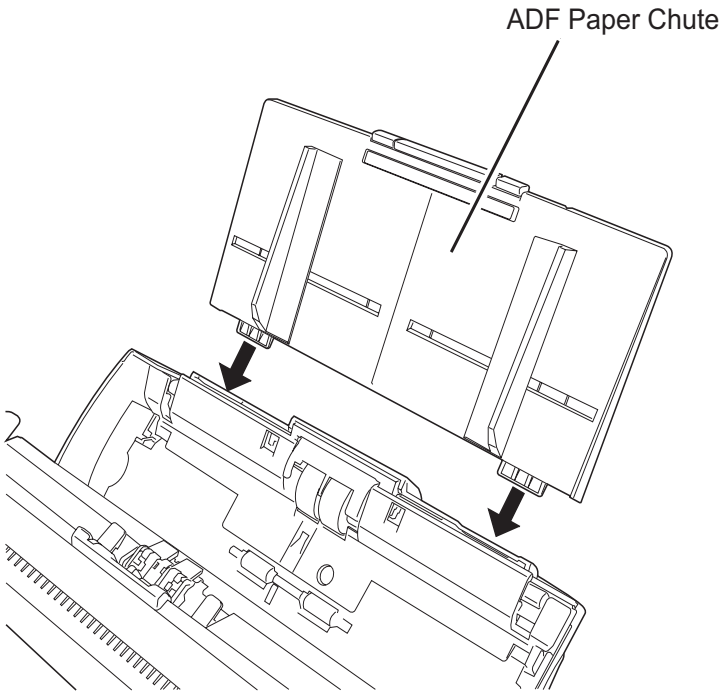


3) Attach the sheet guide.

8. Push in the center of the ADF to close it until the ADF button is locked.



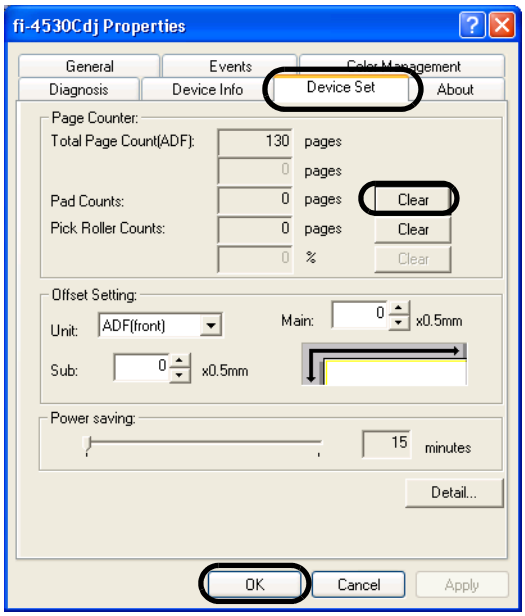
9. Attach the ADF paper chute to the scanner.



10. Reset the pick counter.

- For Windows 98 / Windows Me / Windows 2000 / Windows XP

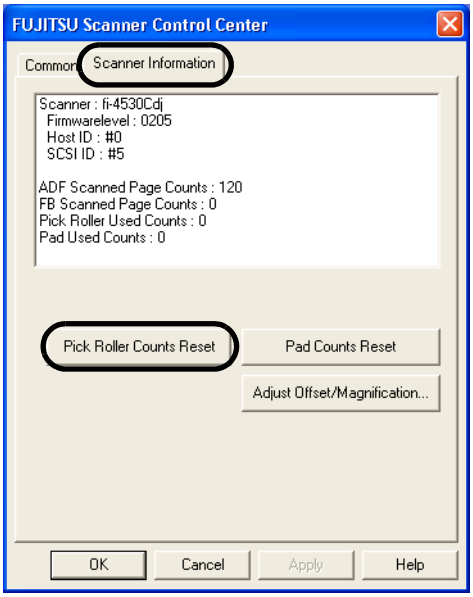
  1) When turning on the power, check that the scanner is connected to your PC.
  2) Open the [Scanners and Cameras] from the control panel of your PC.
  3) Open the [Properties] of [fi-4530Cdj] from the [Scanners and Cameras].
  4) The [Properties of fi-4530Cdj] dialogbox is displayed.
  5) Click the [Device Set] tab.
     ⇒ The following panel appears.



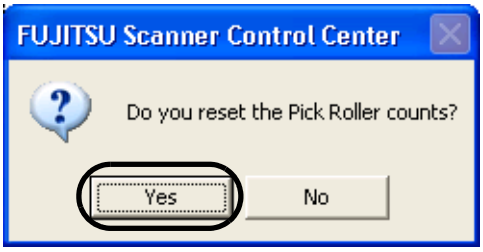
Click the [Clear] button beside the [Pick Counts] under [Pick Roller Counts], then click the [OK] button. This resets the pick counter to "0".

- For Windows 95 / Windows NT 4.0

1) When turning on the power, check that the scanner is connected to your PC.
2) Right click the [FUJITSU Scanner Control Center] icon in the task tray, then select [Option]
3) Double click [Scanner Information]. The following screen is displayed.



4) Click the [Pick Counter Reset] button.
⇒ The following message is displayed.



Click [Yes].
The Pick counter returns to “0”.

Chapter 5

TROUBLESHOOTING

This chapter describes how to remedy document jams, other troubles, items to check before contacting the agent where you bought the scanner, and how to check the device labels.

About troubles that are not described here, and the details of the errors, refer to the FUJITSU TWAIN32 Scanner Driver Help on the Setup CD-ROM.

5

5.1 Removing Jammed Documents 82

5.2 Remedying Common Troubles 84

5.3 Items to check before contacting the agent where you bought the scanner.. 98

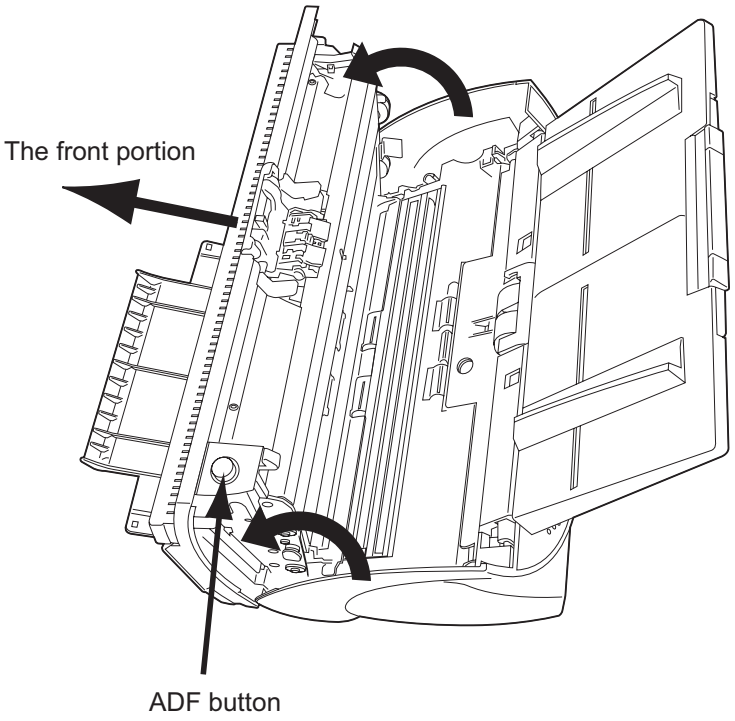
5.4 Checking Labels on the Scanner 100

5.1 Removing Jammed Documents

If a document jam occured because of double-feeding, etc., follow the procedure below to remove the jammed documents.

⚠ CAUTION	• Take care not to get injured when removing the jammed documents. • Be careful not to get neckties, necklaces, etc. entangled in the scanner when removing the jammed documents. • The surface of the glass may become hot during operation. Take care not to get burned.

1. Remove all documents from the ADF paper chute.
2. Open the ADF by pushing down the ADF button.



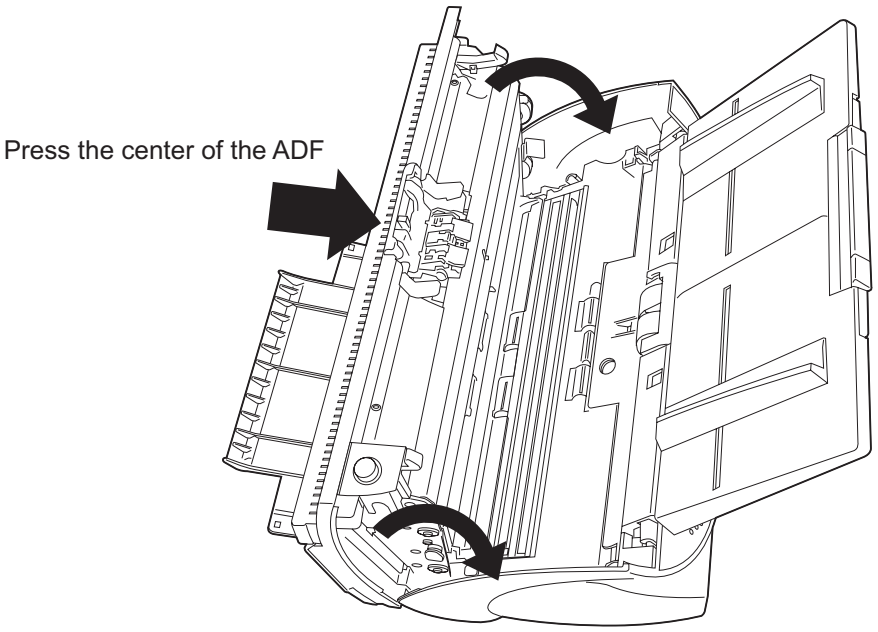
⚠ CAUTION	Be careful, the ADF cover may close and pinch your fingers.

3. Remove the jammed documents.

ATTENTION

Staples, paper clips, etc. cause document jams. Be sure to fully check the document and feed path, and remove any small metal objects such as these.
Also, before you start scanning, be sure to remove any staples, clips, etc. from the document.

4. Push in the center of the ADF to close it untill the ADF button is locked.



ATTENTION

Make sure that the ADF is completely closed. When it is not completely closed, document jams or feeding errors may occur.

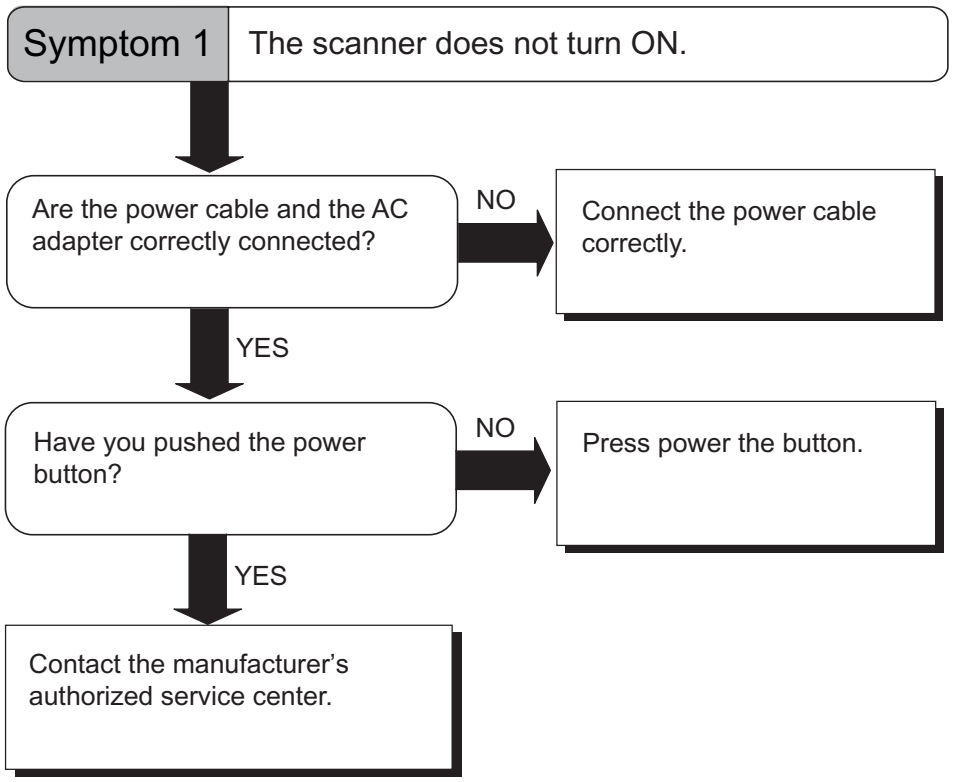
ATTENTION

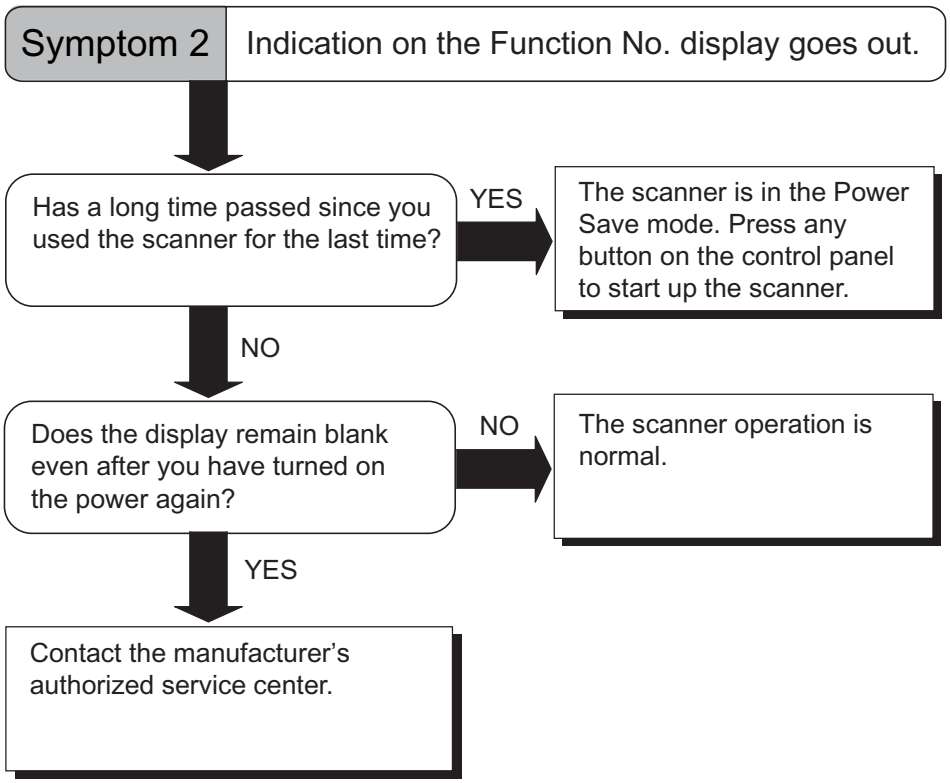
When the scanning is completed or canceled, the documents might remain inside the ADF even though any error message is not displayed. Follow the procedure below to remove the documetns remaining in the ADF.

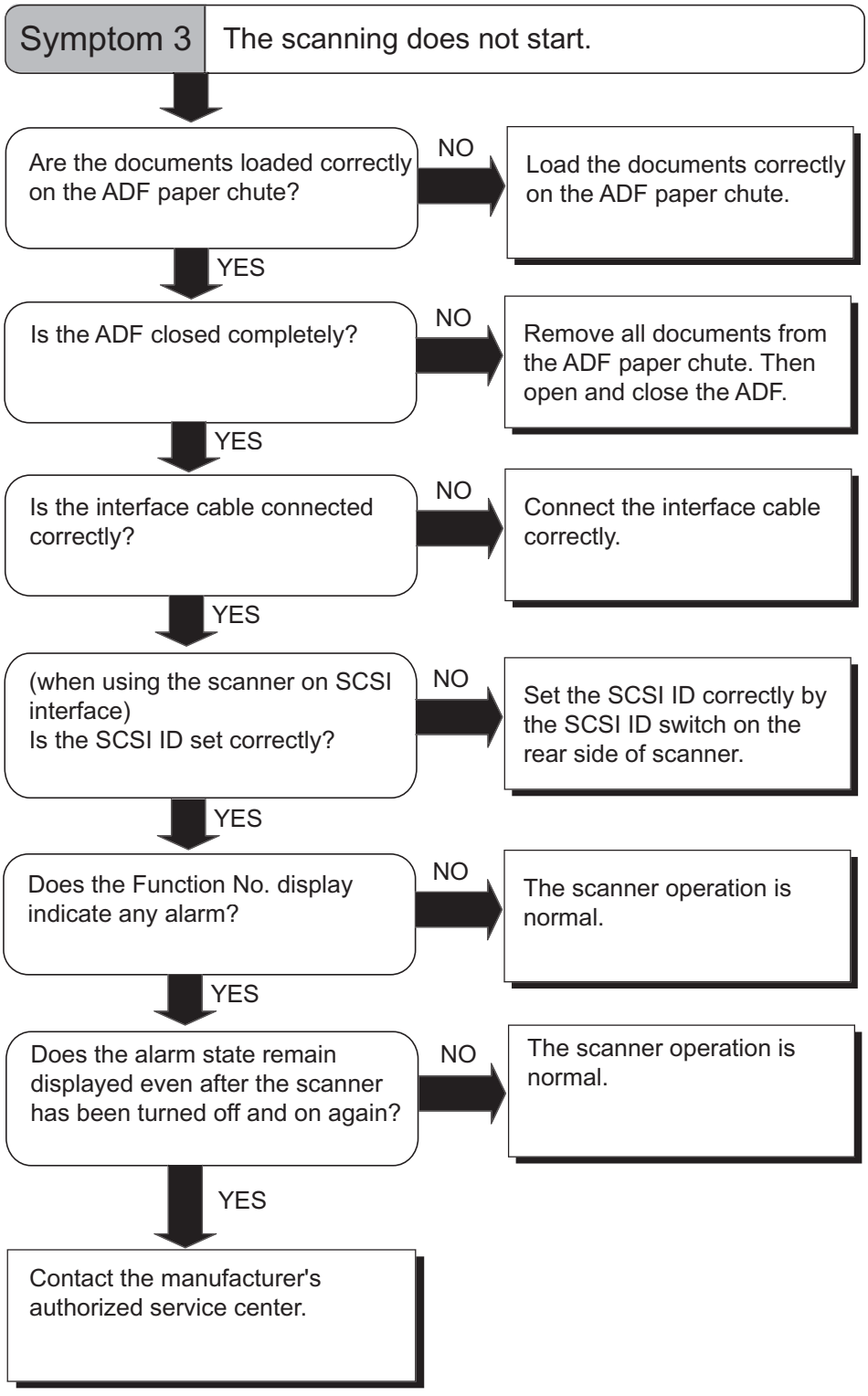
1. Remove all documents from the ADF paper chute.
2. Open the ADF by pushing down the ADF button.
3. Remove the remaining documents.
4. Push in the center of teh ADF to close it until the ADF button is locked.

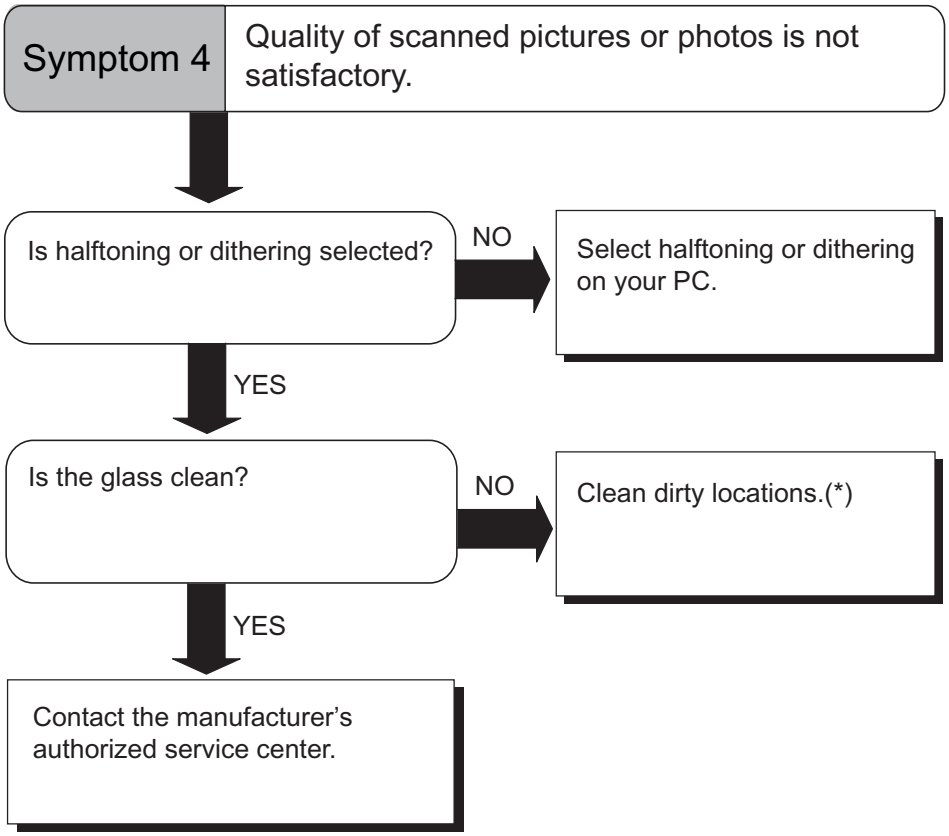
5.2 Remedying Common Troubles

This section describes troubles that may occur during scanning and how to remedy them.
Before you ask for repair service, check the following flowcharts.
If you cannot solve the problem after checking the remedies in the flowcharts, check the items in "5.3 Items to check before contacting the agent where you bought the scanner" on page 98 and then contact the agent where you bought the scanner.

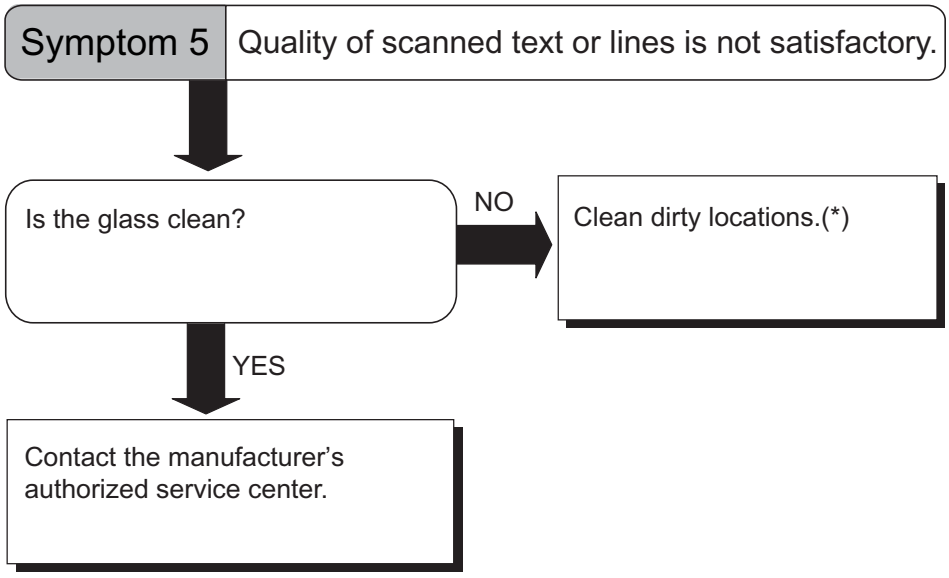



Symptom 2
Indication on the Function No. display goes out.
Has a long time passed since you used the scanner for the last time?
YES
The scanner is in the Power Save mode. Press any button on the control panel to start up the scanner.
NO
Does the display remain blank even after you have turned on the power again?
NO
The scanner operation is normal.
YES
Contact the manufacturer's authorized service center.

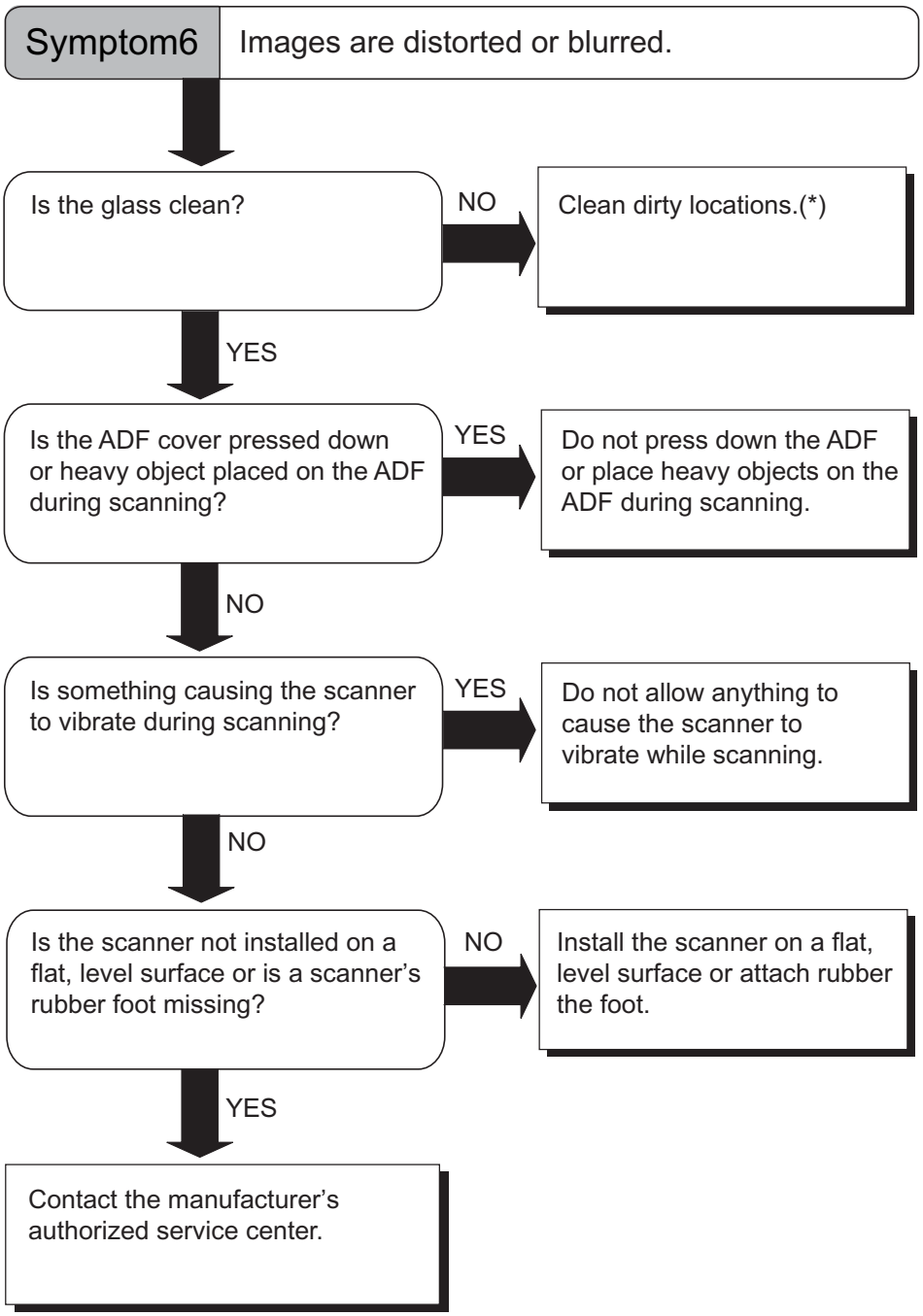

Symptom 3
The scanning does not start.
Are the documents loaded correctly on the ADF paper chute?
NO
Load the documents correctly on the ADF paper chute.
YES
Is the ADF closed completely?
NO
Remove all documents from the ADF paper chute. Then open and close the ADF.
YES
Is the interface cable connected correctly?
NO
Connect the interface cable correctly.
YES
(when using the scanner on SCSI interface)
Is the SCSI ID set correctly?
NO
Set the SCSI ID correctly by the SCSI ID switch on the rear side of scanner.
YES
Does the Function No. display indicate any alarm?
NO
The scanner operation is normal.
YES
Does the alarm state remain displayed even after the scanner has been turned off and on again?
NO
The scanner operation is normal.
YES
Contact the manufacturer's authorized service center.



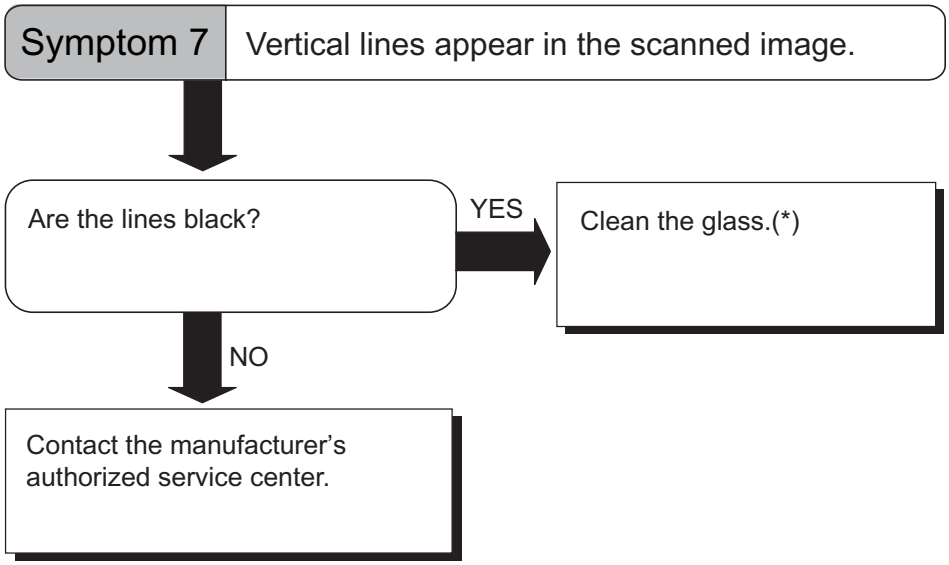
*) For details on how to clean dirty locations, refer to "3 DAILY CARE" on page 51.



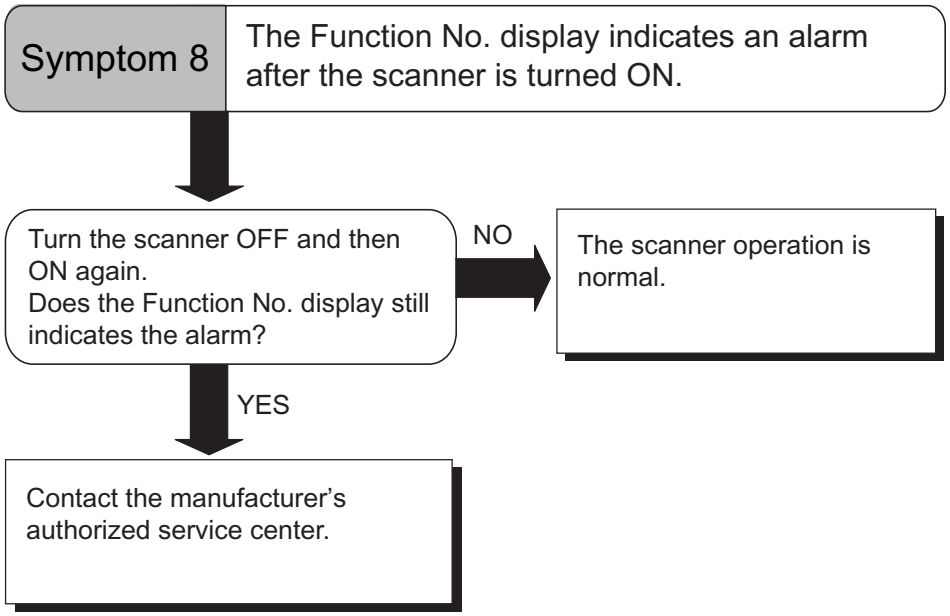
*) For details on how to clean dirty locations, refer to "3 DAILY CARE" on page 51.

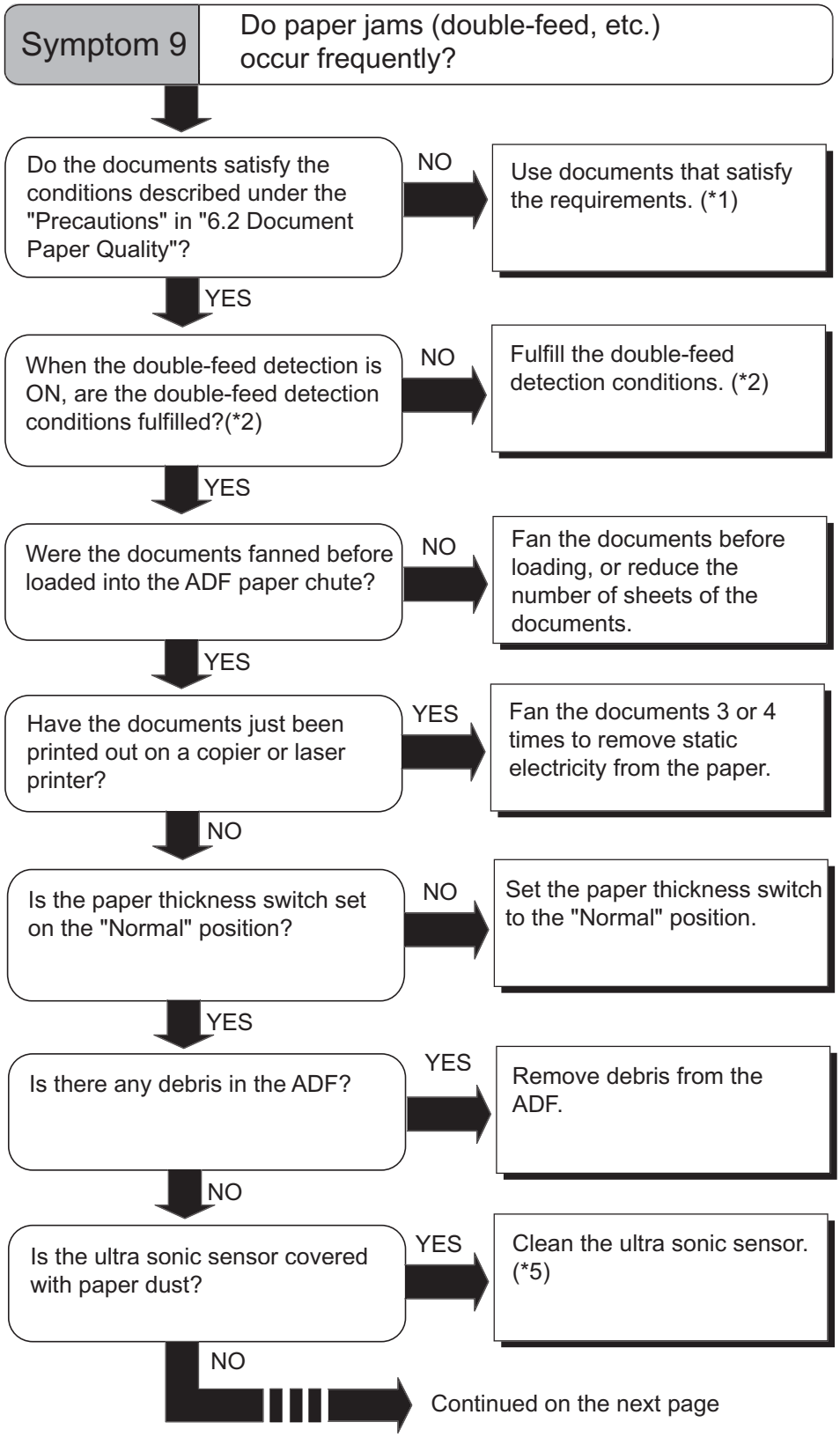


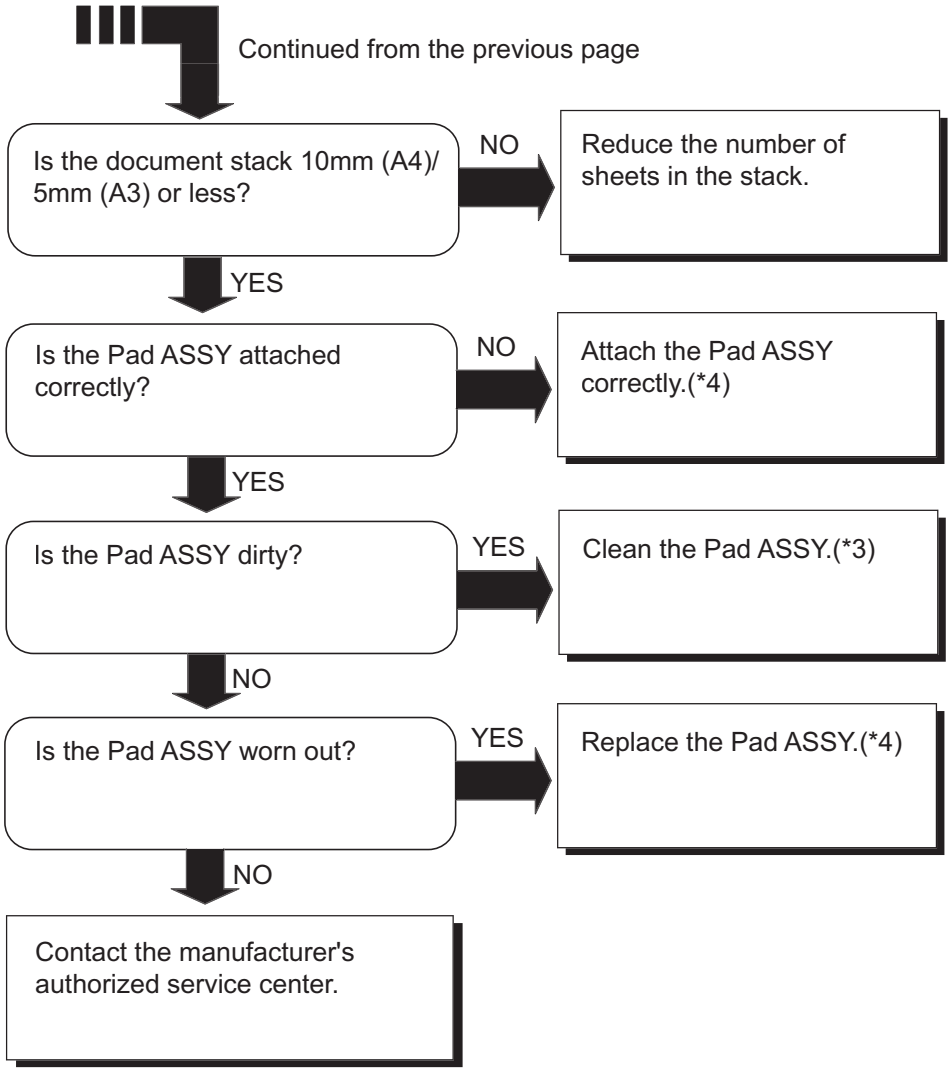
*) For details on how to clean dirty locations, refer to "3 DAILY CARE" on page 51.



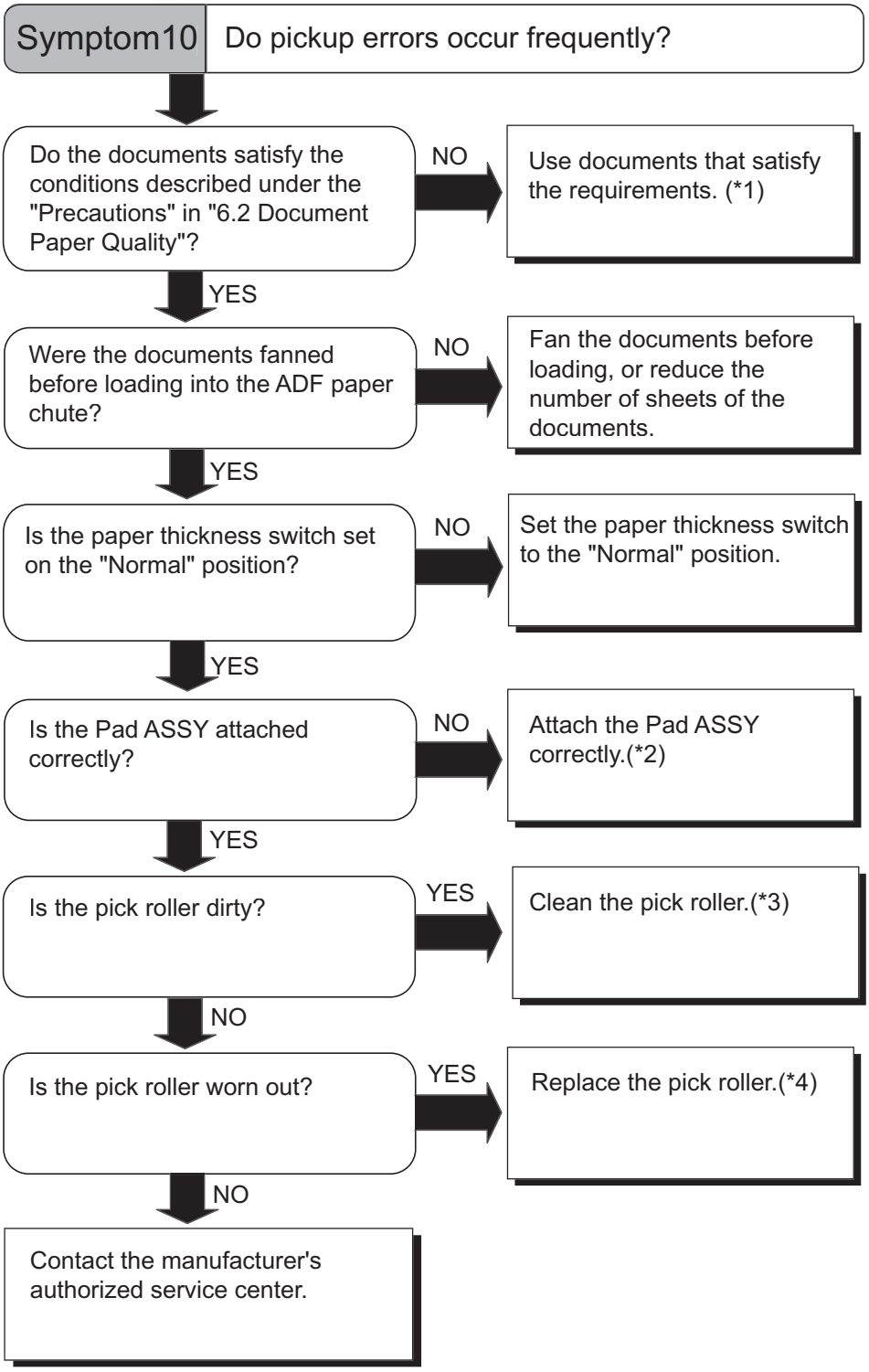
*) The ADF glass, refer to "3.2 Cleaning the ADF" on page 54.


Symptom 8
The Function No. display indicates an alarm after the scanner is turned ON.
Turn the scanner OFF and then ON again.
Does the Function No. display still indicates the alarm?
NO
The scanner operation is normal.
YES
Contact the manufacturer's authorized service center.

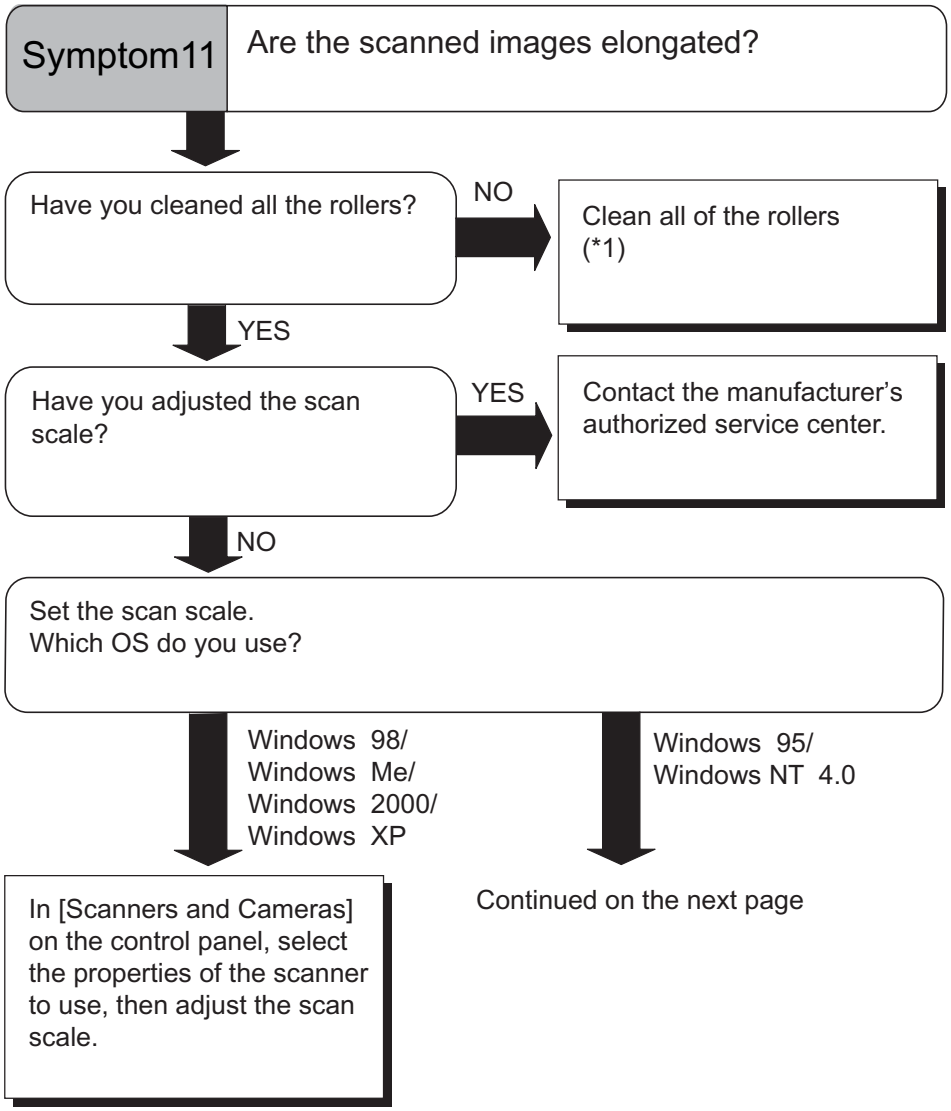

Symptom 9
Do paper jams (double-feed, etc.) occur frequently?
Do the documents satisfy the conditions described under the "Precautions" in "6.2 Document Paper Quality"?
NO
Use documents that satisfy the requirements. (*1)
YES
When the double-feed detection is ON, are the double-feed detection conditions fulfilled?(*2)
NO
Fulfill the double-feed detection conditions. (*2)
YES
Were the documents fanned before loaded into the ADF paper chute?
NO
Fan the documents before loading, or reduce the number of sheets of the documents.
YES
Have the documents just been printed out on a copier or laser printer?
YES
Fan the documents 3 or 4 times to remove static electricity from the paper.
NO
Is the paper thickness switch set on the "Normal" position?
NO
Set the paper thickness switch to the "Normal" position.
YES
Is there any debris in the ADF?
YES
Remove debris from the ADF.
NO
Is the ultra sonic sensor covered with paper dust?
YES
Clean the ultra sonic sensor. (*5)
NO
Continued on the next page



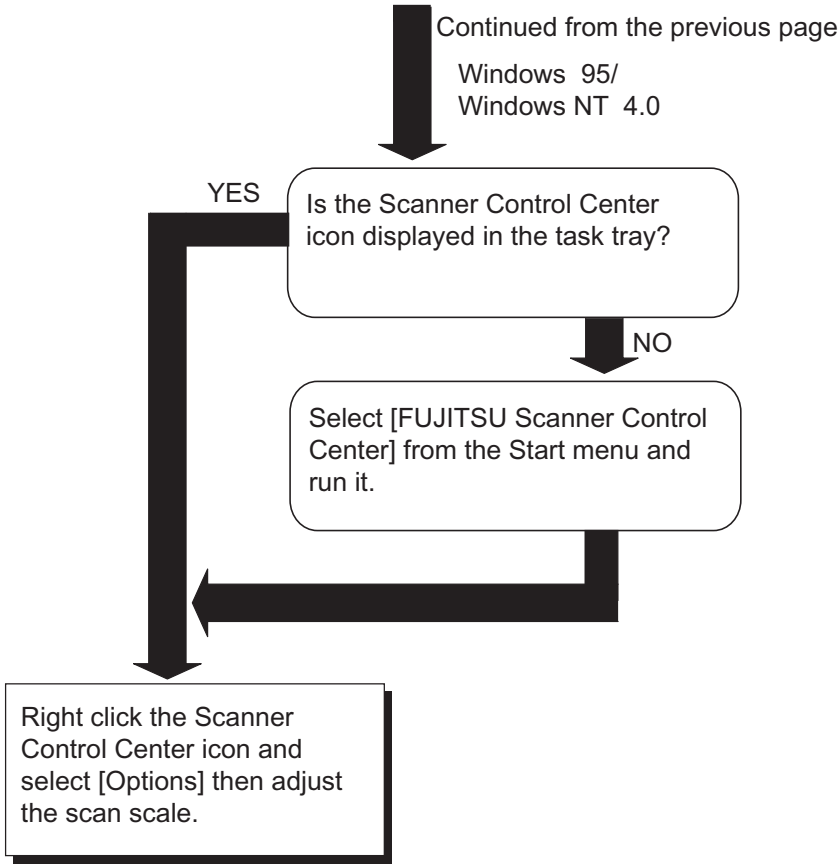
*1) For details on the requirements, refer to "6.2 Document Quality" on page 103.
*2) For details on double-feeds, refer to "6.5 Double-feed Detection Conditions" on page 108.
*3) For details on how to clean the Pad ASSY, refer to "3.2 Cleaning the ADF" on page 54.
*4) For details on how to replace the Pad ASSY, refer to "4.2 Replacing the Pad ASSY" on page 67.
*5) For details on how to clean the Ultra sonic sensor, refer to the "3.2 Cleaning the ADF" on page 54.

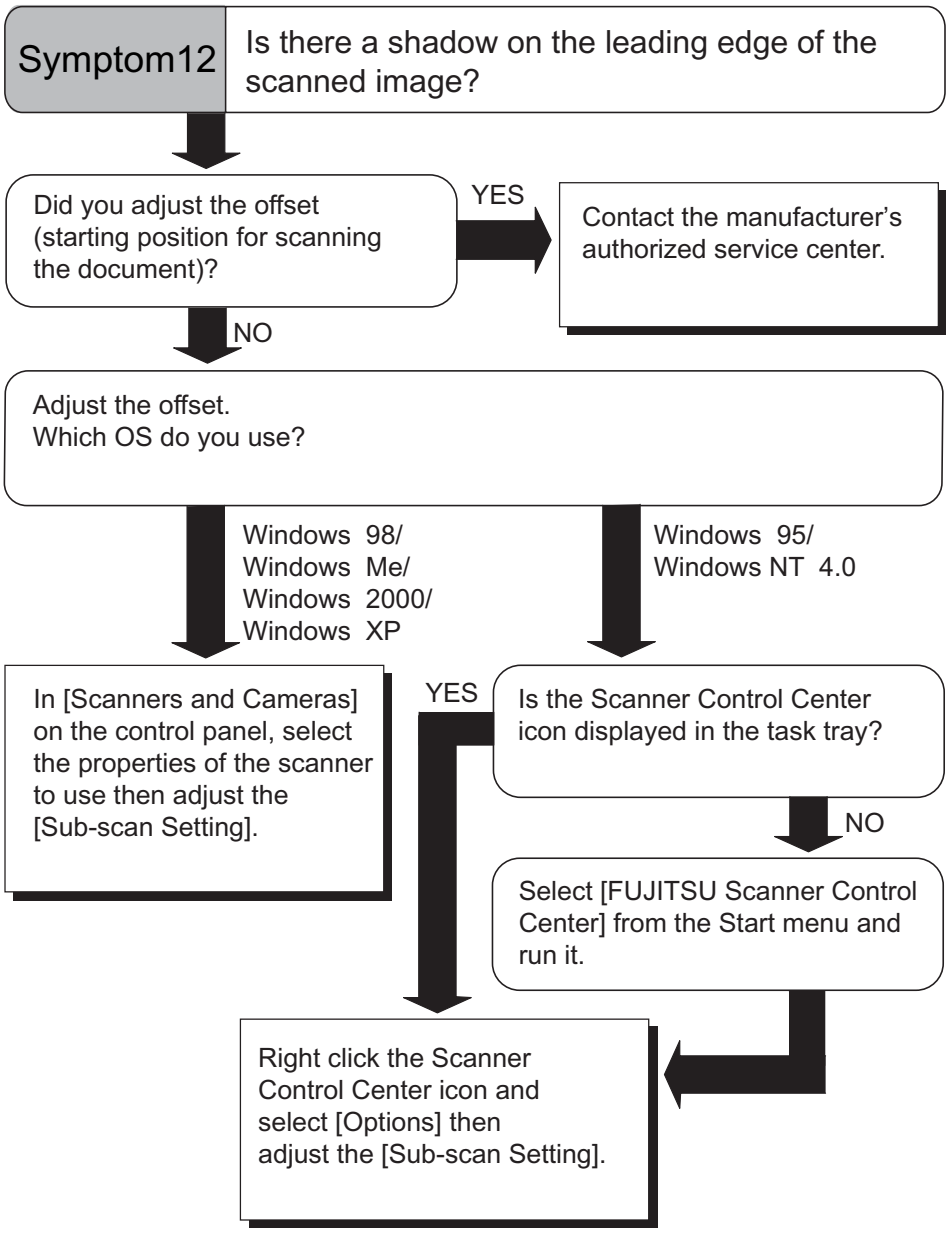


*1) For details on requirements, refer to "6.2 Document Quality" on page 103.
*2) For details on how to attach the Pad ASSY, refer to "4.2 Replacing the Pad ASSY" on page 67.
*3) For details on how to clean the Pick roller, refer to "3.2 Cleaning the ADF" on page 54.
*4) For details on how to replace the Pick roller, refer to "4.3 Replacing the Pick Roller" on page 72.



*) For details on how to clean the rollers, refer to "3.2 Cleaning the ADF" on page 54.


Continued from the previous page
Windows 95/
Windows NT 4.0
YES
Is the Scanner Control Center icon displayed in the task tray?
NO
Select [FUJITSU Scanner Control Center] from the Start menu and run it.
Right click the Scanner Control Center icon and select [Options] then adjust the scan scale.


Symptom12
Is there a shadow on the leading edge of the scanned image?
Did you adjust the offset (starting position for scanning the document)?
YES
Contact the manufacturer's authorized service center.
NO
Adjust the offset.
Which OS do you use?
Windows 98/
Windows Me/
Windows 2000/
Windows XP
Windows 95/
Windows NT 4.0
In [Scanners and Cameras] on the control panel, select the properties of the scanner to use then adjust the [Sub-scan Setting].
YES
Is the Scanner Control Center icon displayed in the task tray?
NO
Select [FUJITSU Scanner Control Center] from the Start menu and run it.
Right click the Scanner Control Center icon and select [Options] then adjust the [Sub-scan Setting].

5.3 Items to check before contacting the agent where you bought the scanner

Check the following items before you contact the agent where you bought the scanner.

■ General Details

Item	Findings
Model	(Example) fi-4530C For details on the model, refer to "5.4 Checking Labels on the Scanner" on page 100.
Serial No.	(Example) 000001 For details on the serial No., refer to "5.4 Checking Labels on the Scanner" on page 100.
Production date	(Example) 2003-07 (July, 2003) For details on the production date, refer to "5.4 Checking Labels on the Scanner" on page 100.
Date of purchase	
Symptom	
Frequency of trouble	

■ Installation or PC connection issues

- Trouble of connection to your PC

Item	Findings
OS	
Displayed error message	
Interface	(Example) SCSI interface
Interface controllers	(Example) made by Adaptec SCSI Card 2940AU

- Feed system trouble

Item	Findings
Document type	
Main purpose of use	
Last cleaning date	
Last consumables replacement date	
Operator panel status at trouble	

- Imaging system trouble

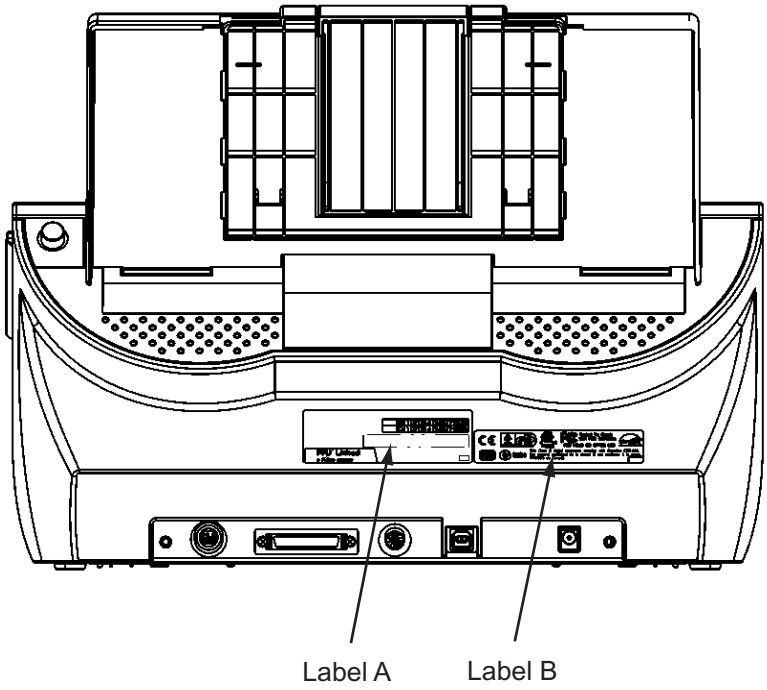
Item	Findings
Type and version of scanner driver	
Type of interface controller	(Example) made by Adaptec SCSI Card 2940AU
OS (Windows®)	
Application software	(Example) ScandAll 21, Acrobat

- Others

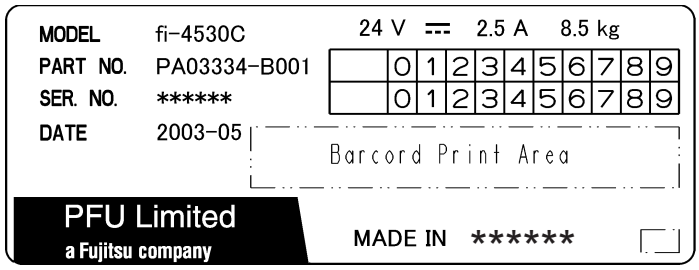
Item	Findings
Can both the original document and the scanned image be sent to us by e-mail or Fax?	

5.4 Checking Labels on the Scanner

■ Positions of Labels on the Scanner



Label A (example): Indicates scanner information.



Label B (example): Indicates various standards that the scanner conforms with.

Chapter 6

DOCUMENT SPECIFICATIONS FOR THE ADF

This chapter describes the required document sizes and paper quality for ensuring a correct operation when scanning documents on the ADF.

6.1 Document Size 102

6.2 Document Quality 103

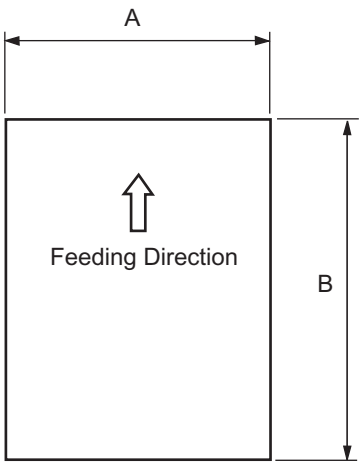
6.3 Maximum ADF Capacity 106

6.4 Area not to be perforated 107

6.5 Double-feed Detection Conditions 108

6.1 Document Size

The following shows the size of documents that can be scanned.



Maximum		Minimum	
A	**B**	**A**	**B**
297 (11.7 in.)	609.6 (24 in.)	51 (2.0 in.)	74 (2.9 in.)

(Unit : mm)

6.2 Document Quality

This section describes the types and thicknesses of documents that can be loaded on the scanner, and precautions to follow.

■ Document Type

The recommended following paper types are:

- 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.

■ Document Thickness

Paper thickness is expressed by "paper weight." The following shows the paper weights that can be used on this scanner:

- 52 g/m^2 to 127 g/m^2 (13.9 lb to 34.0 lb)

Only a paper weight of 127 g/m^2 (34.0 lb) is allowed for A8-size documents.

■ Precautions

The following documents may not be scanned successfully.

- Documents of non-uniform thickness (e.g. envelopes)
- Wrinkled or curled documents (Refer to HINT on page 105.)
- 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 documents:

- Paper-clipped or stapled documents
- Documents on which the ink is still wet
- Documents smaller than A8 (Portrait) in 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.
- To prevent the 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.

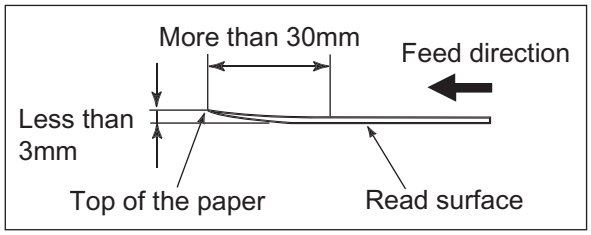
Carbonless paper contains chemical substances that may harm the Pad ASSY or rollers (e.g. Pick roller) when documents are fed. Pay attention to the following:

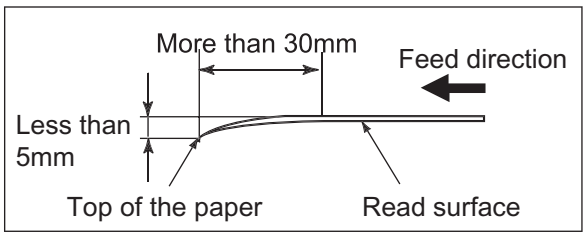
Cleaning: If pick errors occur frequently, clean the Pad ASSY and the Pick roller. For details on cleaning the Pad ASSY and the Pick roller, refer to "3.2 Cleaning the ADF" on page 54.

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

- When scanning wood containing paper, the life of the Pad ASSY and the Pick roller may be shortened compared to the case of scanning woodfree paper.

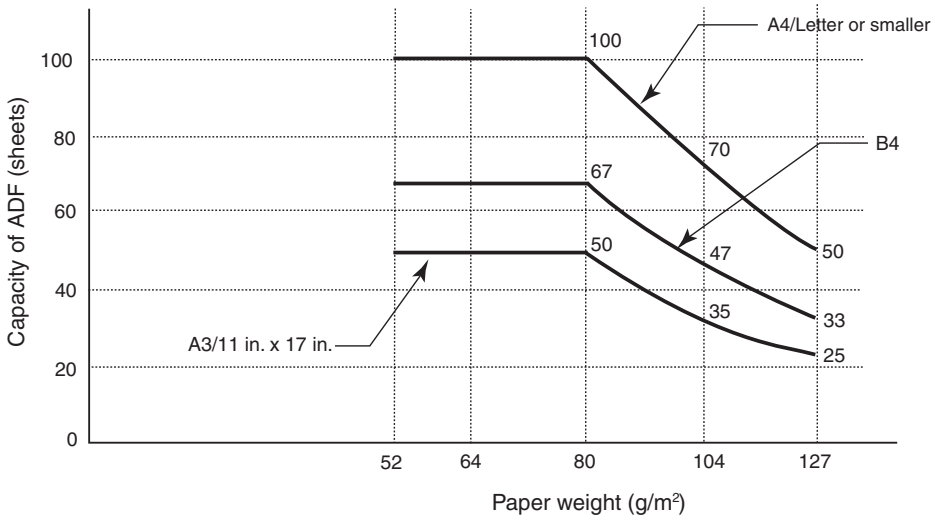
When using the ADF, the leading edge of all document sheets must be evenly aligned. Make sure that curling at the leading edge is within the following tolerances:





6.3 Maximum ADF Capacity

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 maximum document loading capacity of ADF according to paper weight.

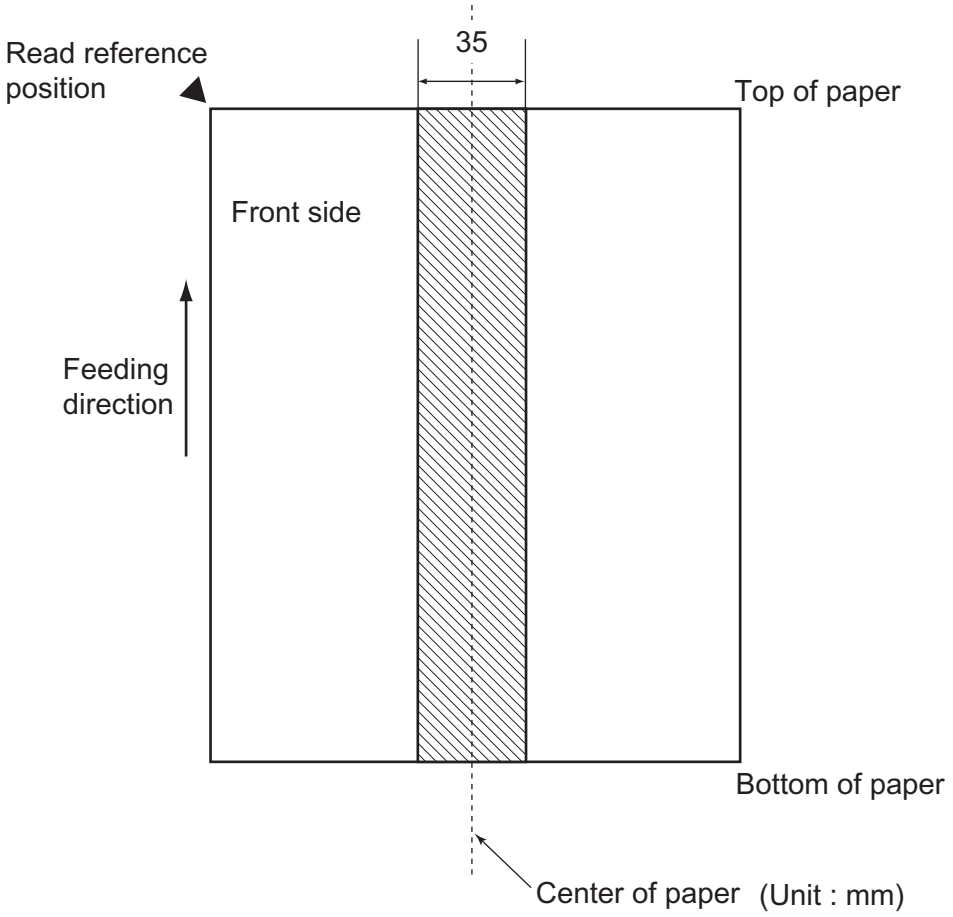


Paper weight conversion table

Unit	Conversion						
g/m^2	52	64	75	80	90	104	127
lb	13.9	17.0	20.0	21	24.0	27.9	34.0

6.4 Area not to be perforated

When using the ADF, document trouble might occur if there is any punched hole in the shaded area in the following figure.



6.5 Double-feed Detection Conditions

Select one of the following:

- Check overlapping
- Check length
- Check overlapping and length

The following condition is required when any of the above options is selected:

■ Check overlapping

Paper weight	52 g/m^2 - 127 g/m^2 (13.9 lb to 34.0 lb)

Other paper shall not be glued within 60 mm (2.4 in.) of the vertical centerline of the document.

■ Check length

Document length deviation	1 % or less

Punched holes are not allowed within 35 mm (1.4 in.) of the vertical centerline of the document.

■ Check overlapping and length

Paper weight	52 g/m^2 - 127 g/m^2 (13.9 lb to 34.0 lb)
Document length deviation	1 % or less

Punched holes are not allowed within 35 mm (1.4 in.) of the vertical centerline of the document.
Other paper shall not be glued within 60 mm (2.4 in.) of the vertical centerline of the document.

When the overlapping check is specified, the papers which contact closely each other, such as glued paper or electro-statically charged paper, can result in the miss-detection of double-feed.

Chapter 7

SCANNER SPECIFICATIONS

This chapter lists the scanner specifications.

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7.1 Basic Specifications

No.	Item		Specification	
1	Scanner Type		ADF (**A**utomatic **D**ocument **F**eeder)	-
2	Image sensor		CCD x 2	Front / Back
3	Light source		Incandescent cold cathode fluorescent lamp x 2	Front / Back
4	Scanning area	Minimum	A8 portrait	127 g/m^2 paper
		Maximum	A3 / 11 in. x 17 in.	US Ledger
5	Paper Weight		52 g/m^2 to 127 g/m^2 (13.9 lb to 34.0 lb)	(Note(*1))
6	Scanning Speed (A4 Portrait) (Note(*2))	Black & White	Simplex: 35 sheets/min. Duplex: 35 sides/min.	200 dpi
		Glayscale	Simplex: 35 sheets/min. Duplex: 35 sides/min.	200 dpi
		Color	Simplex: 45 sheets /min. Duplex: 45 sides/min.	150 dpi
7	Capacity of ADF		100 sheets	A4, 80 g/m^2 (Note(*3))
			50 sheets	A4, 80 g/m^2 (Note(*3))
8	Optical Resolution		600 dpi	-
9	Output resolution (Halftone)	Black & White	50 - 600 dpi	Scalable in 1 dpi increments
		Glayscale		
		Color		
10	Grayscale level (internal)		8 bits per color	Internal 10 bits
11	Halftone Patterns		Dither / Error diffusion	-
12	Interface (Note(*4))		Ultra SCSI	Shield-type 50 pin (pin-type) halfpich
			USB 2.0 / USB 1.1	B Type
13	Interface for Imprinter Option		-	-
14	Other function		JPEG compression	-

*1) For details, refer to "6 DOCUMENT SPECIFICATIONS FOR THE ADF" on page 101
*2) The scanning speed is the maximum speed of the scanner hardware. Software processing time such as data transfer time is added to the actual scanning time.
*3) The maximum stacking capacity varies according to the document thickness. For details, refer to "6 DOCUMENT SPECIFICATIONS FOR THE ADF" on page 101
*4) The Ultra SCSI and USB2.0/1.1 interfaces cannot be used at the same time.

7.2 Installation Specifications

Item		Specification		
Dimensions (Without ADF paper chute and Stacker)		Depth	Width	Height
		225 mm (8.9 in.)	399 mm (15.7 in.)	193 mm (7.6 in.)
Installation Space (D x W x H)		800 mm (31.5 in.) x 500 mm (19.7 in.) x 500 mm (19.7 in.)		
Weight		8.5 kg (18.7 lb)		
Input power	Voltage	100 to 120 VAC ±10% 220 to 240 VAC ±10%		
	Phases	Single-phase		
	Frequency	50 / 60 ± 3Hz		
Power consumption		57 W or less		
Ambient condition	Device status	Operating	Not operating	
	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		49 kcal / H or less		
Shipping Weight		12 kg (33 lb)		

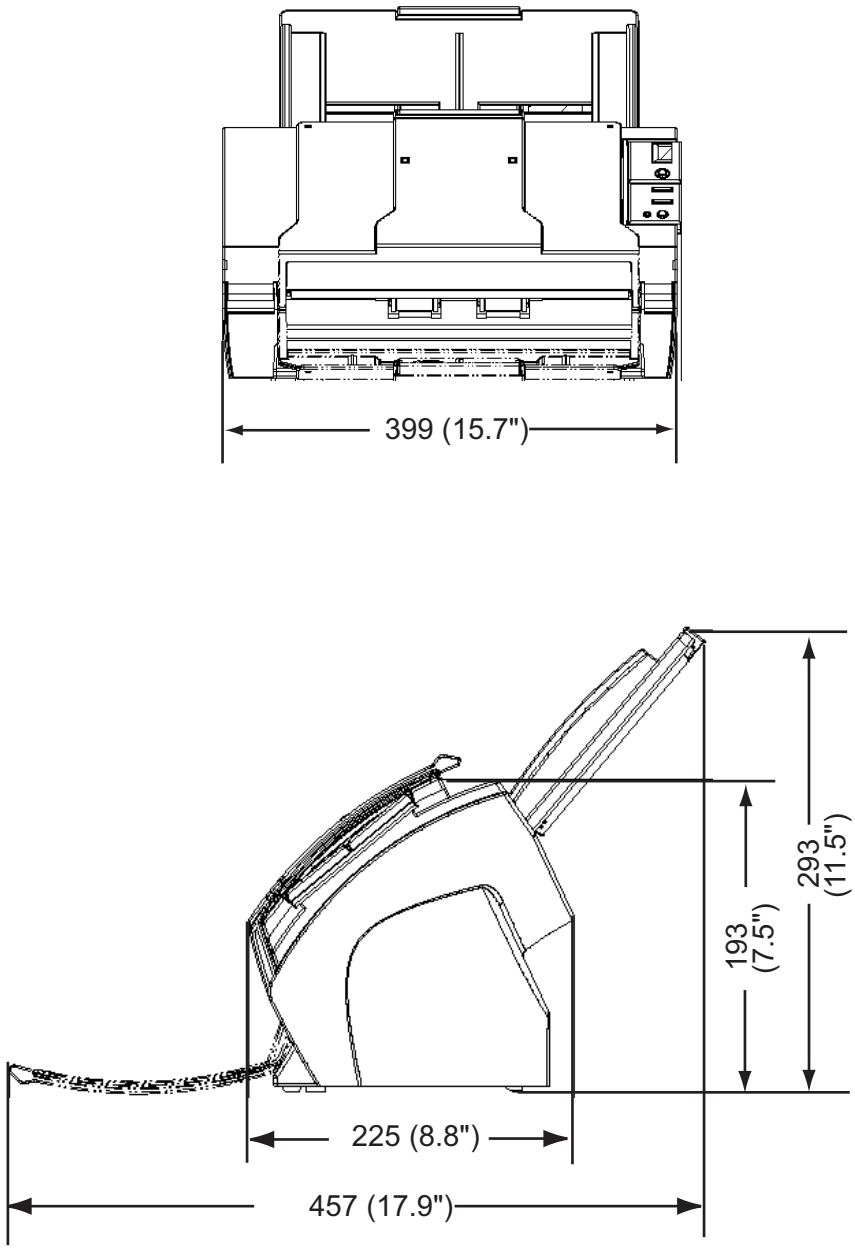
Installation Space is the reference value of an installation space required to read A3 documents.

Refer to "4 REPLACING CONSUMABLES" on page 61 for details on the guaranteed number of sheets.

Use of the scanner over its service life may lead to malfunction of the device or deterioration of scanning performance.

7.3 External Dimensions

The following shows the external dimensions of the fi-4530C.



(Unit : mm)

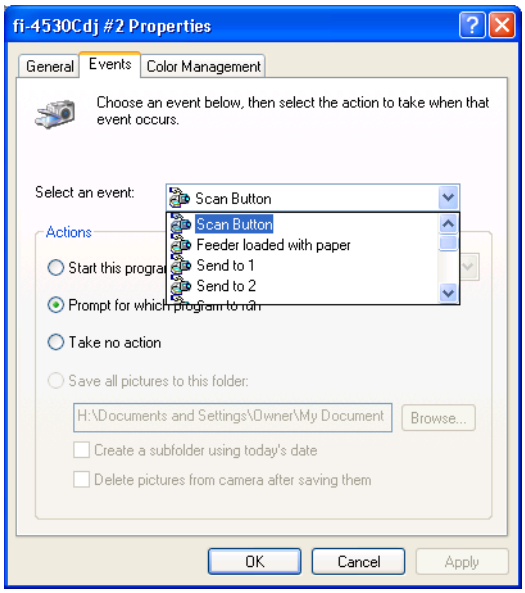
APPENDIX A

Before using the [Scan] or the [Send to] button

By setting the link of the application software to the [Scan] or [Send to] button, you can launch the linked application by simply pushing the button.

■ For Windows 98, Windows Me, Windows 2000, Windows XP

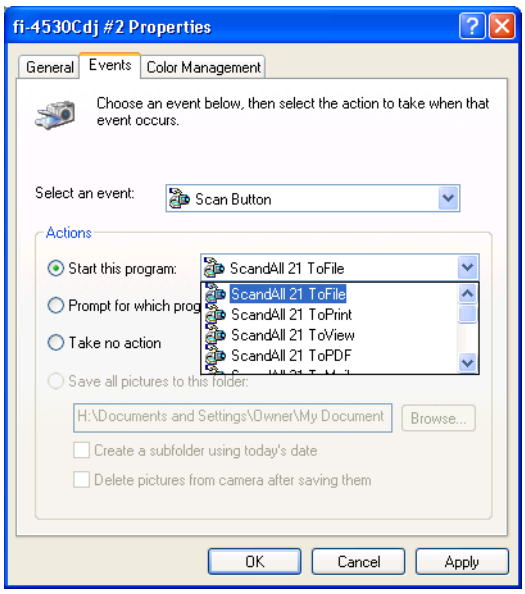
1. Select [Start]-[Control Panel].
2. Select [Scanners and Cameras]-[Properties].
3. Select the [Events] tab.
4. Select an Event. For Windows XP, select the event for starting up any application from the [Select an event] menu.



The events available for this function are:
- Scan button (When pushing the [Scan] button)
- Feeder loaded with paper (When setting the documents in the ADF)
- Send to 1-9 (When pushing the [Send] to button)

A

5. Select the application with its process, excuted by the event. For Windows XP, click [Start this program] under [Actions] and select the application and process from the menu.



6. Click [OK] button.

HINT

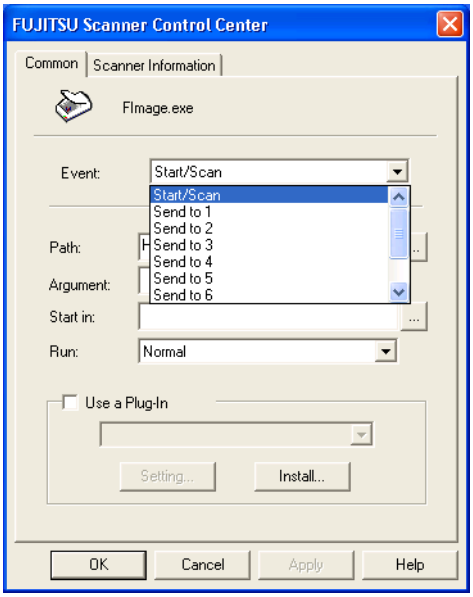
A window may appear when documents are set on the ADF.
If you wish not to display this window, select [Feeder loaded with paper] from [Select an event] and click [Take no action], then click [OK].

HINT

The window and operations may vary depending on your OS.

■ For Windows 95, WindowsNT 4.0

1. Right click the [FUJITSU Scanner Control Center] in the task tray and select [Option].
2. Select the event for starting up the application from the [Event] menu.



The events available for this function are:
- Start/Scan button (When pushing the [Scan] button)
- Send to 1-9 (When pushing the [Send] to button)

3. Click [...] button right to the entry field of [Path].
4. Click [OK].

A

APPENDIX B

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.

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.

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.

Double 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.

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.

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 double feed is detected.

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.

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

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.

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 ADF paper chute.

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.

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.

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