

fi Series

Image Scanner Driver for macOS

User's Guide

Contents

| | |
|---|-----------|
| Introduction | 4 |
| Trademarks | 4 |
| Manufacturer..... | 4 |
| Issue Date/Issuer | 4 |
| Use in High-Safety Applications | 4 |
| Abbreviations Used in This Manual..... | 5 |
| Screen Examples in This Manual..... | 5 |
| Notice | 5 |
| How to Use the macOS Driver | 6 |
| macOS Driver Overview | 6 |
| Supported Scanners | 7 |
| Provided Product Units | 8 |
| System Requirements | 9 |
| Installation and Uninstallation Procedures | 10 |
| Installation Procedure..... | 11 |
| Uninstallation Procedure | 13 |
| Scan Settings for Image Capture | 14 |
| macOS Driver Function Details..... | 16 |
| Scanning a Document | 20 |
| Scanning with Image Capture | 20 |
| Monitoring the Scan Button with Image Capture | 21 |
| How to Fix Errors That Occur While Performing a Scan | 22 |
| Management Tool | 27 |
| How to Use the Management Tool | 27 |
| Functions, Options, and Setting Values for Arguments..... | 29 |
| Models and Supported Functions | 34 |
| Messages and Return Values | 37 |
| Message Format | 37 |
| Procedure for Obtaining a Return Value..... | 37 |

| | |
|--|-----------|
| Maintenance Information Obtaining Command | 38 |
| Procedure for Obtaining Maintenance Information..... | 38 |
| Information That Can Be Obtained..... | 39 |
| Customer Support | 40 |
| Appendix | 41 |
| References for Developing an Application for Scanning an Image with ICA Driver Functions | 41 |

Introduction

Thank you for using the Image Scanner Driver for macOS.

This manual describes the overview and operations of this product.

The contents of this manual are subject to change as this product is updated.

Trademarks

Apple and macOS are trademarks of Apple Inc.

Intel and Intel Core are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries.

Other company names and product names are the registered trademarks or trademarks of the respective companies.

Manufacturer

PFU Limited

YOKOHAMA i-MARK PLACE, 4-5 Minatomirai 4-chome, Nishi-ku, Yokohama-shi, Kanagawa
220-8567 Japan.

Issue Date/Issuer

Issue date: April 2023

Issued by: PFU Limited

© PFU Limited 2019-2023

Use in High-Safety Applications

This product has been designed and manufactured on the assumption that it will be used in office, personal, domestic, regular industrial, and general-purpose applications. It has not been designed and manufactured for use in applications (simply called "high-safety applications" from here on) that directly involve danger to life and health when a high degree of safety is required, for example, in the control of nuclear reactions at nuclear power facilities, automatic flight control of aircraft, air traffic control, operation control in mass-transport systems, medical equipment for sustaining life, and missile firing control in weapons systems, and when provisionally the safety in question is not ensured. The user should use this product with adopting measures for ensuring safety in such high-safety applications. PFU Limited assumes no liability whatsoever for damages arising from use of this product by the user in high-safety applications, and for any claims or compensation for damages by the user or a third party.

Abbreviations Used in This Manual

The following abbreviations are used in this manual.

| Name | Indication |
|--------------------------------|--------------|
| Image Scanner Driver for macOS | macOS Driver |
| Intel® | Intel |

Screen Examples in This Manual

The screenshots used in this manual are the ones used in macOS Monterey 12.

The actual screens and operations may differ depending on the version.

If the actual screen differs from the screen examples in this manual, operate by following the actual displayed screen.

Notice

- The contents of this manual are subject to change without notice.
- PFU Limited assumes no liability for incidental or consequential damages arising from the use of this product, and any claims by a third party.
- Copying of the contents of this manual, in whole or in part, as well as the scanner applications is prohibited under the copyright law.

How to Use the macOS Driver

How to use the macOS driver is described below.

macOS Driver Overview

This section describes an overview of the macOS driver.

The macOS driver is a driver software for Image Scanner fi Series corresponding to the standard interface "ICA (*)" that is provided for capturing images with macOS.

The macOS driver has the following functions:

- ICA driver function

- Scanning with Image Capture

Image Capture which is an application for scanning images is built into macOS by default.

To scan a document with Image Capture with an Image Scanner fi Series, install this product on a computer in which macOS is installed.

- Scanning with an image scanning application which supports ICA

You can scan a document with an Image Scanner fi Series by using a third-party image scanning application which supports ICA.

Refer to [References for Developing an Application for Scanning an Image with ICA Driver Functions \(page 41\)](#) in Appendix to develop an application for scanning an image with ICA driver functions.

- Management Tool

Used to manage consumables and configure the settings such as the period of time before the scanner is automatically turned off, the offset value, and the magnification level.

For details, refer to [Management Tool \(page 27\)](#).

- Maintenance Information Obtaining Command

A command is provided, which obtains all system information that is required for scanner maintenance.

For details, refer to [Maintenance Information Obtaining Command \(page 38\)](#).

*:ICA (Image Capture Architecture) is a specification proposed by Apple Inc. for scanner control on macOS.

Supported Scanners

The supported scanners are shown below.

- fi-8040 (*)
- fi-8190 (*)
- fi-8170 (*)
- fi-8150 (*)
- fi-8150U
- fi-800R
- fi-7180
- fi-7160
- fi-7140
- fi-7030

*:Supports a USB connection only. Cannot be used via a network connection. Do not connect the scanner to a network.

Provided Product Units

| Operating system | Package (installer) file name | Package format |
|------------------|-------------------------------|----------------|
| macOS | pfufs-macOS_x.x.x.dmg | dmg |

The file name is made up of the following:

macOS: This is the operating system which is supported by this package.

x.x.x: This is the version of the driver. "X.X.X" should be read as the version number of the macOS driver used.

dmg: This is the format of the package.

System Requirements

The system requirements are shown below.

- **Operating system**

macOS

For details about supported version numbers, refer to the download site for macOS drivers.

- **Hardware**

| | |
|----------------------------|--------------------------------|
| Disk Space Required | 8 MB |
| CPU | Intel or Apple M1/M2 processor |

Installation and Uninstallation Procedures

Procedures are shown below for installation and uninstallation of the macOS driver.

Obtaining the macOS driver

The macOS driver can be downloaded from the following website.

<https://www.pfu.ricoh.com/global/scanners/fi/dl/>

For details, contact the distributor/dealer where you purchased our scanners.

For details about the contact list, refer to [Customer Support \(page 40\)](#).

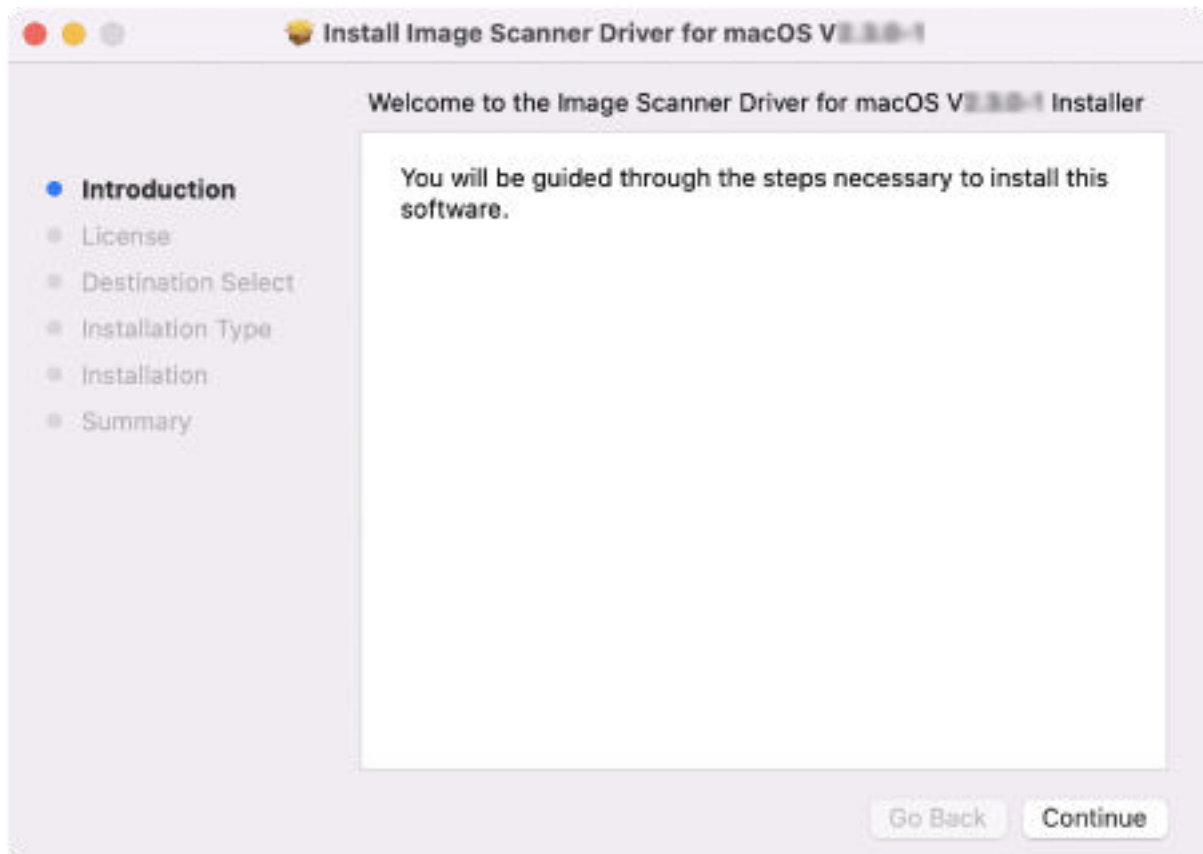
Preparation

- Copy the installer that was downloaded from the website to the installation target computer.
- Disconnect the scanner from the computer before installing or uninstalling the driver.

Installation Procedure

Install the macOS driver in the following procedure:

- 1 Double-click the installer (pfufs-macOS_x.x.x.dmg) that is copied to the computer.**
The package (pfufs-macOS_x.x.x.pkg) appears.
- 2 Double-click the package.**
The installation window appears.
- 3 Install the driver by following the instructions displayed on the installation window.**



HINT

- When a window asking you for permission to perform an installation appears, enter the user name and password for the computer and click the [Install Software] button.
- If an installation is performed on the computer and the product is already installed, the message "You do not need to install this product because it is already installed." appears and the installation is canceled.

- 4 After the installation is complete, connect the scanner to the computer and turn it on.**
- 5 Start up Image Capture to check scanning operations.**
For details, refer to [Scanning with Image Capture \(page 20\)](#).

How to check the installed software

The following folder is saved in the "Application" folder when the macOS driver is installed.

Folder name: fi Series

- You can check whether or not this product is installed by checking whether the folder exists or not.
- You can check the version of this product by referring to "Version.txt" in the folder.
- You can browse this manual by double-clicking "fi Series User's Guide.app" in the folder under the environment in which Internet access is allowed.

Uninstallation Procedure

Uninstall the macOS driver in the following procedure:

HINT

Administrator privileges for a computer are required for a user to uninstall the macOS driver. Log in as a user with administrator privileges.

- 1 In Finder, select [Applications] → [Utilities] and double-click [Terminal].

The Terminal window appears.

Commands (string of characters) can be entered directly in the Terminal window.

- 2 Run the following command.

```
sudo /opt/pfufs/uninstall/uninstall.sh
```

- 3 Enter a password for a user with administrator privileges and press the [Enter] key on the keyboard.

The macOS driver is uninstalled.



The screenshot shows a macOS Terminal window titled "zsh - 80x24". The window displays the following text: "Last login: Thu Dec 2 15:40:24 on ttys000", followed by the command prompt "~ % sudo /opt/pfufs/uninstall/uninstall.sh". The user enters their password (indicated by dots), and the terminal outputs "Uninstall successfully." followed by another prompt "~ %".

HINT

- Uninstalling the macOS driver does not delete any images that were scanned before the uninstallation.
- When connecting the scanner to a computer after the macOS driver is uninstalled, Image Capture may recognize the scanner accidentally, resulting in an error. In this case, restart the computer.

Scan Settings for Image Capture

The scan settings which can be set with Image Capture are shown below:

Default settings are indicated in **bold characters**.

In addition to the Image Capture settings, the macOS driver settings are displayed in the scan settings for Image Capture.

For details about the macOS driver settings, refer to [macOS Driver Function Details \(page 16\)](#).

Although there are some exceptions, most of the setting items and parameters for the Image Capture specifications are applied as they are. The setting items and parameters are subject to change regardless of the macOS specifications.

| Item | Setting Parameter |
|-----------------------|--|
| Kind | Text/Black & White/Color |
| Resolution (*1) | 150 dpi /200 dpi/240 dpi/300 dpi/400 dpi/500 dpi/600 dpi |
| Size (*1) | A4 (210 × 297 mm) B5/JIS B5 (182 × 257 mm) Letter (216 × 279.4 mm) Legal (216 × 355.6 mm) A5 (148 × 210 mm) Executive (184.2 × 266.7 mm) A6 (105 × 148 mm) JIS B6 (128 × 182 mm) Business card (90 × 55 mm) |
| Orientation | Up/Right/Down/Left |
| Duplex (check box) | Clear/Select |
| Scan To | Pictures Desktop Documents Movies Downloads Photos Preview Mails Others... |
| Name | Scan |
| Format | JPEG HEIC (*2) TIFF PNG JPEG 2000 GIF |

| Item | Setting Parameter |
|---|--|
| | BMP PDF |
| Combine into single document (check box) | Clear/Select |
| Image Correction | <p>None/Manual</p> <p>When [Manual] is selected, the following options appear and you can set them. The displayed options vary depending on the setting for [Kind].</p> <ul style="list-style-type: none"> • When [Text] is set <ul style="list-style-type: none"> - [Threshold] - [Dither] (check box) • When [Black & White] is set <ul style="list-style-type: none"> - [Brightness] - [Contrast] • When [Color] is set <ul style="list-style-type: none"> - [Brightness] - [Tint] - [Temperature] - [Saturation] |

***1:**The setting parameter for the macOS driver specifications is applied to the setting parameter for this item.

***2:**This is not displayed when macOS Mojave 10.14 is used.

macOS Driver Function Details

Functions which can be set with the macOS driver are shown below:

Default settings are indicated in **bold characters**.

| Function | Setting Parameter | Notes |
|---|--|--|
| Cropping (for fi-800R) | None Auto Overscan | <p>The necessary part of a scanned image is cropped.</p> <ul style="list-style-type: none"> • None Outputs an image in the specified document size. When the actual document size is smaller than the specified document size, the background color around the document is white. • Auto The document size is detected automatically, and the image is cropped. The specified setting for [Size] is ignored. When multiple documents in different paper sizes are scanned continuously by using U-turn Scan, each scanned image is output in the same size as each scanned document. • Overscan Background areas are added to the top, bottom, left, and right of the image. |
| Cropping (for fi-8190, fi-8170, fi-8150, fi-8150U, fi-7180, fi-7160, or fi-7140) | None (with black background) None (with white background) Auto (Speed emphasis) Auto (Accuracy emphasis) Overscan | <p>The necessary part of a scanned image is cropped.</p> <ul style="list-style-type: none"> • None (with black background) Outputs an image in the specified setting for [Size]. When the actual document size is smaller than the specified document size, the background color around the document is black. • None (with white background) Outputs an image in the specified setting for [Size]. When the actual document size is smaller than the specified document size, the background color around the document is white. • Auto (Speed emphasis) The document size is detected automatically, and an image is cropped with priority given to the process speed. The specified setting for [Size] is ignored. When multiple documents in different paper sizes are scanned continuously through the ADF, each scanned |

| Function | Setting Parameter | Notes |
|----------------------------------|---|--|
| | | <p>image is output in the same size as each scanned document.</p> <ul style="list-style-type: none"> • Auto (Accuracy emphasis) The document size is detected automatically, and an image is cropped with priority given to the cropping accuracy. The specified setting for [Size] is ignored. When multiple documents in different paper sizes are scanned continuously through the ADF, each scanned image is output in the same size as each scanned document. • Overscan Background areas are added to the top, bottom, left, and right of the image. |
| Cropping (fi-8040 or fi-7030) | None Auto Overscan | <p>The necessary part of a scanned image is cropped.</p> <ul style="list-style-type: none"> • None Outputs an image in the specified document size. When the actual document size is smaller than the specified document size, the background color around the document is white. • Auto The document size is detected automatically, and the image is cropped. The specified setting for [Size] is ignored. When multiple documents in different paper sizes are scanned continuously through the ADF, each scanned image is output in the same size as each scanned document. • Overscan Background areas are added to the top, bottom, left, and right of the image. |
| Multifeed detection | Off On (Overlapping) On (Length) On (Overlapping +Length) | <p>This parameter can be set for fi-8040, fi-8190, fi-8170, fi-8150, fi-8150U, fi-7180, fi-7160, fi-7140, fi-7030, or for U-turn Scan on fi-800R.</p> <p>Specify an action when two or more documents that are overlapped are fed at the same time.</p> <p>Scanning thick documents such as plastic cards will be falsely detected as multifeed. In this case, set [Off] for this parameter.</p> <ul style="list-style-type: none"> • Off Does not detect multifeed. |

| Function | Setting Parameter | Notes |
|-----------------|---|--|
| | | <p>The following conditions stop scanning when a multifeed is detected:</p> <ul style="list-style-type: none"> • On (Overlapping) An error is detected as a multifeed when two or more documents that are overlapped are fed at the same time. • On (Length) Monitors the document length during feeding, and detects multifeed according to the deviation of detected lengths. • On (Overlapping+Length) Monitors the length and the overlapping of a document during feeding, and detects a multifeed. |
| Prepick | On Off | <p>This parameter can be set for fi-8190, fi-8170, fi-8150, fi-8150U, fi-7180, fi-7160, or fi-7140.</p> <p>When this parameter is set to [On], a document is fed until it reaches the position in which the document will be scanned. This helps to shorten the scanning time.</p> |
| Dropout color | White Red Green Blue None | <p>Removes colors other than black from an image. For example, only black characters can be scanned from a document that consists of black characters and red frames.</p> <p>This parameter is enabled when [Text] or [Black & White] is set for [Kind]. This parameter is ignored when [Color] is set for [Kind].</p> |
| Text clarity | None Smoothing Emphasis-Level 1 Emphasis-Level 2 Emphasis-Level 3 Descreen-Level 1 Descreen-Level 2 Descreen-Level 3 Descreen-Level 4 | <p>Corrects characters, lines, and the background of an image. The effects vary depending on the type of document.</p> <ul style="list-style-type: none"> • Smoothing Smoothens the curves of characters and lines. • Emphasis Emphasizes the contour of characters and lines. The setting can be set in 3 levels. The higher the level you set, the more emphasized the contour becomes. • Descreen Reduces the moire that appears on the image when [Color] or [Black & White] is set for [Kind]. The setting can be set in 4 levels. The higher the level you set, the less moire appears. |
| Tone adjustment | None | Adjusts the tone of the entire image. |

| Function | Setting Parameter | Notes |
|---------------------|--|--|
| | Normal Soft Sharp Bright | When [Text] is set for [Kind], specifying a parameter other than [None] emphasizes white in an image. <ul style="list-style-type: none"> • None No adjustments are performed. This is recommended when a document type is a text document. • Normal Outputs a scanned image in a standard image quality. • Soft Outputs a scanned image in a softened image quality. • Sharp Outputs a scanned image in a clear, sharpened image quality. • Bright Outputs a scanned image in a brighter image quality. |
| Blank page skip | Off On (Low sensitivity) On (Medium low sensitivity) On (Default) On (Medium high sensitivity) On (High sensitivity) | Specify a sensitivity level to detect characters, lines, pictures and photographs on the scanned image. When the sensitivity level is high, the scanned images are more likely to be recognized as blank pages. If a scanned image that is not blank is detected as a blank page, set a lower sensitivity level. <div> HINT When this parameter is set to [On] and the [Duplex] check box is cleared in Image Capture, if a document that has a blank front page is scanned, the scanned image is removed and is not output. </div> |
| Scan button monitor | Off On | Monitors the [Scan] button of the scanner and performs a scan when it detects that the [Scan] button was pressed if this parameter is set to [On]. |

Scanning a Document

Scanning with Image Capture is described below:

Scanning with Image Capture

The procedure for scanning a document with Image Capture is described below:

Preparation

Connect the scanner to the computer with the USB cable, and turn the scanner on.

1 Start up Image Capture from Finder or Launchpad on Dock.

The names of the connected scanners are displayed in the device list on the left side of the window.

2 Select a scanner from the device list.

3 Click the [Show Details] button.

The scan settings are displayed on the right side of the window.

4 Check or modify the scan settings.

For details on the scan settings, refer to [Scan Settings for Image Capture \(page 14\)](#) or [macOS Driver Function Details \(page 16\)](#).

5 Load documents in the scanner.

For details, refer to the Operator's Guide of the scanner that is used.

6 Click the [Scan] button on the bottom right of the Image Capture window.

Scanning starts.

Monitoring the Scan Button with Image Capture

Scanning can be performed by pressing the [Scan] button on the scanner when the scan button is being monitored by Image Capture.

The procedure for scanning documents with the scan button being monitored is described below:

Preparation

Connect the scanner to the computer with the USB cable, and turn the scanner on.

1 Start up Image Capture from Finder or Launchpad on Dock.

The names of the connected scanners are displayed in the device list on the left side of the window.

2 Select a scanner from the device list.

The scan settings are displayed on the right side of the window.

3 Check or modify the scan settings.

4 Load documents in the scanner.

For details, refer to the Operator's Guide of the scanner that is used.

5 Make sure that [Scan button monitor] is set to [On] in the scan settings. If [Scan button monitor] is set to [Off], set it to [On].

6 Click the [Scan] button on the scanner.

Scanning starts.

How to Fix Errors That Occur While Performing a Scan

This section describes how to fix errors that occur while performing a scan. The display messages for various types of errors that occur when scanning with Image Capture are also included as a reference.

| Error Code | Display Message in Image Capture (Reference) | Cause, Result of the Cause, and the Corrective Action |
|--|--|---|
| 0x03800131 0x03800137 0x0380013F 0x03800140 0x03800150 | Paper jammed in the ADF. | Cause Paper jam occurred in the ADF. Result of the Cause The scanner stops the scanning process and the image scanning application returns an error. Corrective Action Turn off the scanner and remove the document from the ADF. Do not use force to pull out jammed documents, and make sure to open the ADF first. If document jams occur frequently, clean the inside of the scanner. For details about how to clean the inside of the scanner, refer to the Operator's Guide of the scanner that is used. |
| 0x03800240 | Scanner cover is open. | Cause Scanning cannot be performed because the ADF cover of the scanner is open. Result of the Cause The scanner stops the scanning process and the image scanning application returns an error. Corrective Action Close the ADF, and then try scanning again. |
| 0x03800320 | No documents in the ADF paper chute. | Cause There are no documents left in the ADF paper chute (feeder). Result of the Cause The scanner stops the scanning process and the image scanning application returns an error. |

| Error Code | Display Message in Image Capture (Reference) | Cause, Result of the Cause, and the Corrective Action |
|--|---|---|
| | | Corrective Action Load some documents in the ADF paper chute (feeder). |
| 0x03800755 0x03800756 | Multifeed detected. | Cause Multiple sheets that are overlapped in the inside of the scanner are scanned at the same time. Result of the Cause The scanner stops the scanning process and the image scanning application returns an error. Corrective Action Remove the documents, check the scanned images, and then load the documents again. |
| 0x03800801 0x03800802 0x03800804 0x03800808 | The sensor(s) are dirty. | Cause The sensor(s) are dirty. Result of the Cause The scanner stops the scanning process and the image scanning application returns an error. Corrective Action Open the ADF and clean the sensor(s). For details about how to clean the sensor(s), refer to the Operator's Guide of the scanner that is used. |
| 0x03800C59 | Could not start scanning. Remove either of the documents from one of the following. - ADF paper chute (feeder) - Return path opening | Cause There are documents in both the ADF paper chute (feeder) and in the return path opening. Result of the Cause The scanner stops the scanning process and the image scanning application returns an error. Corrective Action Remove documents from one of the following: - ADF paper chute (feeder) - Return path opening |

| Error Code | Display Message in Image Capture (Reference) | Cause, Result of the Cause, and the Corrective Action |
|------------|--|--|
| 0x03802078 | The button for cancellation on the device was pressed. | <p>Cause</p> <p>Scanning was stopped by pressing a button on the scanner.</p> <p>Result of the Cause</p> <p>The scanner stops the scanning process and the image scanning application returns an error.</p> <p>Corrective Action</p> <p>A document may be remaining in the scanner. Open the ADF and remove the document.</p> |
| 0x03803123 | An input-output error occurred in the scanner. | <p>Cause</p> <p>Scanning cannot be started because the scanner is in Doc Counting mode.</p> <p>Result of the Cause</p> <p>The scanner stops the scanning process and the image scanning application returns an error.</p> <p>Corrective Action</p> <p>Close the [Document Count] screen on the touch screen of the scanner to exit the Doc Counting mode.</p> |
| 0x03803124 | An input-output error occurred in the scanner. | <p>Cause</p> <p>An operation to pause scanning was performed on the scanner.</p> <p>Result of the Cause</p> <p>The scanner stops the scanning process and the image scanning application returns an error.</p> <p>Corrective Action</p> <p>Remove the documents, and then restart the scanning process from the beginning.</p> |
| 0x99100010 | An abnormality has occurred during communication. | <p>Cause</p> <p>An error occurred during communication with the scanner.</p> <p>The scanner may be turned off or the interface cable may have been unplugged during operation.</p> |

| Error Code | Display Message in Image Capture (Reference) | Cause, Result of the Cause, and the Corrective Action |
|------------|---|---|
| | | <p>Result of the Cause</p> <p>The scanner stops the scanning process and the image scanning application returns an error.</p> <p>Corrective Action</p> <p>Check that the power cable or USB cable of the scanner is connected properly. Make sure that the scanner is not in the middle of a scan when unplugging the cable.</p> |
| 0x99200010 | Not enough memory available to complete this operation. | <p>Cause</p> <p>Memory ran out during a scanning process.</p> <p>Result of the Cause</p> <p>The scanner stops the scanning process and the image scanning application returns an error.</p> <p>Corrective Action</p> <p>If other applications are running, quit all applications other than Image Capture. In addition, change the settings such as the resolution and the paper size to reduce the image size, and then try scanning again. If the problem persists, add memory.</p> |
| 0x99200020 | Memory or free disk space is insufficient. | <p>Cause</p> <p>Memory or free disk space ran out during a scanning process.</p> <p>Result of the Cause</p> <p>The scanner stops the scanning process and the image scanning application returns an error.</p> <p>Corrective Action</p> <p>If other applications are running, quit all applications other than Image Capture. In addition, change the settings such as the resolution and the paper size to reduce the image size, and then try scanning again. If the problem persists, add memory.</p> <p>Or, secure free disk space by deleting unnecessary files. 800 MB or more of free disk space is required.</p> |

| Error Code | Display Message in Image Capture (Reference) | Cause, Result of the Cause, and the Corrective Action |
|-----------------------|--|---|
| Value other than 0x00 | An input-output error occurred in the scanner. | <p>Cause</p> <p>A scanning error occurred.</p> <p>Result of the Cause</p> <p>The scanner stops the scanning process and the image scanning application returns an error.</p> <p>Corrective Action</p> <p>Turn off the scanner and restart the computer. Turn on the scanner, and then try scanning again. If the problem still persists, contact the distributor/dealer where you purchased our scanners. For details about the contact list, refer to Customer Support (page 40).</p> |
| Not displayed | Failed to open a session on the device (xxxxx) | <p>Cause</p> <p>The scanner cannot be used.</p> <p>Result of the Cause</p> <p>The scanner stops the scanning process and the image scanning application returns an error.</p> <p>Corrective Action</p> <p>Make sure that the scanner is not being used with another application or that the touch screen of the scanner is not being operated.</p> |

Management Tool

The management tool allows you to maintain the scanner and configure the settings such as the waiting time before the scanner enters power saving mode, the period of time before the scanner is automatically turned off when it is left unused, the magnification level, and the offset value.

Details on how to use this management tool and its functions are described below.

How to Use the Management Tool

HINT

- Before using the management tool, quit Image Capture first.
- Administrator privileges for a computer is required for a user to run the command with an option to configure the settings. Log in as a user with administrator privileges.
Refer to the table in [Functions, Options, and Setting Values for Arguments \(page 29\)](#) to check the options which require administrator privileges.

1 In Finder, select [Applications] → [Utilities] and double-click [Terminal].

The Terminal window appears.

Commands (string of characters) can be entered directly in the Terminal window.

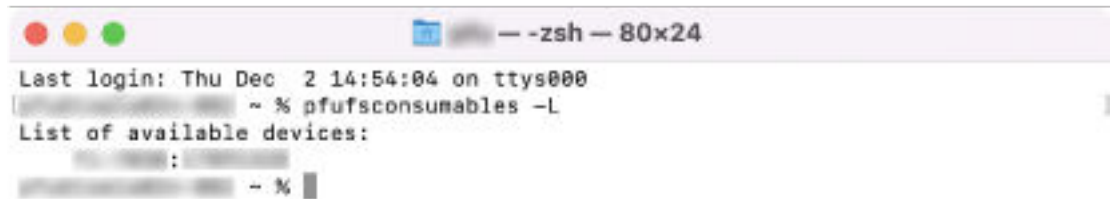
2 Specify an option and an argument for the "pfufsconsumables" command and then execute the command.

```
pfufsconsumables <option> <setting value for an argument>
```

- When an option which does not require administrator privileges is specified
The command is performed immediately.

Example:The command which confirms the connection of the scanner

```
pfufsconsumables -L
```



```

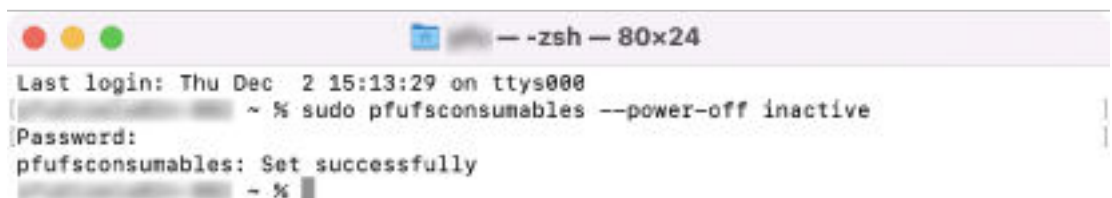
Last login: Thu Dec  2 14:54:04 on ttys000
~ % pfufsconsumables -L
List of available devices:
:
~ %

```

- When an option which requires administrator privileges is specified
A password is required if you enter "sudo" before the "pfufsconsumables" command.
Enter a password for a user with administrator privileges and press the [Enter] key on the keyboard to run the command.

Example:The command for setting the scanner to be automatically turned off

```
sudo pfufsconsumables --power-off inactive
```



```

Last login: Thu Dec  2 15:13:29 on ttys000
~ % sudo pfufsconsumables --power-off inactive
Password:
pfufsconsumables: Set successfully
~ %

```

Functions, Options, and Setting Values for Arguments

| No. | Function | Option | Setting value for an argument | Notes |
|-----|---|----------------------|---|--|
| 1 | Listing the scanners that are connected | -L or --list-devices | None | The following information is displayed for each scanner that is connected: <ul style="list-style-type: none"> • Scanner name • Location ID |
| 2 | Specifying a scanner | -d or --device-name | Scanner name:Location ID Example: pfufsconsumables -d fi-800R:4245880832 --info | If you do not specify this option, the scanner that is detected first is specified. For the Location ID, specify the values that are listed when the command is executed with option "-L" or "--list-devices" specified. |
| 3 | Displaying the Help information | -h or --help | None | The Help information for the management tool is displayed. |
| 4 | Displaying the version of the management tool | -V or --version | None | The version of the management tool is displayed. |
| 5 | Displaying the scanner information | --info | None | The following information about the scanner is displayed: <ul style="list-style-type: none"> • Scanner name • Firmware version • The date when the scanner was used for the first time (*1) • Serial number • Consumable counters • Setting the waiting time before the scanner enters power saving mode • Waiting time before the scanner enters power saving mode/time period |

| No. | Function | Option | Setting value for an argument | Notes |
|-----|--|------------------------|-------------------------------|--|
| | | | | before the scanner is automatically turned off when it is left unused <ul style="list-style-type: none"> • Magnification level and offset value |
| 6 | Clearing the number of sheets scanned after cleaning (*2) | --after-cleaning-clear | None | The number of sheets scanned after cleaning is cleared. |
| 7 | Clearing the counter number for the pad unit (*2) | --pad-clear | None | The counter number for the pad unit is cleared. |
| 8 | Clearing the counter number for the brake roller (*2) | --brake-roller-clear | None | The counter number for the brake roller is cleared. |
| 9 | Clearing the counter number for the pick roller (*2) | --pick-roller-clear | None | The counter number for the pick roller is cleared. |
| 10 | Setting the waiting time before the scanner enters power saving mode (*2) | --sleeptimer | 5 to 115 | <ul style="list-style-type: none"> • Specify a value in minutes (that is a multiple of 5) for the waiting time before the scanner enters power saving mode. If the specified time that is not in multiples of 5, it is rounded down to the time in multiples of 5. • Up to a value of 235 can be specified for the parameter depending on the scanner model. |
| 11 | Setting the time period before the scanner is automatically turned off when it is left unused (*2) | --power-off | inactive | Specify an option to keep the scanner on even when it is left unused or specify one of the following time periods before the scanner is automatically turned off. <ul style="list-style-type: none"> • inactive (inactive) • 1-hour (1 hour) • 2-hours (2 hours) |
| | | | 1-hour | |
| | | | 2-hours | |
| | | | 4-hours | |
| | | | 8-hours | |

| No. | Function | Option | Setting value for an argument | Notes |
|-----|-------------------------------|--------------------------------|--------------------------------|--|
| | | | | <ul style="list-style-type: none"> • 4-hours (4 hours) • 8-hours (8 hours) |
| 12 | Setting the offset value (*2) | --u-turn-front-offset-main | -4 to 4 (*0.5 mm) (Step: 1) | Specify the front offset value in U-turn Scan for main scanning (widthways). |
| | | --u-turn-front-offset-sub | | Specify the front offset value in U-turn Scan for sub scanning (lengthways). |
| | | --return-front-offset-main | | Specify the front offset value in Return Scan for main scanning (widthways). |
| | | --return-front-offset-sub | | Specify the front offset value in Return Scan for sub scanning (lengthways). |
| | | --u-turn-back-offset-main | | Specify the rear offset value in U-turn Scan for main scanning (widthways). |
| | | --u-turn-back-offset-sub | | Specify the rear offset value in U-turn Scan for sub scanning (lengthways). |
| | | --return-back-offset-main | | Specify the rear offset value in Return Scan for main scanning (widthways). |
| | | --return-back-offset-sub | | Specify the rear offset value in Return Scan for sub scanning (lengthways). |
| | | --adf-front-offset-main | | Specify the front offset value in the ADF for main scanning (widthways). |
| | | --adf-front-offset-sub | | Specify the front offset value in the ADF for sub scanning (lengthways). |
| | | --adf-front-offset-end-of-page | | Specify the ADF front offset value for the bottom edge of the document. |

| No. | Function | Option | Setting value for an argument | Notes |
|-----|-------------------------------|-----------------------------------|-------------------------------|--|
| | | --adf-back-offset-main | | Specify the rear offset value in the ADF for main scanning (widthways). |
| | | --adf-back-offset-sub | | Specify the rear offset value in the ADF for sub scanning (lengthways). |
| | | --adf-back-offset-end-of-page | | Specify the ADF rear offset value for the bottom edge of the document. |
| 13 | Magnification adjustment (*2) | --u-turn-magnification-adjustment | -3.1 to 3.1% (Step: 0.1) | Specify the U-turn Scan magnification level for sub scanning (lengthways). |
| | | --return-magnification-adjustment | | Specify the Return Scan magnification level for sub scanning (lengthways). |
| | | --adf-magnification-adjustment | | Specify the ADF magnification level for sub scanning (lengthways). |

*1:This is displayed when fi-8040, fi-8190, fi-8170, fi-8150, or fi-8150U is connected.

*2:Administrator privileges for a computer are required for a user to set this option.

For details about how to set this option, refer to "When an option which requires administrator privileges is specified" in step 2 in [How to Use the Management Tool \(page 27\)](#).

- If you specify two or more options from No.1, No.3, No.4, and No.5 at the same time, only the first option is applied.

For example, when the following command is executed, only the version of the management tool is displayed.

```
pfufconsumables -V --info
```

- If you specify an option from No.1, No.3, No.4, and No.5 and an option from No.6 through No.13 at the same time, the option from No.6 through No.13 is not applied.

For example, when the following command is executed, the version of the management tool is displayed, but the waiting time before the scanner enters power saving mode is not applied.

```
pfufconsumables --sleep timer 60 -V
```

- The following message appears when an option from No. 6 onwards is specified.

When the specified option is set successfully: Set successfully

When the specified option is not set successfully: unrecognized option 'xxxxx'
('xxxxx' indicates the specified option.)

You can confirm the result of the specified option by specifying the "--info" option in No.5 in order to display the scanner information.

- To output the displayed results of the scanner information into a text file (.txt) by using the management tool, execute the following command:

Example: `pfufsconsumables --info > result_of_info.txt`

"result_of_info.txt" in the above command is an arbitrary text file name.

Models and Supported Functions

The models that support each function (option) are shown below.

| Function (Option) | Scanner Model | | |
|--|---------------|--|--------------------|
| | fi-800R | fi-8190 fi-8170 fi-8150 fi-8150U fi-7180 fi-7160 fi-7140 | fi-8040 fi-7030 |
| Listing the scanners that are connected -L or --list-devices | ✓ | ✓ | ✓ |
| Specifying a scanner -d or --device-name | ✓ | ✓ | ✓ |
| Displaying the Help information -h or --help | ✓ | ✓ | ✓ |
| Displaying the version of the management tool -V or --version | ✓ | ✓ | ✓ |
| Displaying the scanner information --info | ✓ | ✓ | ✓ |
| Clearing the number of sheets scanned after cleaning --after-cleaning-clear | ✓ | ✓ | ✓ |
| Clearing the counter number for the pad unit --pad-clear | ✓ | – | – |
| Clearing the counter number for the brake roller --brake-roller-clear | – | ✓ | ✓ |
| Clearing the counter number for the pick roller --pick-roller-clear | ✓ | ✓ | ✓ |
| Setting the waiting time before the scanner enters power saving mode --sleep timer | ✓ | ✓ | ✓ |
| Setting the time period before the scanner is automatically turned off when it is left unused --power-off | ✓ | ✓ | ✓ |
| Setting the front offset value in U-turn Scan for main scanning (widthways) --u-turn-front-offset-main | ✓ | – | – |

| Function (Option) | Scanner Model | | |
|---|---------------|--|--------------------|
| | fi-800R | fi-8190 fi-8170 fi-8150 fi-8150U fi-7180 fi-7160 fi-7140 | fi-8040 fi-7030 |
| Setting the front offset value in U-turn Scan for sub scanning (lengthways) --u-turn-front-offset-sub | ✓ | – | – |
| Setting the front offset value in Return Scan for main scanning (widthways) --return-front-offset-main | ✓ | – | – |
| Setting the front offset value in Return Scan for sub scanning (lengthways) --return-front-offset-sub | ✓ | – | – |
| Setting the rear offset value in U-turn Scan for main scanning (widthways) --u-turn-back-offset-main | ✓ | – | – |
| Setting the rear offset value in U-turn Scan for sub scanning (lengthways) --u-turn-back-offset-sub | ✓ | – | – |
| Setting the rear offset value in Return Scan for main scanning (widthways) --return-back-offset-main | ✓ | – | – |
| Setting the rear offset value in Return Scan for sub scanning (lengthways) --return-back-offset-sub | ✓ | – | – |
| Setting the front offset value in the ADF for main scanning (widthways) --adf-front-offset-main | – | ✓ | ✓ |
| Setting the front offset value in the ADF for sub scanning (lengthways) --adf-front-offset-sub | – | ✓ | ✓ |
| Setting the ADF front offset value for the bottom edge of the document --adf-front-offset-end-of-page | – | – | ✓ |
| Setting the rear offset value for the ADF for main scanning (widthways) | – | ✓ | ✓ |

| Function (Option) | Scanner Model | | |
|--|---------------|--|--------------------|
| | fi-800R | fi-8190 fi-8170 fi-8150 fi-8150U fi-7180 fi-7160 fi-7140 | fi-8040 fi-7030 |
| --adf-back-offset-main | | | |
| Setting the rear offset value in the ADF for sub scanning (lengthways) --adf-back-offset-sub | – | ✓ | ✓ |
| Setting the ADF rear offset value for the bottom edge of the document --adf-back-offset-end-of-page | – | – | ✓ |
| Adjusting the U-turn Scan magnification level for sub scanning (lengthways) --u-turn-magnification-adjustment | ✓ | – | – |
| Adjusting the Return Scan magnification level for sub scanning (lengthways) --return-magnification-adjustment | ✓ | – | – |
| Adjusting the ADF magnification level for sub scanning (lengthways) --adf-magnification-adjustment | – | ✓ | ✓ |

✓:Supported

–: Not supported

Messages and Return Values

This section describes the message format and return values of the management tool.

Message Format

The message format of the management tool is shown below:

```
pfufsconsumables: message
```

Procedure for Obtaining a Return Value

The procedure for obtaining a return value of the management tool is shown below:

- 1 In Finder, select [Applications] → [Utilities] and double-click [Terminal].**

The Terminal window appears.

Commands (string of characters) can be entered directly in the Terminal window.

- 2 Run a command with an option for the management tool.**

- 3 Run the following command on the same Terminal window.**

```
echo $?
```

| Return Value | Description |
|-----------------------|---|
| 0x00 | Applying the specified settings or clearing the counter was successfully completed. |
| Value other than 0x00 | An error has occurred. Applying the specified settings or clearing the counter failed. |

Maintenance Information Obtaining Command

To obtain the system information which is required during maintenance, use the Maintenance Information Obtaining command.

Procedure for Obtaining Maintenance Information

The procedure for obtaining maintenance information with the Maintenance Information Obtaining command is shown below:

HINT

Administrator privileges for a computer are required for a user to use the Maintenance Information Obtaining command. Log in as a user with administrator privileges.

- 1 In Finder, select [Applications] → [Utilities] and double-click [Terminal].**

The Terminal window appears.

Commands (string of characters) can be entered directly in the Terminal window.

- 2 Enter and run the following command.**

```
sudo /opt/pfufs/etc/pfufssysinfo.sh
```

- 3 Enter a password for a user with administrator privileges and press the [Enter] key on the keyboard.**

The system information that is necessary for maintenance is saved into the home directory with the following file name:

Path: /Users/(user name)

File name: pfufssysinfo.txt



```
— zsh — 80x24
Last login: Thu Dec 2 15:34:14 on ttys000
[redacted] ~ % sudo /opt/pfufs/etc/pfufssysinfo.sh
Password:
***
It is successful to collect logs.
[redacted] ~ %
```

Information That Can Be Obtained

Information that can be obtained with the Maintenance Information Obtaining command is shown below:

- System date
- Kernel information
- Operating system version
- Memory information
- USB device information
- System log

Customer Support

- **Contacts for Inquiries**

For inquiries regarding an Image Scanner fi Series, refer to the following website:

| | |
|------------------------------|---|
| Contact for Inquiries | https://www.pfu.ricoh.com/global/scanners/fi/support/ |
|------------------------------|---|

If you cannot find the information for inquiries on the above website, refer to the website below:

| | |
|------------------------------|---|
| Contact for Inquiries | https://www.pfu.ricoh.com/fi/r/ctl/ |
|------------------------------|---|

Appendix

References for Developing an Application for Scanning an Image with ICA Driver Functions

Details of ICA (Image Capture Architecture) can be confirmed below:
Read them as needed.

- **Image Capture Applications**

You can obtain the information about the overview of ICA and how to create an application with the ICA driver.

<https://developer.apple.com/library/content/documentation/Carbon/Conceptual/ImageCaptureServicesProgrammingGuide/01Introduction/01Introduction.html>

- **Sample code**

You can refer to a sample source of a sample application which scans a document with a scanner (ICA driver).

https://developer.apple.com/library/archive/samplecode/ScannerBrowser/Listings/ReadMe_txt.html

The distributor/dealer where you purchased our scanners cannot respond to inquiries on the above content.

Make an inquiry by visiting the "Apple Developer" support page on the website of Apple Inc.