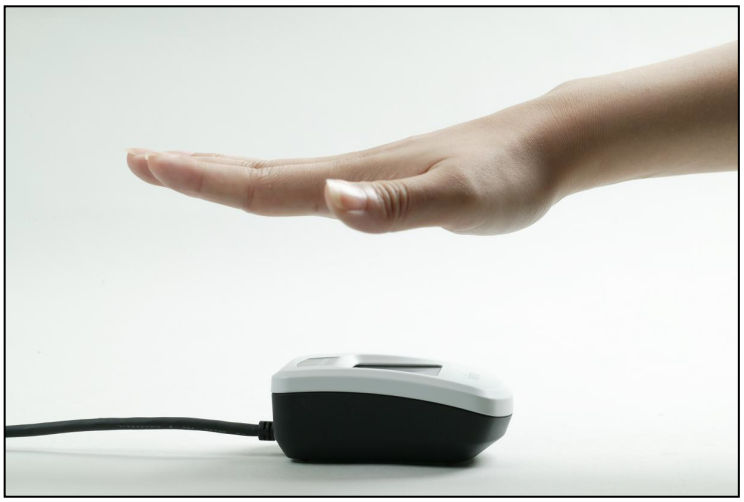
PalmSecure

U4PS-LC42-01ENZ3

PalmSecure™ SDK V02

Sensor Driver

Installation Guide



FUJITSU

◆ Revision History

Revision	Issued Date	Revised Page	Modification Details
1st Rev.	Oct 2013	Entire document	Newly created

◆ Introduction

Thank you for purchasing PalmSecure™ SDK V02 (hereinafter called "this product").
This document describes how to install the Sensor driver for users who have the following knowledge:

- Basic knowledge of Windows or Linux operations

Screens shown in this document may be a little different from the screens actually displayed depending on your environment.

October 2013

October 2013 : First Edition

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◆ Composition of This Document

This document consists of the following four sections (six chapters).

Section/Chapter Title	Description
Section Ⅰ Overview	
Chapter 1 Preliminary Steps before Installing the Sensor Driver	Describes things that you should know before installing the Sensor driver.
Section Ⅱ Conventional Sensor Driver (Windows Version)	
Chapter 2 Installing the Sensor Driver by Using Installer Version	Describes how to install the Sensor driver by using Installer version.
Chapter 3 Installing the Sensor Driver Manually by Using Archive Version	Describes how to install the Sensor driver manually by using Archive version.
Chapter 4 Applying Modification to the Sensor Driver Manually which is Installed by Using Archive Version	Describes how to apply modification to the Sensor driver manually which is installed by using Archive version.
Section Ⅲ Sensor Driver for Extended Function (Windows Version)	
Chapter 5 Installing the Sensor Driver for Extended Function (Windows Version)	Describes how to install the Sensor driver for extended function for Windows.
Section Ⅳ Sensor Driver for Extended Function (Linux Version)	
Chapter 6 Installing the Sensor Driver for Extended Function (Linux Version)	Describes how to install the Sensor driver for extended function for Linux.

◆ Abbreviations and Common Terms

Abbreviations and common terms used in this document are as follows:

Abbreviation/ Common Term	Description
This product	Abbreviation for "PalmSecure™ SDK V02".
PalmSecure Sensor	Abbreviation for "PalmSecure™ Sensor".
PalmSecure Sensor V2	Abbreviation for "PalmSecure™ Sensor V2". This Sensor is the successor of PalmSecure Sensor.
Sensor	Common term for "PalmSecure Sensor" and "PalmSecure Sensor V2".
Windows XP	Abbreviation for "Microsoft® Windows® XP".
Windows Vista	Abbreviation for "Microsoft® Windows Vista®".
Windows 7	Abbreviation for "Microsoft® Windows® 7".
Windows 8	Abbreviation for "Microsoft® Windows® 8".
Windows 8.1	Abbreviation for "Microsoft® Windows® 8.1".
Windows	Common term for "Windows XP", "Windows Vista", "Windows 7", "Windows 8", and "Windows 8.1".
Authentication library	Abbreviation for "Authentication library V32 (Professional Edition)".
"Authentication Library Reference Guide"	Abbreviation for the "Authentication Library V32 Reference Guide".

◆ Notations

The following symbols are used in this document.

Symbol	Description
!Caution	Describes things that you have to look out for. You must read it.
★Tip	Provides reference information. Read it as necessary.
>See>	Indicates an item to be referred.
Operation	Describes operation procedures.
[ ] button	Indicates a button displayed on the screen.

◆ Table of Contents

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Sensor Driver for Extended Function

(Linux Version)

Section I

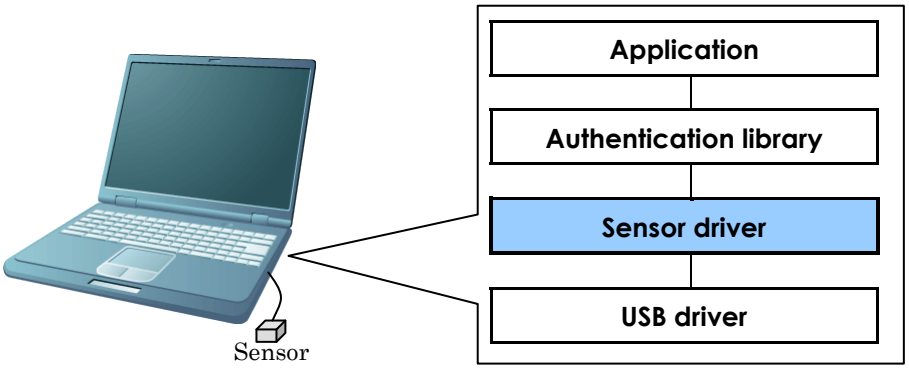
Overview

Chapter1 Preliminary Steps before Installing the Sensor Driver

1.1 Overview of the Sensor Driver

The Sensor driver enables the Sensor's operations.

The figure shown below indicates the position of the Sensor driver.



There are three types of Sensor drivers as follows.

- Conventional Sensor driver for Windows
- Sensor driver for extended function for Windows
- Sensor driver for extended function for Linux

◆ Conventional Sensor Driver (Windows Version)

This is the previous Sensor driver that was supplied with PalmSecure™ SDK since V01.

This Sensor driver does not have a WHQL (Windows Hardware Quality Lab) signature.

The conventional Sensor driver for Windows can be used for both PalmSecure Sensor and PalmSecure Sensor V2; however, extended functions of the Sensor are not available if you use this Sensor driver.

>See> For information on extended functions of the Sensor, refer to the "System Development Guide".

There are two types of conventional Sensor driver for Windows as follows.

Select one which is more suitable for your requirements.

- **Installer version (Execution file form)**

  Use this in case installing the Sensor driver first.

  The following table indicates installers included in the installer version and their names.

Installer version	Installer Name
Windows(x86) version	Setup.exe
Windows(x64) version	Setup.exe

>See> For details of the installer version, refer to “Chapter2 Installing the Sensor Driver by Using Installer Version”.

- **Archive version**

  Use this in case installing the Sensor driver manually or in case applying modification to the installed Sensor driver manually.

  The following table indicates installers included in the archive version and their names.

Archive version	File name
Windows(x86) version	fdpvusb.inf fdpvusb.sys fpvbusb.dll
Windows(x64) version	fdpvusb.inf fpvbusb.dll fpvwrp.dll

>See> For details of the archive version, refer to “Chapter3 Installing the Sensor Driver Manually by Using Archive Version” or “Chapter4 Applying Modification to the Sensor Driver Manually which is Installed by Using Archive version”.

★Tip **About making your own installer by using Archive version.**
You can also make your own integrated installer which puts the application, the Authentication Library and the Sensor driver together in case using Archive version. In case making your own installer, refer to “Chapter3 Installing the Sensor Driver Manually by Using Archive Version”.

◆ Sensor Driver for Extended Function (Windows Version)

This is the Sensor driver for extended function.

This Sensor driver is a WHQL (Windows Hardware Quality Lab) signed driver.

>See> For information on extended functions of the Sensor, refer to the "System Development Guide".

You can use the Sensor driver for extended function for Windows when you are connecting PalmSecure Sensor V2.

The Sensor driver for extended function for Windows is provided as an installer (MSI package).

The following table indicates installers of the Sensor driver for extended function for Windows and their names.

Sensor driver for extended function for Windows	Installer Name
Windows(x86) version	PSSD_32.msi
Windows(x64) version	PSSD_64.msi

>See> For details of the Sensor driver for extended function for Windows, refer to “Chapter5 Installing the Sensor Driver for Extended Function (Windows Version)”.

◆ Sensor Driver for Extended Function (Linux Version)

This is the Sensor driver for extended function.

The Sensor driver for extended function for Linux can be used for both PalmSecure Sensor and PalmSecure Sensor V2; however, Sensor's extended function is not available if you connect a PalmSecure Sensor.

>See> For information on the extended function of the Sensor, refer to the "System Development Guide".

The Sensor driver for extended function for Linux is provided as the source code.

The following table indicates the provided Sensor driver for extended function for Linux and their files.

Sensor driver for extended function for Linux	File name
Linux (x86) version	Makefile fjveincam.c fjveincam.h

!Caution **About Sensor driver for extended function for Linux**

Operations of the Sensor driver for extended function for Linux are not guaranteed in customers' environments. It is customers' responsibility to verify the operations.

>See> For details of the Sensor driver for extended function for Linux, refer to "Chapter6 Installing the Sensor Driver for Extended Function (Linux Version)".

1.2 Hardware and Software Requirements

The following describes hardware and software requirements for installing the Sensor driver.

◆ Conventional Sensor Driver (Windows Version)

Hardware and Software Requirements		Description
Hardware Requirement	CPU	Intel® Core™ 2 Duo 2.40GHz or more Intel® ULV Celeron® 650MHz or more for Windows XP (Note 1) (must also comply with the recommended value for the given OS)
	Memory (Note 2)	x86 version : 1GB or more x64 version : 2GB or more However, 256 MB or more for Windows XP (must also comply with the recommended value for the given OS)
	USB	USB 2.0 only
	HDD space (Note 3)	3 MB or more
	Sensor	・PalmSecure Sensor ・PalmSecure Sensor V2
		For information on the firmware version level on the Sensor unit, refer to the "System Development Guide".
Software Requirement	OS (Note 4)	・Windows XP SP3 (x86) ・Windows Vista SP2 (x86 and x64) ・Windows 7 SP1 (x86 and x64)
	Sensor driver (Note 5)	Download the latest version from the SDK Support Website

Note 1) Use an Intel® Core™ 2 Duo 2.40GHz or faster CPU when identifying or using the detailed information notification function for the guidance image display.

>See> For information on the identification, refer to the “System Development Guide” and “Authentication Library Reference Guide”.

>See> For information on the detailed information notification function for the guidance image display, refer to the "Authentication Library Reference Guide".

Note 2) The Sensor driver requires 3MB or more memory.

3MB is required for each Sensor (2 Sensors require 6MB) when connecting multiple Sensors.

>See> For information on multiple Sensor connection, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Note 3) Minimum required space for the Sensor driver.

3MB is required for each Sensor (2 Sensors require 6MB) when connecting multiple Sensors.

>See> For information on multiple Sensor connection, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Note 4) Operations of the Sensor driver are confirmed in the following environments.

Windows XP : Professional

Windows Vista : Ultimate

Windows 7 : Professional

Please verify the operations yourself if your environment is other than the above.

Operations have not been tested in virtual environments (such as XP mode in Windows 7). Please verify the operations yourself if you are using this product in a virtual environment.

Note 5) The downloaded Sensor driver is compressed. Extract them using an extract tool.

★Tip **USB driver**

The USB driver is included in the OS as part of the operating system.

◆ Sensor Driver for Extended Function (Windows Version)

Hardware and Software Requirements		Description
Hardware Requirement	CPU	Intel® Core™ 2 Duo 2.40GHz or more (must also comply with the recommended value for the given OS)
	Memory (Note 1)	x86 version：1GB or more x64 version：2GB or more However, 256 MB or more for Windows XP (must also comply with the recommended value for the given OS)
	USB	USB 2.0 only
	HDD space (Note 2)	9 MB or more
	Sensor	・PalmSecure Sensor V2
		For information on the firmware version level on the Sensor unit, refer to the "System Development Guide".
Software Requirement	OS (Note 3)	・Windows XP SP3 (x86) ・Windows Vista SP2 (x86 and x64) ・Windows 7 SP1 (x86 and x64) ・Windows 8 (x86 and x64) ・Windows 8.1 (x86 and x64)
	Sensor driver (Note 4)	Download the latest version from the SDK Support Website

Note 1) The Sensor driver requires 4.5MB or more memory.

4.5MB is required for each Sensor (2 Sensors require 9MB) when connecting multiple Sensors.

>See> For information on multiple Sensor connection, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Note 2) Minimum required space for the Sensor driver.

9MB is required for each Sensor (2 Sensors require 18MB) when connecting multiple Sensors.

>See> For information on multiple Sensor connection, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Note 3) Operations of the Sensor driver are confirmed in the following environments.

Windows XP : Professional

Windows Vista : Ultimate

Windows 7 : Professional

Windows 8 : Pro

Windows 8.1 : Pro

Please verify the operations yourself if your environment is other than the above.

Operations have not been tested in virtual environments (such as XP mode in Windows 7). Please verify the operations yourself if you are using this product in a virtual environment.

Note 4) The downloaded Sensor driver is compressed. Extract them using an extract tool.

★Tip **USB driver**

The USB driver is included in the OS as part of the operating system.

◆ Sensor Driver for Extended Function (Linux Version)

Hardware and Software Requirements		Description
Hardware Requirement	CPU	Intel® Core™ 2 Duo 2.40GHz or more (must also comply with the recommended value for the given OS)
	Memory (Note 1)	1GB or more (must also comply with the recommended value for the given OS)
	USB	USB 2.0 only
	HDD space (Note 2)	3 MB or more
	Sensor	・PalmSecure Sensor ・PalmSecure Sensor V2
		For information on the firmware version level on the Sensor unit, refer to the "System Development Guide".
Software Requirement	OS (Note 3)	・Linux (x86) (kernel 2.6.32 or later)
	Sensor driver (Note 4)	Contact the sales representatives for the availability.

Note 1) The Sensor driver requires 3MB or more memory.

3MB is required for each Sensor (2 Sensors require 6MB) when connecting multiple Sensors.

>See> For information on multiple Sensor connection, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Note 2) Minimum required space for the Sensor driver.

3MB is required for each Sensor (2 Sensors require 6MB) when connecting multiple Sensors.

>See> For information on multiple Sensor connection, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Note 3) Operations of the Sensor driver are confirmed in the following environments.

Linux : CentOS 6.4 [kernel: 2.6.32-358.el6.i686, glibc: 2.12]

Please verify the operations yourself if your environment is other than the above.

Operations have not been tested in virtual environments.

Please verify the operations yourself if you are using this product in a virtual environment.

★Tip **USB driver**

The USB driver is included in the OS as part of the operating system.

Section Ⅱ

Conventional Sensor Driver

(Windows Version)

Chapter2 Installing the Sensor Driver by Using Installer Version

2.1 Installing the Sensor Driver in Windows XP / Vista / 7 Environments

This section describes how to install the Sensor driver in Windows XP / Vista / 7 environments by using Installer version.

!Caution **When the Sensor driver is already installed**
Uninstall the existing Sensor driver before the installation.

>See> For information on how to uninstall the Sensor driver, refer to "2.2 Uninstalling the Sensor Driver in Windows XP / Vista / 7 Environments".

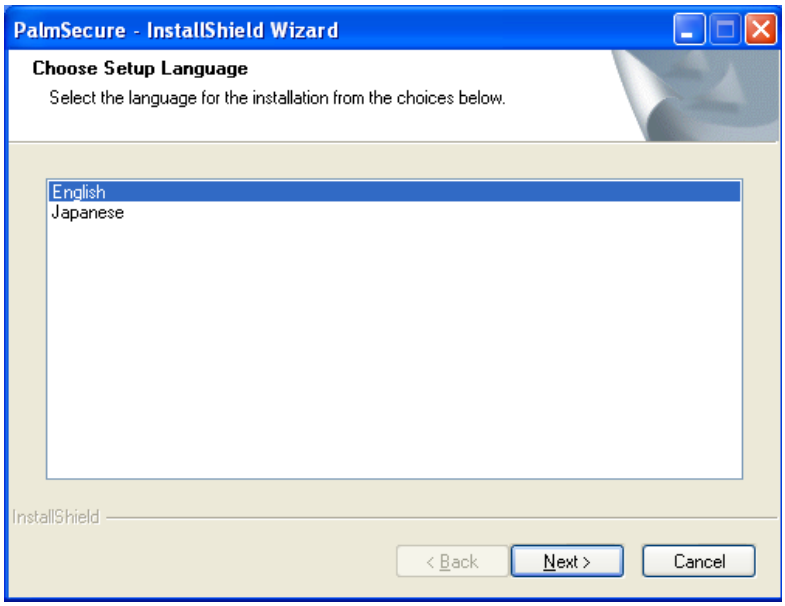
Operation

Step1 **Ensure that the Sensor is not connected to the target hardware.**

Step2 **Log in as Administrator.**

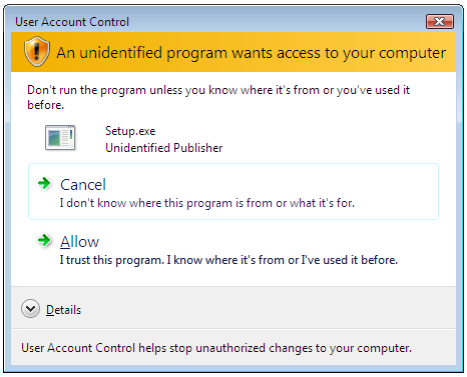
Step3 **Extract the downloaded installer version and copy the installer of the Sensor driver "Setup.exe" from the folder created by the extraction to any folder on the target hardware.**

Step4 **Double-click the Sensor driver installer (Setup.exe) that you copied to the target hardware.**
The installer launches and displays the Choose Setup Language screen.



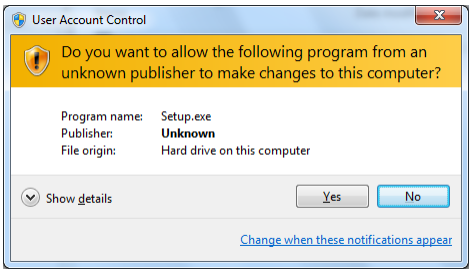
★Tip **A dialog box "An unidentified program wants access to your computer" is displayed**

The following dialog box is displayed when the installer starts in a Windows Vista environment.
Continue the process by selecting [Allow].



★Tip **A dialog box is displayed to ask permission for a program from an unknown publisher to make changes**

The following dialog box is displayed to ask permission for a program from an unknown publisher to make changes when the installer starts in a Windows 7 environment.
Continue the process by selecting [Yes].



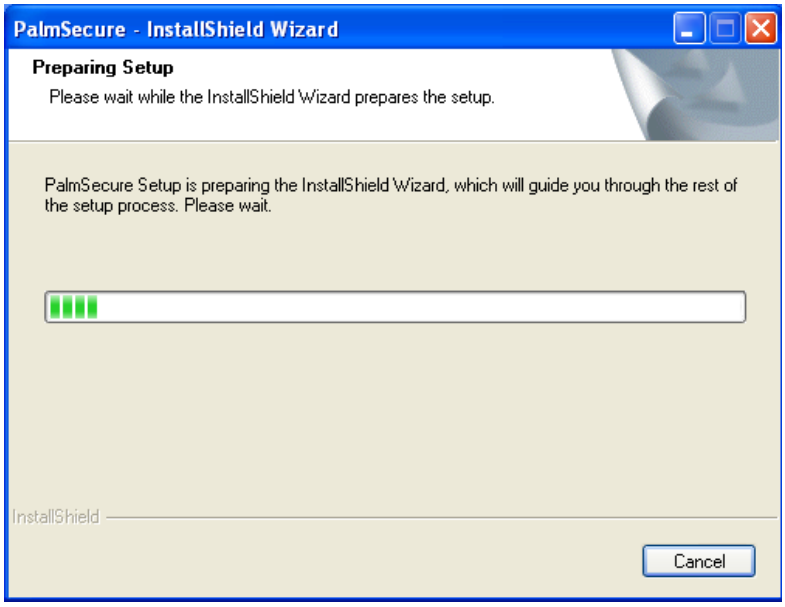
Step5 Select the language as necessary.

★Tip **Language selection**

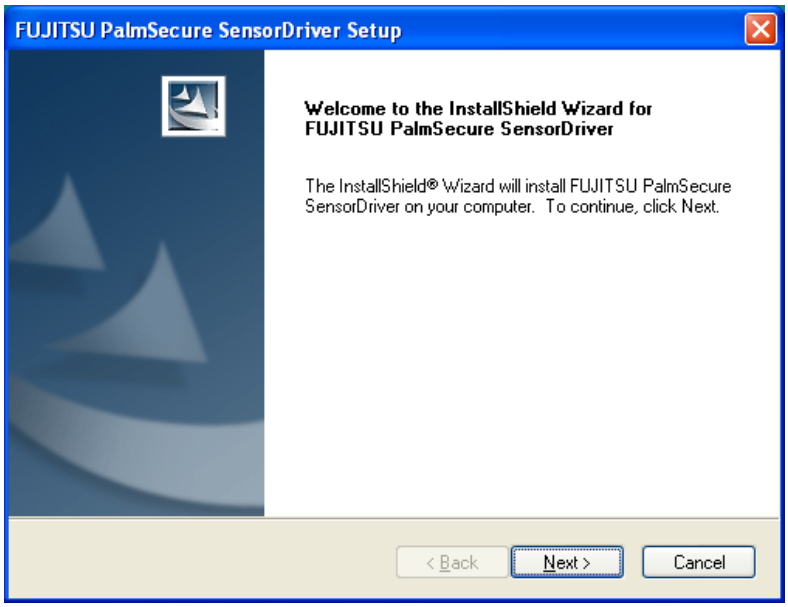
You can select either English or Japanese as the language used for setup. This document describes the procedure using screen shots taken from the case where the screens are displayed in English.

Step6 Click the [Next] button.

The Preparing Setup screen is displayed.

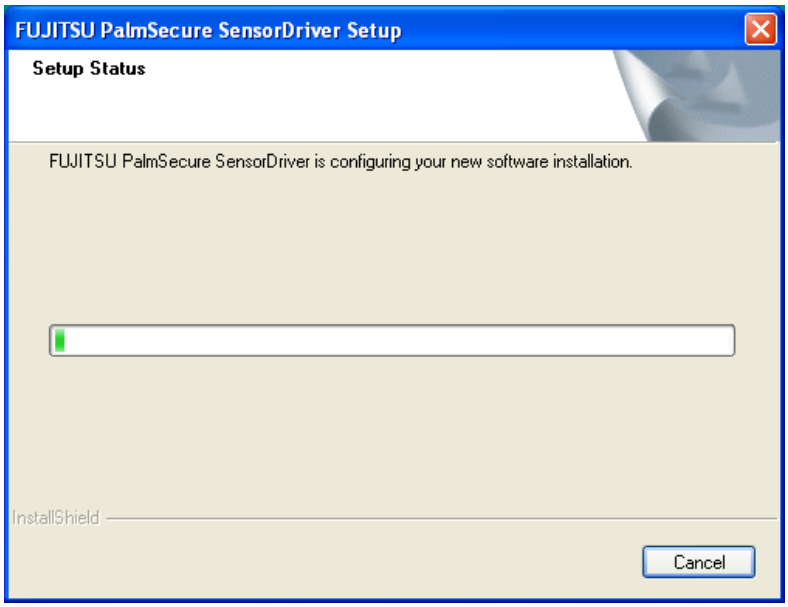


After the setup preparation is completed, the Welcome to the InstallShield Wizard screen shown below is displayed.



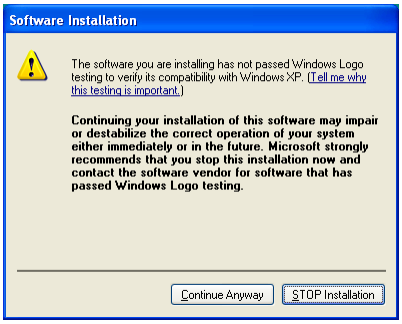
Step7 **Click the [Next] button.**

Installation of the Sensor driver is initiated, and the Setup Status screen is displayed.



★Tip **A warning dialog box whether or not to continue the installation is displayed**

The following warning dialog box is displayed when the installer starts in a Windows XP environment to warn whether or not to continue the installation.
Continue the process by clicking the [Continue Anyway] button.

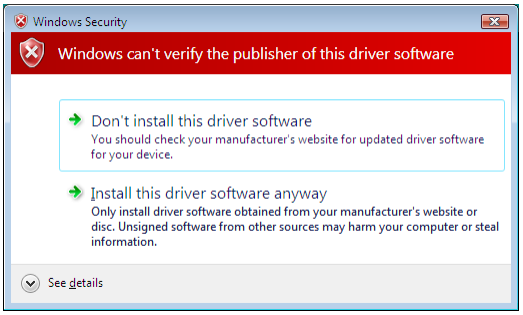


If the installation is cancelled by clicking the [STOP Installation] button, step 7 alone of the Sensor driver uninstallation procedure must be performed before the reinstallation.

>See> For information on how to uninstall the Sensor driver, refer to "2.2 Uninstalling the Sensor Driver in Windows XP / Vista / 7 Environments".

★Tip **A dialog box indicating that Windows can't verify the publisher is displayed**

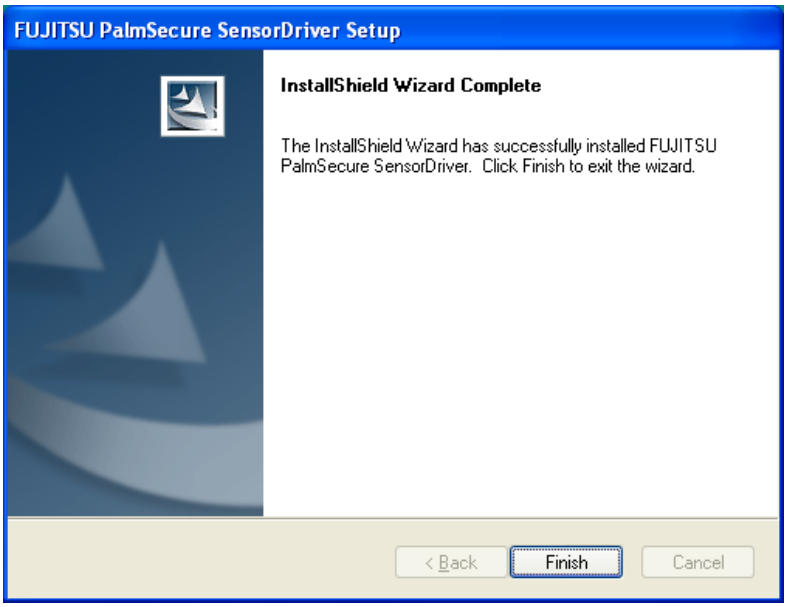
The following unverified publisher dialog box is displayed when the installer starts in a Windows Vista / 7 environment. Continue the process by selecting [Install this driver software anyway].



If the installation is cancelled by clicking the [Don't install this driver software] button, step 7 alone of the Sensor driver uninstallation procedure must be performed before the reinstallation.

>See> For information on how to uninstall the Sensor driver, refer to "2.2 Uninstalling the Sensor Driver in Windows XP / Vista / 7 Environments".

When the installation has been completed, the Installation Complete screen is displayed.



Step8 Click the [Finish] button.
The Installation Complete screen is closed.

Step9 Connect the Sensor to the target hardware.
>See> For information on how to connect the Sensor, refer to the "Sensor Instruction Manual" or " Mouse Type Sensor Instruction Manual".

When installing under Windows Vista / 7 environment, the Sensor is automatically detected. (You do not have to perform the procedure after Step 10.)

When installing under Windows XP environment, the initial screen of the Found New Hardware Wizard is displayed. Continue the procedure from Step 10.

★Tip **A message to confirm connection to Windows Update is displayed**

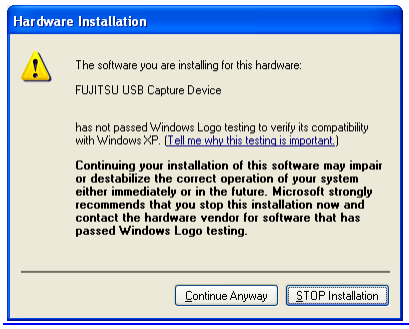
A message to confirm connection to Windows Update may be displayed at the beginning of the Found New Hardware Wizard screen in a Windows XP environment.
Select [No, not this time] and click the [Next] button.

Step10 Select [Install the software automatically (Recommended)], and click the [Next] button.

The OS detects the Sensor, and the Completing the Found New Hardware Wizard screen is displayed.

★Tip **A dialog box indicating that the driver has not passed the Windows Logo testing is displayed**

A dialog box indicating that the driver has not passed the Windows Logo testing may be displayed in a Windows XP environment.
In that case, click the [Continue Anyway] button to continue the process.



Step11 Click the [Finish] button.

The Completing the Found New Hardware Wizard screen is closed.

Step12 If there are multiple USB ports where the Sensor may be connected, the Sensor must be detected on each USB port. Disconnect the Sensor from the target hardware and repeat steps 9 to 11 again.

2.2 Uninstalling the Sensor Driver in Windows XP / Vista / 7 Environments

This section describes how to uninstall the Sensor driver in Windows XP / Vista / 7 environments.

Operation

Step1 **Ensure that the Sensor is connected to the target hardware.**

Step2 **Log in as Administrator.**

Step3 **Start Device Manager.**
<For Windows XP>
Select [System] from Control Panel, the [Hardware] tab and click the [Device Manager] button.
<For Windows Vista>
Select [System and Maintenance] from Control Panel, and select [Device Manager].
<For Windows 7>
Select [Hardware and Sound] from Control Panel, and select [Device Manager].

Step4 **Delete device information of the Sensor driver from Device Manager.**
<For Windows XP>
Right click [FUJITSU USB Capture Device] under [Universal Serial Bus controllers] and select [Uninstall] from the menu.
<For Windows Vista / 7 (x86)>
Right click [FUJITSU USB Capture Device] under [Universal Serial Bus controllers] and select [Uninstall] from the menu.
<For Windows Vista / 7 (x64)>
Right click [PalmSecure Sensor Device] under [PalmSecure] and select [Uninstall] from the menu.

Step5 **Click the [OK] button in the displayed dialog box.**

★Tip **A check box [Delete the driver software for this device] is displayed**
The [Delete the driver software for this device] check box may be displayed in a Windows Vista / 7 environment.
Check on the check box and click the [OK] button.

Step6 **When there are multiple USB ports which have been used to connect the Sensor, device information of the Sensor driver needs to be deleted from each USB port. Reconnect the Sensor to the target hardware and repeat steps 3 to 5.**

★Tip **If device information of the Sensor driver is not deleted**
The device information of the Sensor driver remains in Device Manager.
Even if a Sensor driver of a different version level is installed later, the previous device information of the Sensor driver including the version level information is not updated.

Step7 **Select [Add or Remove Programs] (for Windows XP), or [Programs and Features] or [Uninstall a program] (for Windows Vista / 7) from Control Panel. Follow the instructions on the screen to delete "FUJITSU PalmSecure Sensor driver".**

Step8 **Disconnect the Sensor and restart the target hardware.**

★Tip **The Found New Hardware Wizard is displayed**
The Found New Hardware Wizard may be displayed depending on the timing.
Click the [Cancel] button or ignore the wizard.

Chapter3 Installing the Sensor Driver Manually by Using Archive Version

3.1 Installing the Sensor Driver in Windows XP / Vista / 7 Environments Manually

This section describes how to install the Sensor driver in Windows XP / Vista / 7 environments by using Archive version manually.

Operation

Step1 **Ensure that the Sensor is not connected to the target hardware.**

Step2 **Log in as Administrator.**

Step3 **Extract the downloaded archive version and copy the following files from the folder created by the extraction to the hardware you want to install the Sensor driver.**

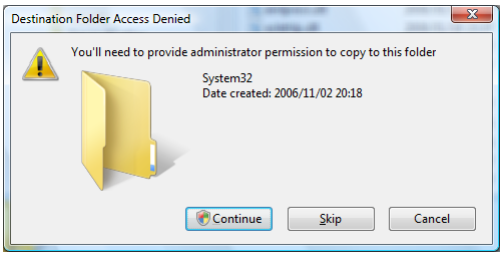
The copy files and the folders to which the files copied are below,

Copy File	Folder to which file is copied	
	Windows (x86) Environment	Windows (x64) Environment
fdpvusb.inf	WINDOWS\ system32\	WINDOWS\system32\
fdpvusb.sys	WINDOWS\system32\drivers\	—
fpvbusb.dll	WINDOWS\	WINDOWS\system32\
fpvwrp.dll	—	WINDOWS\system32\

★Tip

A [Destination Folder Access Denied] dialog box is displayed

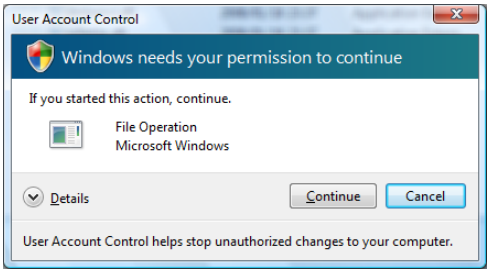
The following [Destination Folder Access Denied] dialog box may be displayed when copying the above files in a Windows Vista / 7 environment.
Continue the process by clicking the [Continue] button.



★Tip

A [User Account Control] dialog box is displayed

The following [User Account Control] dialog box may be displayed when copying the above files in a Windows Vista environment.
Continue the process by clicking the [Continue] button.



Step4 **Follow the procedure below to install "fdpvusb.inf" copied in step 3.**

<For Windows XP>

(1) Connect the Sensor to the target hardware.

>See> For information on how to connect the Sensor, refer to the "Sensor Instruction Manual" or "Mouse Type Sensor Instruction Manual".

(2) The [Welcome to the Found New Hardware Wizard] screen will be displayed. Select [Install from a list or specific location] and click the [Next] button.

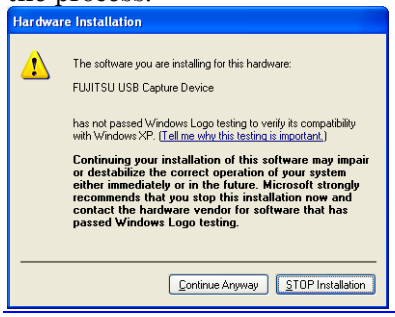
★Tip **A message to confirm connection to Windows Update is displayed**

A message to confirm connection to Windows Update may be displayed at the beginning of the Found New Hardware Wizard screen in a Windows XP environment.
Select [No, not this time] and click the [Next] button.

(3) Select [Search for the best driver in these locations.], check [Include this location in the search:] and specify "C:\WINDOWS\system32". Click the [Next] button.

★Tip **A dialog box indicating that the driver has not passed the Windows Logo testing is displayed**

A dialog box indicating that the driver has not passed the Windows Logo testing may be displayed in a Windows XP environment.
In that case, click the [Continue Anyway] button to continue the process.



(4) The [Completing the Found New Hardware Wizard] screen will be displayed. Click the [Finish] button.

(5) If there are multiple USB ports where the Sensor may be connected, the Sensor must be detected on each USB port. Disconnect the Sensor from the target hardware and repeat steps (1) to (4) again.

<For Windows Vista>

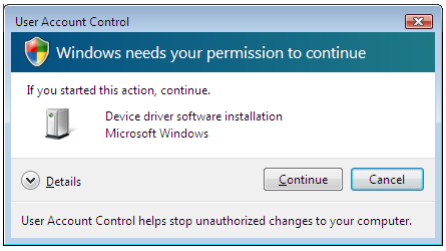
(1) Connect the Sensor to the target hardware.

>See> For information on how to connect the Sensor, refer to the "Sensor Instruction Manual" or "Mouse Type Sensor Instruction Manual".

(2) The [Windows needs to install driver software for your FUJITSU Imaging Device] screen will be displayed. Select [Locate and install driver software].

★Tip **A [User Account Control] dialog box is displayed**

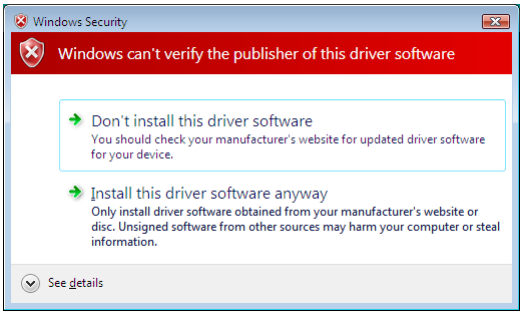
A [User Account Control] dialog box may be displayed in a Windows Vista environment.
Continue the process by clicking the [Continue] button.



(3) Select [Don't search online].
(4) Select [I don't have the disc. Show me other options.].
(5) Select [Browse my computer for driver software].
(6) Specify "C:\Windows\System32" in [Search for driver software in this location:] and click the [Next] button.

★Tip **A dialog box indicating that Windows can't verify the publisher is displayed**

The following unverified publisher dialog box is displayed when the installer starts in a Windows Vista environment.
Continue the process by selecting [Install this driver software anyway].



(7) A message [The software for this device has been successfully installed] will be displayed. Click the [Close] button.

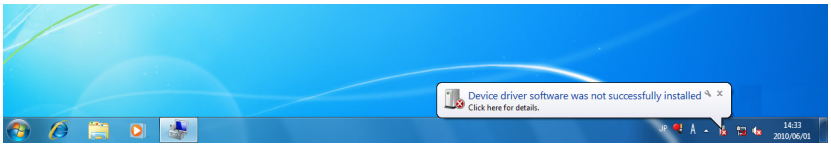
<For Windows 7>

(1) Connect the Sensor to the target hardware.

>See> For information on how to connect the Sensor, refer to the "Sensor Instruction Manual" or "Mouse Type Sensor Instruction Manual".

★Tip **A message is displayed at the bottom right of the screen to inform that the device driver cannot be installed**

The following message may be displayed at the bottom right of the screen to inform that the device driver cannot be installed in a Windows 7 environment; however, this does not cause any problems. Ignore the message and continue the process.



(2) Start Device Manager.
Select [Hardware and Sound] from Control Panel, and select [Device Manager].

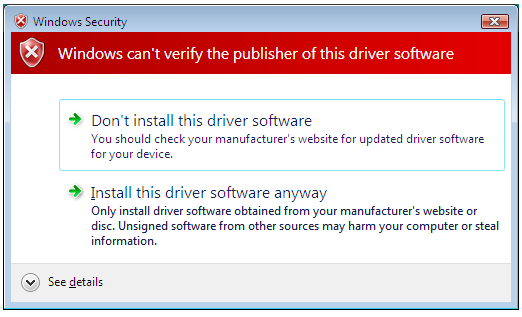
(3) Update the Sensor driver from Device Manager.
Double-click “FUJITSU Imaging Device” under [Other devices] and click [Update Driver].

(4) Select [Browse my computer for driver software].

(5) Specify "C:\Windows\System32" in [Search for driver software in this location:] and click the [Next] button.

★Tip **A dialog box indicating that Windows can't verify the publisher is displayed**

The following unverified publisher dialog box is displayed when the installer starts in a Windows 7 environment. Continue the process by selecting [Install this driver software anyway].



(6) A message [The software for this device has been successfully installed] will be displayed. Click the [Close] button.

★Tip **Installing "fdpvusb.inf" with a proprietary installer.**

There are the following methods.
<For Windows (x86)>
Use setupCopyOEMInf to install.
<For Windows (x64)>
Use DIFx API to install.

>See> For information on setupCopyOEMInf and DIFx API, refer to the MSDN Library Online Document.

★Tip **About the difference from install by using Installer version**

Manual install by using Archive version only put the Sensor driver. So “FUJITSU PalmSecure Sensor Driver” isn’t added to [Add or Remove Programs] (for Windows XP), or [Programs and Features] or [Uninstall a program] (for Windows Vista / 7) in Controll Panel” differently from install by using Installer version.
Though keys described below are created in the registry in case installing the Sensor driver by using Installer version, they aren’t created in case by using Archive version, but there is no problem.

<For Windows (x86)>
HKEY_LOCAL_MACHINE
- SOFTWARE
  - Fujitsu
    - FUJITSU PalmSecure SensorDriver
      - 1.1.0.4

<For Windows (x64)>
HKEY_LOCAL_MACHINE
- SOFTWARE
  - WOW6432Node
    - Fujitsu
      - FUJITSU PalmSecure SensorDriver
        - 2.0.0.2

3.2 Uninstalling the Sensor Driver in Windows XP / Vista / 7 Environments Manually

This section describes how to uninstall the Sensor driver in Windows XP / Vista / 7 environments manually.

Operation

Step1 **Ensure that the Sensor is connected to the target hardware.**

Step2 **Log in as Administrator.**

Step3 **Start Device Manager.**
<For Windows XP>
Select [System] from Control Panel, the [Hardware] tab and click the [Device Manager] button.
<For Windows Vista>
Select [System and Maintenance] from Control Panel, and select [Device Manager].
<For Windows 7>
Select [Hardware and Sound] from Control Panel, and select [Device Manager].

Step4 **Delete device information of the Sensor driver from Device Manager.**
<For Windows XP>
Right click [FUJITSU USB Capture Device] under [Universal Serial Bus controllers] and select [Uninstall] from the menu.
<For Windows Vista / 7 (x86)>
Right click [FUJITSU USB Capture Device] under [Universal Serial Bus controllers] and select [Uninstall] from the menu.
<For Windows Vista / 7 (x64)>
Right click [PalmSecure Sensor Device] under [PalmSecure] and select [Uninstall] from the menu.

Step5 **Click the [OK] button in the displayed dialog box.**

★Tip **A check box [Delete the driver software for this device] is displayed**
The [Delete the driver software for this device] check box may be displayed in a Windows Vista / 7 environment.
Check on the check box and click the [OK] button.

Step6 **When there are multiple USB ports which have been used to connect the Sensor, device information of the Sensor driver needs to be deleted from each USB port. Reconnect the Sensor to the target hardware and repeat steps 3 to 5.**

★Tip **If device information of the Sensor driver is not deleted**
The device information of the Sensor driver remains in Device Manager.
Even if a Sensor driver of a different version level is installed later, the previous device information of the Sensor driver including the version level information is not updated.

★Tip **Uninstalling "fdpvusb.inf"**
<For Windows XP>
There is no method available to manually uninstall "fdpvusb.inf".Though "fdpvusb.inf" information remains, this does not cause any problems.
If uninstalling "fdpvusb.inf" using any means other than manual uninstallation, refer to information described in "Tip Uninstalling "fdpvusb.inf" with a proprietary uninstaller.".

<For Windows Vista / 7>
The uninstallation is already carried out if [Delete the driver software for this device] is checked in step 5.

★Tip **Uninstalling "fdpvusb.inf" with a proprietary uninstaller**
There are the following methods.
<For Windows (x86)>
(1) Use SetupCopyOEMInf to search the "oem*.inf" file corresponding to "fdpvusb.inf".
(2) Use SetupUninstallOEMInf to uninstall.

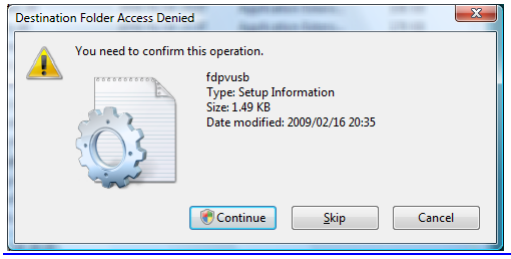
<For Windows (x64)>
(1) Use DIFx API to uninstall.

>See> For information on SetupCopyOEMInf, SetupUninstallOEMInf, and DIFx API, refer to the MSDN Library Online Document.

Step7 **Delete 3 files of the Archive version copied at the installation from the target hardware.**

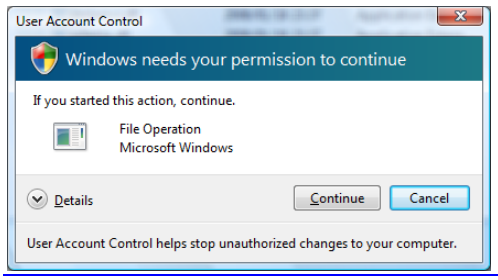
★Tip **A [Destination Folder Access Denied] dialog box is displayed**

The following [Destination Folder Access Denied] dialog box may be displayed when deleting the above files in a Windows Vista environment.
Continue the process by clicking the [Continue] button.



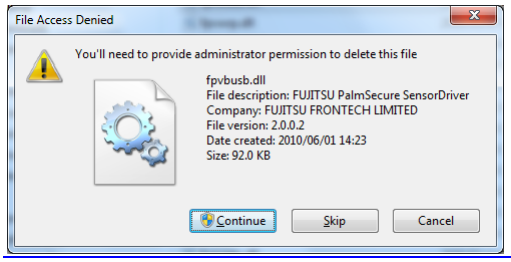
★Tip **A [User Account Control] dialog box is displayed**

The following [User Account Control] dialog box may be displayed when deleting the above files in a Windows Vista environment.
Continue the process by clicking the [Continue] button.



★Tip **A dialog box is displayed to inform that the file access was denied**

The following dialog box may be displayed to inform that the file access has been denied when deleting the above files in a Windows 7 environment.
Continue the process by clicking the [Continue] button.



Step8 Disconnect the Sensor.

★Tip

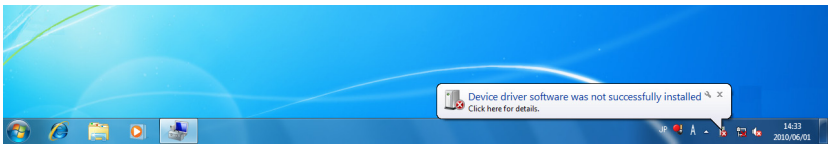
The Found New Hardware Wizard is displayed

The Found New Hardware Wizard may be displayed depending on the timing.
Click the [Cancel] button.

★Tip

A message is displayed at the bottom right of the screen to inform that the device driver cannot be installed

The following message may be displayed at the bottom right of the screen to inform that the device driver cannot be installed in a Windows 7 environment; however, this does not cause any problems. Ignore the message.



Chapter4 Applying Modification to the Sensor Driver Manually which is Installed by Using Archive version

4.1 Applying Modification to the Sensor Driver Installed in Windows XP / Vista / 7 Environments Manually

4.1 Applying Modification to the Sensor Driver Installed in Windows XP / Vista / 7 Environments Manually

This section describes how to apply modification to the Sensor driver installed in Windows XP / Vista / 7 environments by using Archive version manually.

!Caution **If a modification is applied manually**
Note that device information of the Sensor driver including the version level information displayed in Device Manager is not updated.

>See> For information how to check version level information of the Sensor driver, refer to the "System Development Guide".

Operation

Step1 **Ensure that the Sensor is not connected to the target hardware.**

★Tip **When you cannot take off the Sensor**
Ensure that the Sensor is out of use.

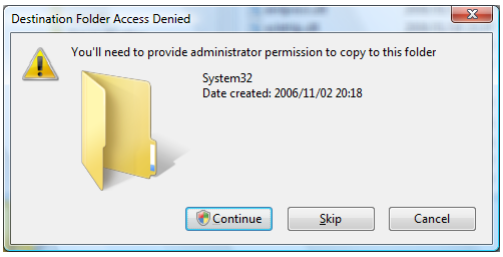
Step2 **Log in as Administrator.**

Step3 **Extract the downloaded archive version and copy the following files from the folder created by the extraction to the hardware where the Sensor driver is installed to overwrite the existing files.**
The copy files and the folders to which the files copied are below.

Copy File	Folder to which file is copied	
	Windows (x86) Environment	Windows (x64) Environment
fdpvusb.inf	WINDOWS\inf system32\	WINDOWS\system32\
fdpvusb.sys	WINDOWS\system32\drivers\	—
fpvbusb.dll	WINDOWS\	WINDOWS\system32\
fpvwrp.dll	—	WINDOWS\system32\

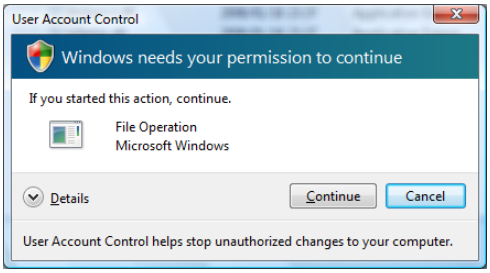
★Tip **A [Destination Folder Access Denied] dialog box is displayed**

The following [Destination Folder Access Denied] dialog box may be displayed when copying the above files in a Windows Vista / 7 environment.
Continue the process by clicking the [Continue] button.



★Tip **A [User Account Control] dialog box is displayed**

The following [User Account Control] dialog box may be displayed when copying the above files in a Windows Vista environment.
Continue the process by clicking the [Continue] button.



Step4 **Connect the Sensor to the target hardware.**

>See> For information on how to connect the Sensor, refer to the "Sensor Instruction Manual" or "Mouse Type Sensor Instruction Manual".

The Sensor is automatically detected.

★Tip **If the Sensor cannot be disconnected**

If the Sensor cannot be disconnected in step 1, restart the target hardware.

Section Ⅲ

Sensor Driver for Extended Function

(Windows Version)

Chapter5 Installing the Sensor Driver for Extended Function (Windows Version)

5.1 Installing the Sensor Driver for Extended Function (Windows Version) in Windows XP / Vista / 7 / 8 / 8.1 Environments

This section describes how to install the Sensor driver for extended function for Windows in Windows XP / Vista / 7 / 8 / 8.1 environments.

Operation

Step1 **Ensure that the Sensor is not connected to the target hardware.**

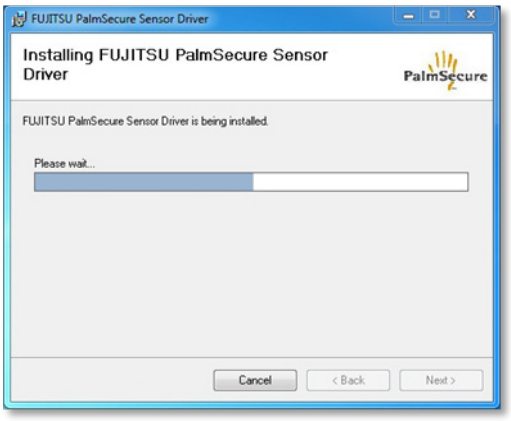
Step2 **Log in as Administrator.**

Step3 **Extract the downloaded Sensor driver and copy the installer of the Sensor driver "PSSD_32.msi" or "PSSD_64.msi" from the folder created by the extraction to any folder on the target hardware.**

Step4 **Double-click "PSSD_32.msi" or "PSSD_64.msi" on the target hardware.**
The installer launches and displays the Welcome screen.

Step5 **Click the [Next] button.**

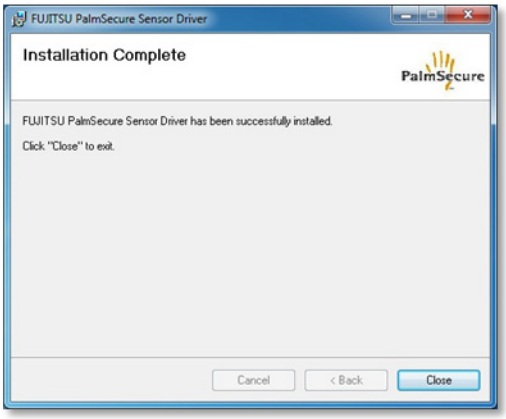
Installation of the Sensor driver starts and the screen shows that the installation is in progress.



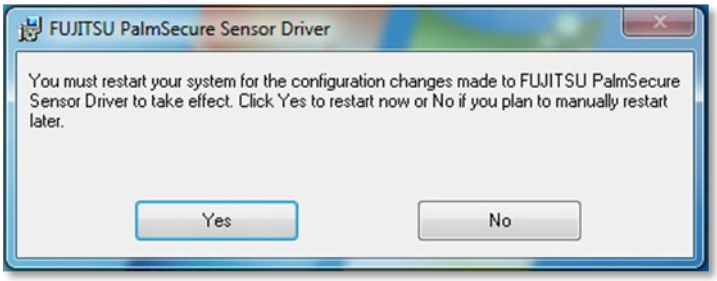
★Tip **A [User Account Control] dialog box is displayed**

A [User Account Control] dialog box may be displayed in Windows Vista / 7 / 8 / 8.1 environments.
Continue the process by clicking the [allow] or [yes] button.

When the installation is complete, the Installation Complete screen is displayed.



Step6 **Click the [Close] button.**
The Installation Complete screen disappears and the restart confirmation dialog box appears.



Step7 **Click the [Yes] button to restart the target hardware.**

Step8 **Connect the Sensor to the target hardware.**
The Sensor is automatically detected.

!Caution **Installing on Windows Vista**
The following operations are required in the initial installation after connecting the Sensor.
(1) When “Installing device driver software” is displayed at the bottom right of the screen, wait for a short while until “Device driver software installed successfully” is displayed.
(2) After that, a dialog box is displayed to prompt for a restart. Select “Restart Now” to restart the target hardware. A message is displayed to inform that update programs are being configured while restarting the target hardware. (This process takes several minutes.) The Sensor is ready when this process is complete and the target hardware is restarted.

Step9 **If there are multiple USB ports where the Sensor may be connected, the Sensor must be detected on each USB port. Disconnect the Sensor from the target hardware and repeat step 8 again.**

5.2 Uninstalling the Sensor Driver for Extended Function (Windows Version) in Windows XP / Vista / 7 / 8 / 8.1 Environments

This section describes how to uninstall the Sensor driver for extended function for Windows in Windows XP / Vista / 7 / 8 / 8.1 environments.

Operation

Step1 **Ensure that the Sensor is not connected to the target hardware.**

Step2 **Log in as Administrator.**

Step3 **Select [Add or Remove Programs] (for Windows XP), or [Programs and Features] or [Uninstall a program] (for Windows Vista / 7 / 8 / 8.1) from Control Panel. Follow the instructions on the screen to delete "FUJITSU PalmSecure Sensor Driver".**

★Tip **A [User Account Control] dialog box is displayed**
A [User Account Control] dialog box may be displayed in Windows Vista / 7 / 8 / 8.1 environments.
Continue the process by clicking the [allow] or [yes] button.

Step4 **Restart the target hardware.**

5.3 Considerations and Notes

This section explains the issues to be considered when using the Sensor driver for extended function for Windows.

◆ When Connecting a PalmSecure Sensor

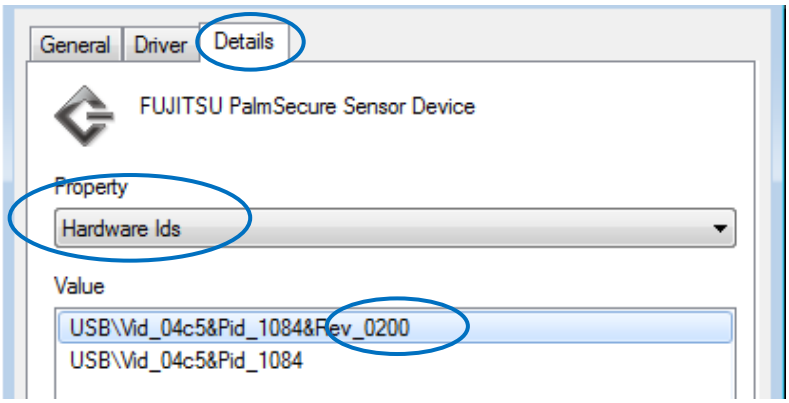
The Sensor driver for extended function for Windows is exclusively for the PalmSecure Sensor V2. Do not connect a PalmSecure Sensor on target hardware on where you have installed the Sensor driver for extended function for Windows. An error occurs in the Sensor start sequence if you attempt to start the Authentication library while a PalmSecure Sensor is connected. Also, if you once connect a PalmSecure Sensor, the PalmSecure Sensor V2 may not operate properly when you re-connect it again since information on the PalmSecure Sensor has been created in the Windows device information.
Repair the Sensor driver for extended function for Windows as follows if the Sensor has stopped operating properly due to the above reason.

Operation

Step1 Check that a PalmSecure Sensor V2 is connected as follows.

(1) Right click device information of the Sensor driver in Device Manager and select [Properties] from the displayed menu.

(2) Select the [Details] tab in the displayed screen.



(3) Select [Hardware Ids] for [Property] on the [Details] tab.

(4) Check the [Value] to ensure that the PalmSecure Sensor V2 is connected. ("Rev_0200" indicates that a PalmSecure Sensor V2 is connected.)

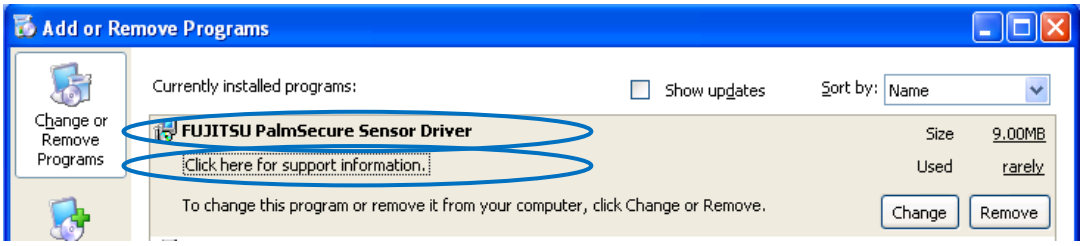
Step2 If a PalmSecure Sensor V2 is not connected, connect it and repeat Step 1.

Step3 Repair the Sensor driver for extended function for Windows as follows.

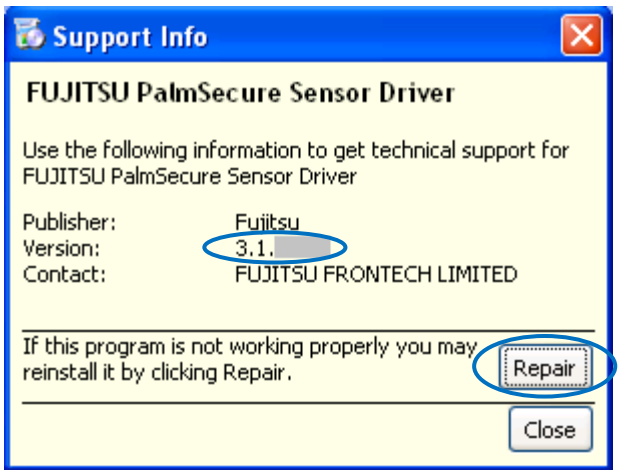
<For Windows XP>

(1) Select [Add or Remove Programs] from Control Panel.

(2) Select [FUJITSU PalmSecure Sensor Driver] from the displayed screen.



(3) Click [Click here for support information] to display the support information.



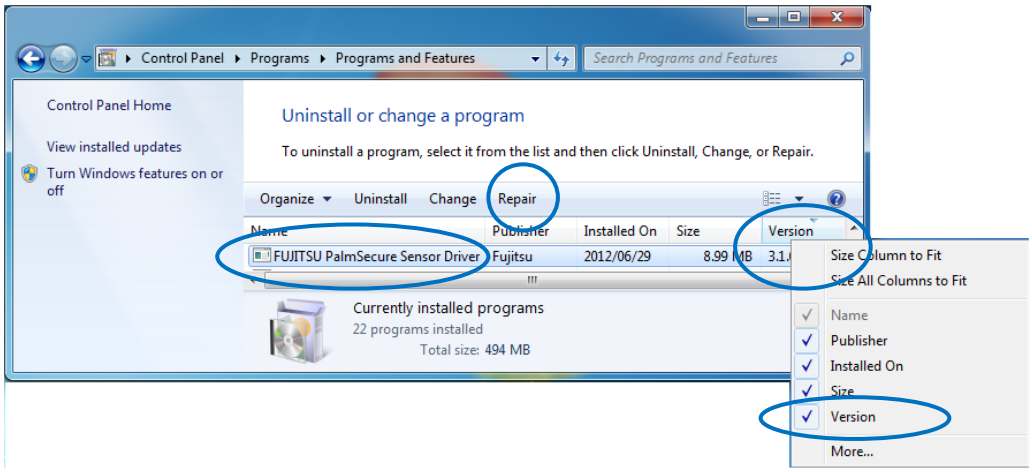
(4) Check [Version] to confirm that is the Sensor driver for extended function for Windows. (“3.1.xxxx” indicates the Sensor driver for extended function for Windows.)

(5) Click the [Repair] button at the bottom right of the screen to repair the Sensor driver for extended function for Windows.

<For Windows Vista / 7 / 8 / 8.1>

(1) Select [Programs and Features] from Control Panel.

(2) Select [FUJITSU PalmSecure Sensor Driver] from the displayed screen.



(3) Check [Version] to confirm that is the Sensor driver for extended function for Windows. (“3.1.xxxx” indicates the Sensor driver for extended function for Windows.)

★Tip **If [Version] is not displayed**
Right click the [Name] column and select [Version] from the displayed menu.

(4) Click [Repair] from the toolbar to repair the Sensor driver for extended function for Windows.

Section Ⅳ

Sensor Driver for Extended Function

(Linux Version)

Chapter6 Installing the Sensor Driver for Extended Function (Linux Version)

6.1 Building the Sensor Driver for Extended Function (Linux Version)

The Sensor driver for extended function for Linux is provided as the source code. Modify and build the source code for the Senor driver for extended function for Linux before installing on the target hardware.

!Caution **Kernel configuration**
The driver does not support kernels which are configured to automatically assign minor numbers to USB devices.
Do not set the CONFIG_USB_DYNAMIC_MINORS macro when implementing the kernel.

The following steps describe how to modify and build the source code for the Sensor driver for extended function for Linux.

Operation

Step1 **Install the kernel-devel package of the target kernel version.**
This step is not required if you have already installed.

Step2 **Enter the full path to the folder where Makefile of the kernel is stored to the following line within Makefile.**

```
KERNDIR = # Set your target kernel source path.(Full path)
```

↑
Enter the path here

Example) CentOS6.4 with the kernel version “2.6.32-358.el6.i686”.

```
KERNDIR = /usr/src/kernels/2.6.32-358.el6.i686
```

Step3 **Modify the source code “fjveincam.c” and “fjveincam.h” as required.**

Step4 **Build the source code.**
The module"fjveincam.ko" of the Sensor driver is created.

★Tip **Checking if the Sensor driver module"fjveincam.ko" is created**
You can check using the ls -l command.

```
-rw-rw-r-- 1 palmsec palmsec XXXXX Jan 23 16:09 fjveincam.ko
```

XXXXX: File size

6.2 Installing the Sensor Driver for Extended Function (Linux Version)

This section describes how to install the Sensor driver for extended function for Linux.

Operation

Step1 **Ensure that the Sensor is not connected to the target hardware.**

Step2 **Log in as a user with root privileges.**

Step3 **Use the "mkdir" command to create the "misc" folder under the "/lib/modules/(kernel version)/" folder on the target hardware.**
Command) mkdir /lib/modules/(kernel version)/misc

Step4 **Copy the Sensor driver module you created in "6.1 Building the Sensor Driver for Extended Function (Linux Version)" into the folder you created in Step 3.**
The following shows the file to be copied and the destination folder.

File to be copied	Copy destination folder
fjveincam.ko	/lib/modules/(kernel version)/misc

Step5 **Use the "mkdir" command to create a folder.**
Command) mkdir -p /dev/usb

Step6 **Use the "mknod" command to create a special file for sensor access "fjveincam0".**
<When connecting one Senor>
Command) mknod -m 666 /dev/usb/fjveincam0 c 180 160
<When connecting more than one Sensor> (e.g. 2 Sensors)
Command) mknod -m 666 /dev/usb/fjveincam0 c 180 160
mknod -m 666 /dev/usb/fjveincam1 c 180 161

>See> For information on multiple Sensor connections, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Step7 **Use the "depmod" command to update dependencies between kernel modules.**
Command) /sbin/depmod -a &> /dev/null

Step8 **Use the "modprobe" command to load the Sensor driver module "fjveincam".**
Command) /sbin/modprobe fjveincam

Step9 Add the following lines to the start-up script (ex. /etc/rc.d/rc.local) as necessary.

<When connecting one Senor>

```
mkdir -p /dev/usb
mknod -m 666 /dev/usb/fjveincam0 c 180 160
```

<When connecting more than one Sensor> (e.g. 2 Sensors)

```
mkdir -p /dev/usb
mknod -m 666 /dev/usb/fjveincam0 c 180 160
mknod -m 666 /dev/usb/fjveincam1 c 180 161
```

>See> For information on multiple Sensor connections, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Step10 Connect the Sensor to the target hardware.

>See> For information on how to connect the sensor, refer to the "Sensor Instruction Manual" or “Mouse Type Sensor Instruction Manual”.

The Sensor is automatically detected.

6.3 Uninstalling the Sensor Driver for Extended Function (Linux Version)

This section describes how to uninstall the Sensor driver for extended function for Linux.

Operation

Step1 **Disconnect the Sensor from the target hardware.**

Step2 **Log in as a user with root privileges.**

Step3 **Use the “rm” command to delete a special file for sensor access "fjveincam0”.**

<When connecting one Senor>
Command) rm /dev/usb/fjveincam0
<When connecting more than one Sensor> (e.g. 2 Sensors)
Command) rm /dev/usb/fjveincam0
rm /dev/usb/fjveincam1

>See> For information on multiple Sensor connections, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Step4 **Delete the following lines from the start-up script (ex. /etc/rc.d/rc.local) as necessary.**

<When connecting one Senor>
mkdir -p /dev/usb
mknod -m 666 /dev/usb/fjveincam0 c 180 160
<When connecting more than one Sensor> (e.g. 2 Sensors)
mkdir -p /dev/usb
mknod -m 666 /dev/usb/fjveincam0 c 180 160
mknod -m 666 /dev/usb/fjveincam1 c 180 161

>See> For information on multiple Sensor connections, refer to the "System Development Guide" and "Authentication Library Reference Guide".

Step5 **Use the “modprobe” command to delete the Sensor driver module “fjveincam”.**

Command) modprobe -r fjveincam

Step6 **Delete the following file copied under the "/lib/modules/(kernel version)/misc/" folder.**

Command) rm -rf /lib/modules/(kernel version)/misc/fjveincam.ko

Step7 **Use the “depmod” command to update dependencies between kernel modules.**

Command) /sbin/depmod -a &> /dev/null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