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# **Authentication Unit (Biometric Type AU-101)**

## ***User's Guide***

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# 1 Introduction

Thank you for choosing this device.

This User's Guide provides descriptions of the operating procedures and precautions for using Authentication Unit (Biometric Type) AU-101. Carefully read this User's Guide before using this device.

The actual screens that appear may be slightly different from the screen images used in this User's Guide.

Authentication Unit (Biometric Type) AU-101 is hereafter referred to as "this device".

Manual conventions

- **Caution:** This warns of a possibility of damage to this device.
- **Important:** This indicates instructions that should be followed to ensure correct functionality and efficiency of this device.

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## 1.1 Product features

This device is a biometric authentication system that performs user authentication by scanning vein patterns in a finger. Logon and print job operations can be authenticated with finger vein patterns when using multifunctional products with user authentication settings specified.

## 1.2 Prerequisites

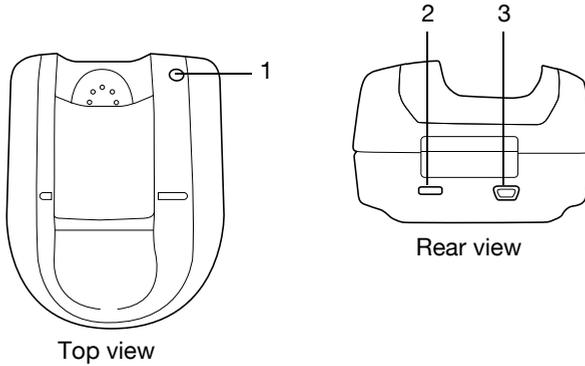
- Refer to “5 Specifications” on page 38.
- The optional local interface kit and working table must be installed on the multifunctional product.

**Note**

*In order to use this device, multifunctional product settings must be specified by the technical representative.*

## 2 Device description

### 2.1 Part names and their functions



No.	Part name	Description
1	Status indicator	Indicates this device's status.
2	Security slot	Used for connecting the security cable to prevent thefts. (complies with the security cable standards of the Kensington Computer Products Group)
3	USB port (type mini-B)	Used to connect a USB cable (mini-B plug).

The status of this device is indicated by a status indicator and tone.

Status indicator	Device status
Lit (green)	Standing by/authentication completed
Flashing (green)	Authenticating/scanning
Lit (red)	Authentication failed/scanning failed
Off	This device is not detected.

Tone	Device status
One short beep	Starting to scan
One short beep	Retrying after authentication failed
One short beep	Authentication completed
Two short beeps	Authentication failed

## 3 Using Authentication Unit (Biometric Type) AU-101

In order to use this device, user finger vein patterns must first be registered with the machine. A registered user can log on to a multifunctional product or print a print job after completing authentication with their finger vein patterns. The following procedures describe how to specify the necessary settings on the multifunctional product, register users, and perform the logon and print job operations after completing authentication.



### Note

*Align the index finger with the indentation and notch in the scanner, and then position the finger so that the tip lightly touches the edge of the scanner. Place your thumb and middle finger down to hold this device in place on both sides, and avoid moving the index finger being used for authentication.*

*For details on positioning the finger on this device, refer to the Quick Guide Authentication Unit (Biometric Type AU-101).*

### Important

- Do not place any object other than your finger in the scanner of this device while scanning, otherwise the device may malfunction.
- Do not disconnect the cable connecting the device to the computer while scanning, otherwise the system may become unstable.

## 3.1 Multifunctional product settings



### Detail

*User authentication on the multifunctional product must be set for machine authentication.*

- 1 From the control panel of the multifunctional product, touch [User Authentication/Account Track] on the Administrator Settings screen, and then touch [General Settings].

- 2 Set “User Authentication” to “ON (MFP)”, and then touch [OK].



### Reminder

*External server authentication is not supported.*

*When combined with account track settings, set “Synchronize User Authentication & Account Track” to “Synchronize”. If “Do Not Synchronize” is selected, the Touch & Print function cannot be used.*

- 3 Touch [Authentication Device Settings], then [General Settings], then [Bio Authentication].
- 4 Select the desired settings under “Beep Sound” and “Operation Settings”.



- Under “Beep Sound”, select whether or not a beep is produced when scanning of the finger vein pattern is completed successfully.

- Under “Operation Settings”, select the logon method after registration.  
1-to-many authentication: Logon is possible simply by positioning the finger.  
1-to-1 authentication: Logon is possible by entering a user name and positioning the finger. If users are registered with “1-to-1 authentication” selected, the Touch & Print function cannot be used.
- For details on logging on, refer to “Logging on to a multifunctional product” on page 23.

5 Touch [OK], and then touch [OK] in the next screen that appears.

6 Touch [Touch & Print Setting].



7 Select the printing method for the Touch & Print function.



- Print All Jobs: Select this setting to print all documents after completed authentication once when multiple documents are saved in the Touch & Print user box.
- Print Each Job: Select this setting to print one document saved in the Touch & Print user box each time authentication is completed.
- If “OFF” is selected, the Touch & Print function cannot be used.

- For details on the Touch & Print function, refer to “Touch & Print function” on page 25.
- 8 Touch [OK].
  - 9 Touch [Logoff Settings].
  - 10 Select whether or not the user is logged off when scanning of the document is finished after the user has logged on to this machine.



- 11 Touch [OK].
- 12 Touch [Close], and then touch [Close] in the next screen that appears.

## 3.2 Registering users

There are two methods for registering users.

- Connecting this device to the multifunctional product and registering directly from the multifunctional product
- Connecting this device to a computer and registering using Data Administrator



### Detail

*Registered user data is stored on the hard disk of the multifunctional product. If the user authentication method on the multifunctional product is changed or the hard disk is reformatted, the registered user data is erased.*

### 3.2.1 Registering from the control panel of the multifunctional product

- 1 From the control panel of the multifunctional product, touch [User Authentication/Account Track] on the Administrator Settings screen, and then touch [User Authentication Settings], then [User Registration].
- 2 Touch the button for a registration number, and then touch [Edit].



- 3 Touch [Register Auth. Info.].



## 4 Touch [Edit].



- 5 Position the finger on this device to scan the finger vein pattern.
- Scan the finger vein pattern three times, removing and repositioning the same finger, and touch [OK] after each time.



- 6 Touch [Close], and then touch [Close] in the next screen that appears.

- 7 Type the user name and the password.

- 8 If desired, specify the function limitations.

- 9 Touch [OK].

- 10 Touch [Close].

### 3.2.2 Registering from Data Administrator

In order to use Data Administrator, settings must be specified on the multifunctional product and the setup procedure must be performed. The setup procedure includes installing this device's BioDriver(USB-Driver), then installing Data Administrator Bio Plugin.



#### Reminder

*Data Administrator ver. 3.0 or later must first be installed on the computer. For details on the operating environment and installation procedure for Data Administrator, refer to the User's Guide for the Data Administrator.*

#### Setup

- 1 Turn off the multifunctional product with the main power switch, and then disconnect this device from the multifunctional product.
- 2 Install BioDriver(USB-Driver).  
Plug the cable from this device into the USB port on the computer. The Found New Hardware Wizard starts.
- 3 Select "Yes, now and every time I connect a device", and then click [Next].

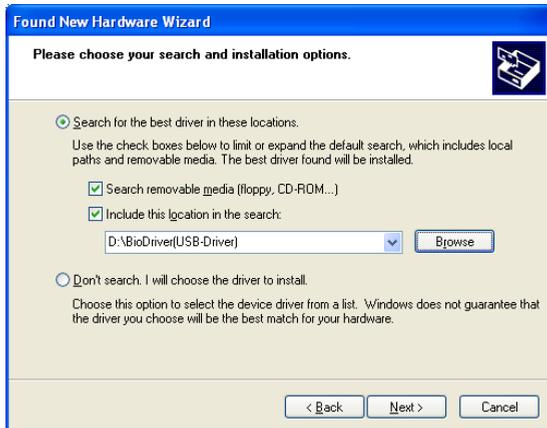


- 4 Insert the application CD-ROM included with this device into the CD-ROM drive of the computer.

- 5 Select “Install from a list or specific location (Advanced)”, and then click [Next].



- 6 Select the “Include this location in the search” check box, check that the application CD-ROM appears as a location to be searched, and then click [Next].



- If the application CD-ROM does not appear as a location to be searched for the driver, click [Browse], select the BioDriver (USB-Driver) folder on the CD-ROM, and then click [OK].



The installation begins.



- 7 Click [Finish].



- 8 Repeat steps 5 through 7.  
The installation of BioDriver(USB-Driver) is completed.

- 9 Install Data Administrator Bio Plugin.

Open the DA\_Bio\_Plugin folder on the application CD-ROM, and then click "setup.exe".

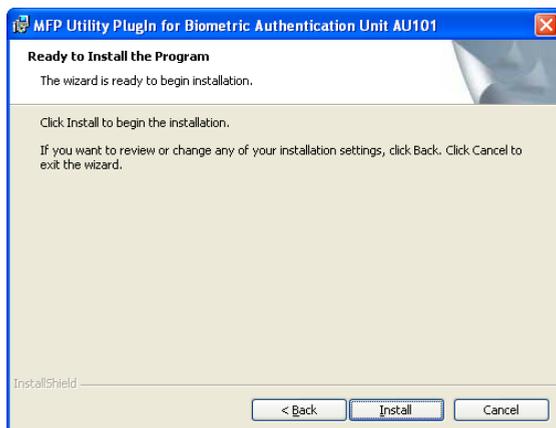
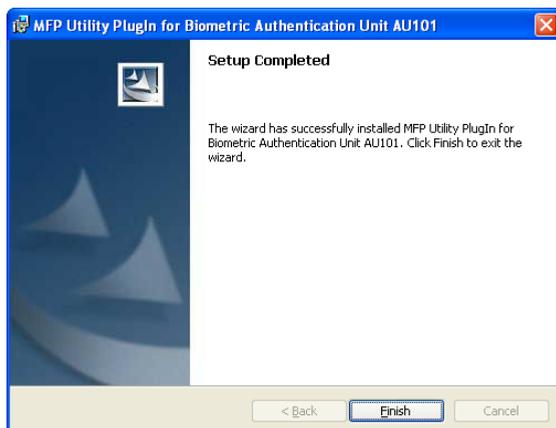
- 10 Select the language, and then click [OK].



The installer starts up.

- 11 Follow the instructions that appear on the screen to complete the installation.

**12** Click [Next].**13** Select "I accept the terms of the license agreement", and then click [Next].

**14** Click [Install].**15** Click [Finish].

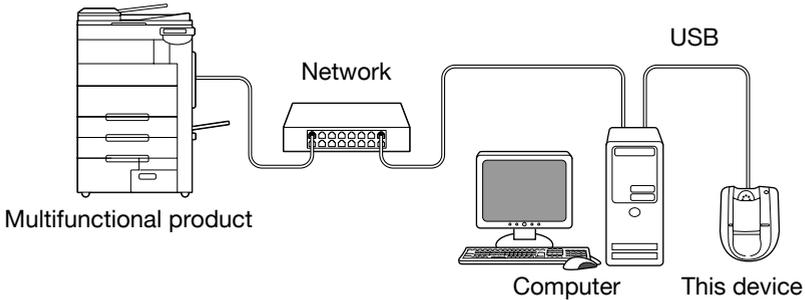
Data Administrator Bio Plugin is installed, and the setup is completed.

## Registering users



### Detail

*In order to register users with Data Administrator, this device must be connected to the USB port of the computer, and the computer and multifunctional product must be connected over a network.*



- 1 If this device is connected to the multifunctional product, turn off the multifunctional product with the main power switch, and then disconnect this device.
  - If this device is connected to the computer, continue with step 4.



### Note

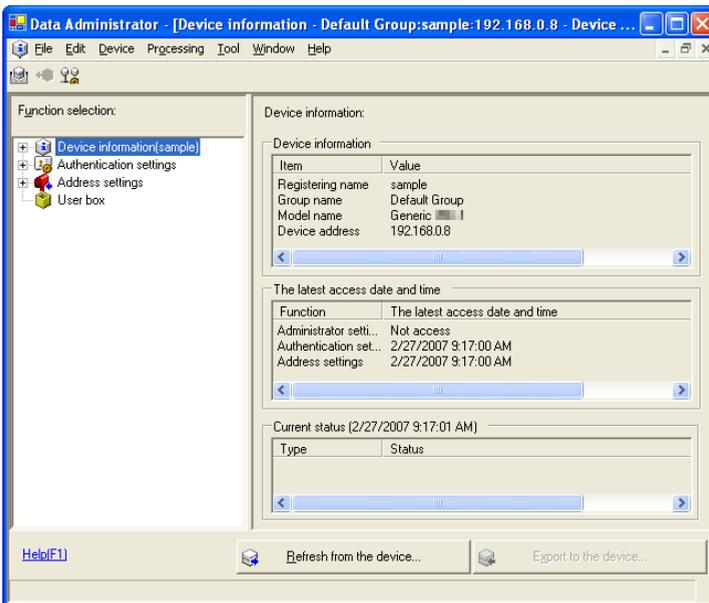
- *When the multifunctional product is turned off, then on again with the main power switch, wait at least 10 seconds to turn the machine on after turning it off. The machine may not operate correctly if it is turned on immediately after being turned off.*
  - *Hold the plug when plugging and unplugging the USB cable, otherwise the cable may be damaged.*
- 2 Turn on the multifunctional product with the main power switch.
  - 3 Connect this device to the USB port of the computer installed with Data Administrator.



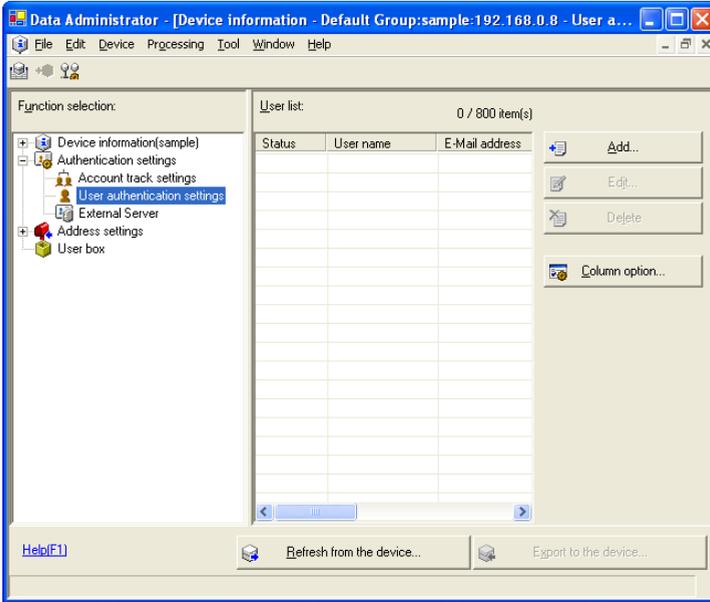
### Reminder

- Do not connect other USB devices to the same port where this device is connected. If enough USB power is not provided, this device may not operate correctly.
- When using a USB hub, be sure to use a self-powered USB hub that can provide 500 mA or more.
- After connecting this device, wait at least 5 seconds before operating it.

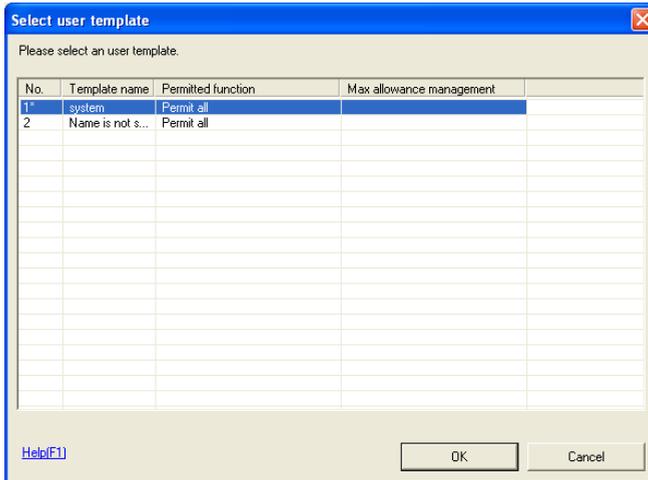
- 4 Start up Data Administrator, and then import the device information for the multifunctional product.
  - For details on importing the device information, refer to the User's Guide for Data Administrator.
 The Device information pane appears.



- 5 Select “User authentication settings” in the Function selection pane, and then click [Add].



- 6 Select a template, and then click [OK].



The User settings dialog box appears.

- 7 Type in the user name and password, click the Vein Authentication tab, and then click [Import].
  - If desired, type in the e-mail address.

**User settings**

User Name\*: user01

Password: \*\*\*\*\*

E-Mail Address:

Account Information: [Dropdown]

Maximum counter settings | Maximum number of boxes | Reference Allowed Setting | **Vein Authentication** | [Navigation]

Vein Authentication data: Unregistered [Import] [Delete]

Help(F1) \* Required field [OK] [Cancel]

- 8 Position the finger on this device, and then click [Start reading].
  - Scan the finger vein pattern three times, removing and repositioning the same finger each time.

**Registering Vein Authentication**

User Name: [Text Box]

Result:

Step	Status
1st	-
2nd	-
3rd	-

[Start reading]

In order to improve the accuracy of vein data, the vein is photographed 3 times.

Place your finger on the vein reader and click the [Start reading] button.

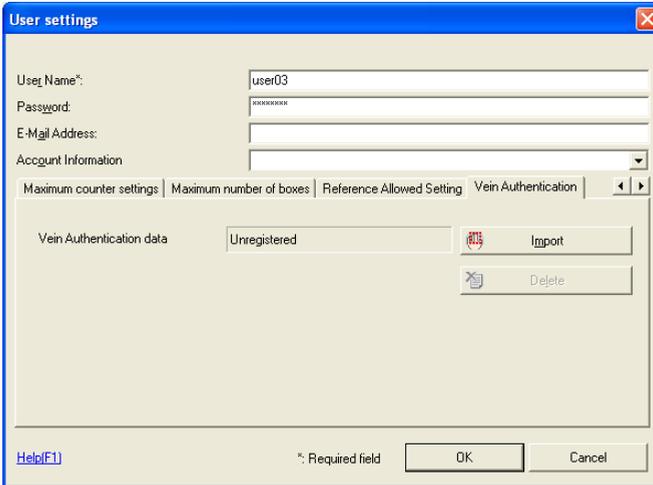
Lift and place your finger again for each photo.

[Register] [Cancel]

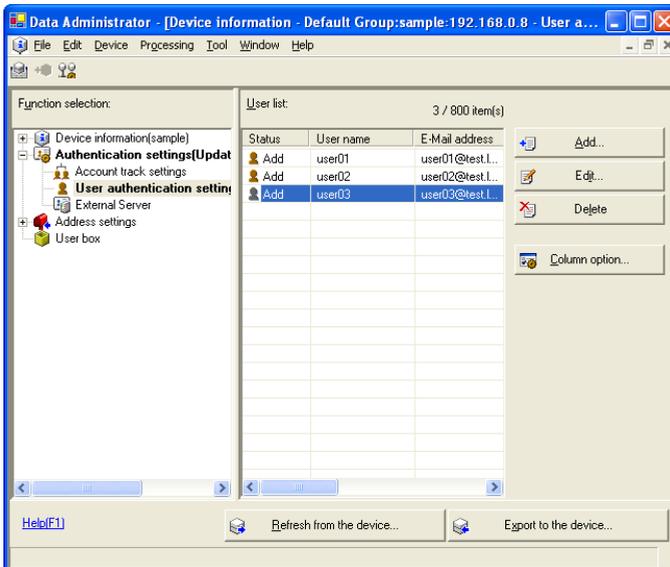
- 9 Click [Register].

## 10 Click [OK].

- Repeat steps 5 through 10 until all users have been registered.

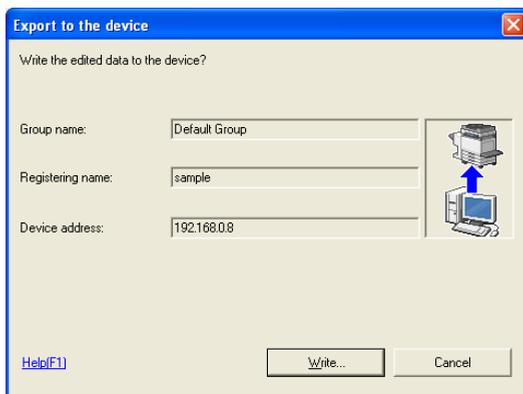


## 11 Click [Export to the device].



- To change the registered data, select the user name, and then click [Edit].

## 12 Click [Write].



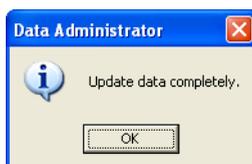
The registered user data is specified on the multifunctional product.



### Detail

*Data Administrator is equipped with a batch copy feature that allows the registered user data to be specified on multiple multifunctional products specified to be used with this device.*

## 13 Click [OK].



## 14 Disconnect this device from this USB port of the computer.

## 15 Turn off the multifunctional product with the main power switch, connect this device, and then turn on the multifunctional product with the main power switch.



### Note

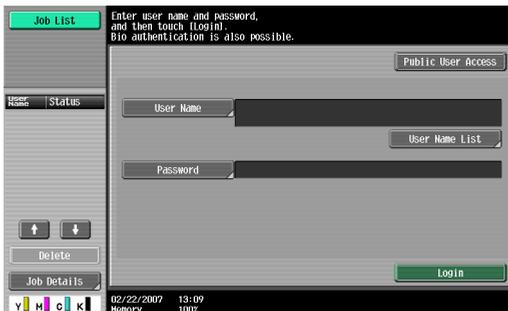
- When the multifunctional product is turned off, then on again with the main power switch, wait at least 10 seconds to turn the machine on after turning it off. The machine may not operate correctly if it is turned on immediately after being turned off.
- Hold the plug when plugging and unplugging the USB cable, otherwise the cable may be damaged.

## 3.3 Logging on to a multifunctional product

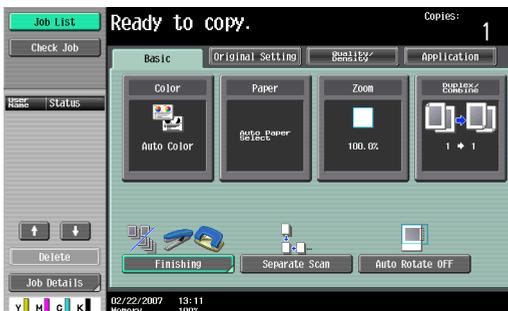
Follow the procedures described below to log on to multifunctional products by completing authentication with finger vein patterns.

### When “1-to-many authentication” has been specified

- Position the registered finger on this device.

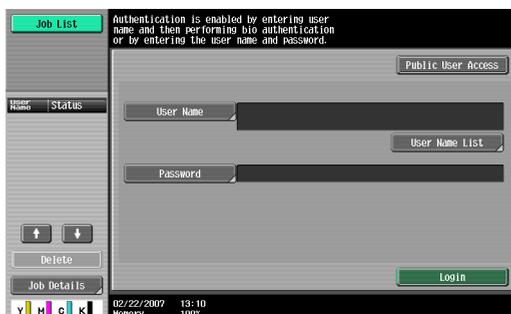


The user is authenticated, and the Basic screen appears.



**When “1-to-1 authentication” has been specified**

- 1 Type in the user name.



- 2 Position the registered finger on this device.  
The user is authenticated, and the Basic screen appears.

**Note**

*If authentication fails many times, the authentication data may not be registered correctly. Therefore, register the user again.*

### 3.4 Touch & Print function

Print jobs sent from a computer are saved in the Touch & Print user box on the multifunctional product and can be printed after authentication is completed with finger vein patterns. This is called the Touch & Print function.

In addition, documents saved in the Touch & Print user box can be checked and specified to be printed from the control panel of the multifunctional product.

The following printer drivers and computer operating systems are compatible with the Touch & Print function.

Printer driver	Page description language	Supported operating systems
PCL Driver	PCL6	Windows NT 4.0 (Service Pack 6a), Windows 2000 Professional (Service Pack 4 or later), Windows XP Home Edition/Professional (Service Pack 2 or later), Windows XP Professional x64, Windows Server 2003, and Windows Server 2003 x64
PostScript Driver (PS driver)	PostScript3 Emulation	Windows 2000 Professional (Service Pack 4 or later), Windows XP Home Edition/Professional (Service Pack 2 or later), Windows XP Professional x64, Windows Server 2003, and Windows Server 2003 x64
PostScript PPD driver (PS-PPD)		Mac OS X 10.2, Mac OS X 10.3, and Mac OS X 10.4



#### Detail

*To use the Touch & Print function, select “1-to-many authentication” under “Operation Settings” and set “Touch & Print Setting” to “ON”.*



...

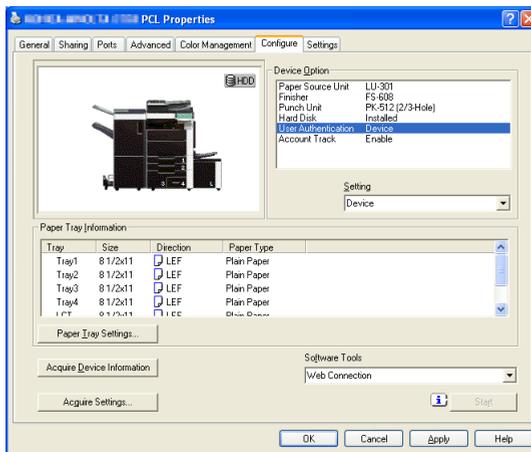
#### Note

*For details on the printer driver settings and Box mode functions, refer to the User's Guide included with the multifunctional product.*

### 3.4.1 Touch & Print (For Windows)

#### Specifying settings on the Configure tab

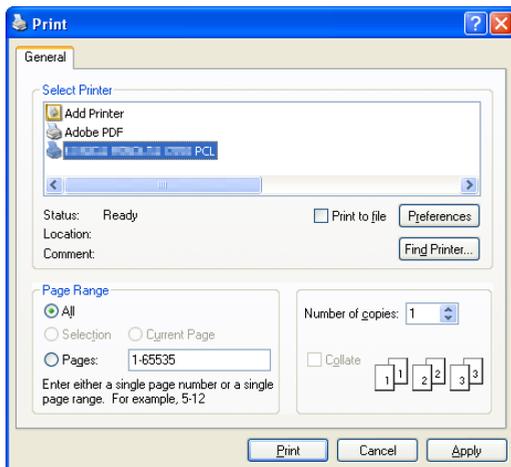
- 1 For Windows 2000/NT 4.0, click the [Start] button, point to “Settings”, and then click “Printers”.  
For Windows XP/Server 2003, click the [Start] button, and then click “Printers and Faxes”.
  - If “Printers and Faxes” does not appear in the Start menu, open the Control Panel from the Start menu, select “Printers and Other Hardware”, and then select “Printers and Faxes”.
- 2 Right-click the icon of the installed printer, and then click “Properties”.
- 3 Click the Configure tab.



- 4 Select “User Authentication” under “Device Option”.
- 5 Select “Device” from the “Setting” drop-down list.
- 6 Click [Apply], and then click [OK].

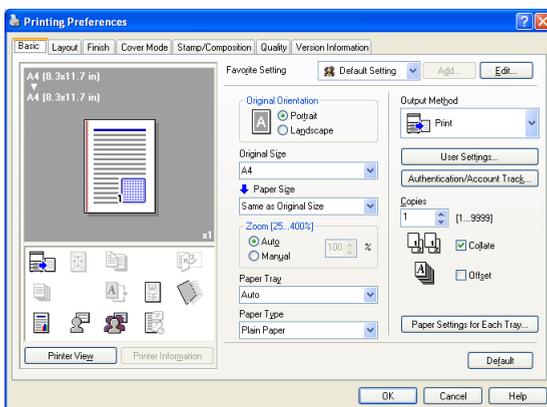
## Sending a print job

- 1 Open the data in the application, click [File], and then click [Print].
- 2 Check that the printer name has been selected in "Printer Name" or "Select Printer". If the printer is not selected, click to select the printer.



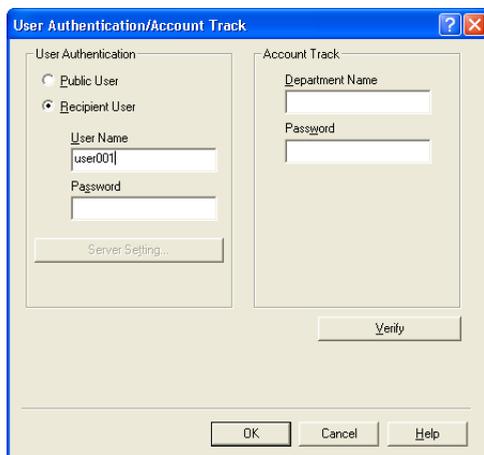
- The Print dialog box differs depending on the application.

- 3 Click [Preferences] (or [Properties]).
- 4 Click the Basic tab.



- 5 From the "Output Method" drop-down list, select "Print".

- 6 Click the [Authentication/Account Track] button.
- 7 Select “Recipient User”, and then enter the user name and password.



- 8 Click [Verify] to check the user ID.
- 9 Click [OK].
  - If the user name or the password is incorrect, type in the correct information.



- 10 Click the [OK] button.
- 11 Specify the desired settings, and then click [OK].
- 12 Click [Apply], and then click [Print].

The print job is sent.

### 13 Position the registered finger on this device.



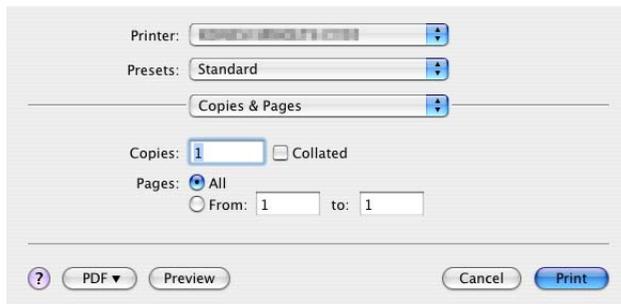
- Make sure that "Begin Printing" is selected.
- To select the print job to be printed, touch [Screen Operation]. For details, refer to "Selecting the print job to be printed from the control panel" on page 32.

The user is authenticated, and the print job is printed.



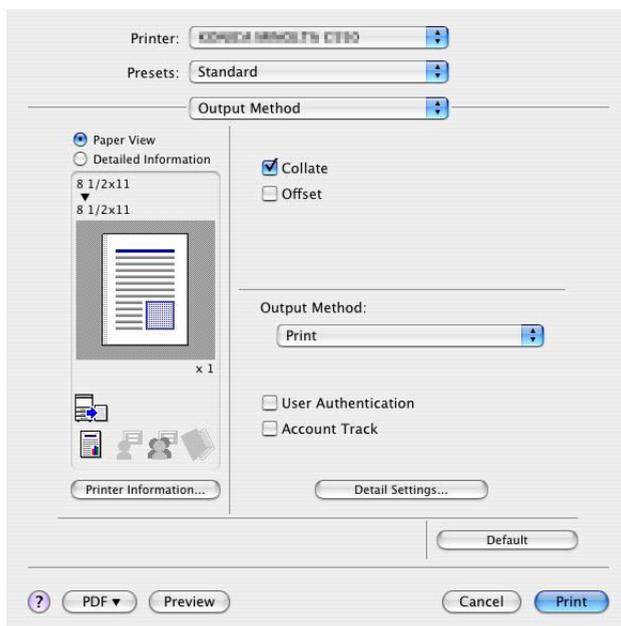
### 3.4.2 Touch & Print (for Macintosh)

- 1 Open the data in the application, click [File], and then click "Print".
- 2 Check that the printer name has been selected.



– The Print dialog box differs depending on the application.

- 3 From the drop-down menu, select "Output Method".
- 4 From the "Output Method" drop-down list, select "Print".



- 5 Select the “User Authentication” check box.  
The User Authentication dialog box appears.
- 6 Select “Recipient User”, and then enter the user name and password.



- 7 Click the [OK] button.
- 8 Specify the desired settings, and then click [Print].  
The print job is sent.
- 9 Position the registered finger on this device.



- Make sure that "Begin Printing" is selected.
- To select the print job to be printed, touch [Screen Operation]. For details, refer to “Selecting the print job to be printed from the control panel” on page 32.

The user is authenticated, and the print job is printed.



### 3.4.3 Selecting the print job to be printed from the control panel

Follow the procedure described below to select the document to be printed from those saved in the Touch & Print user box.

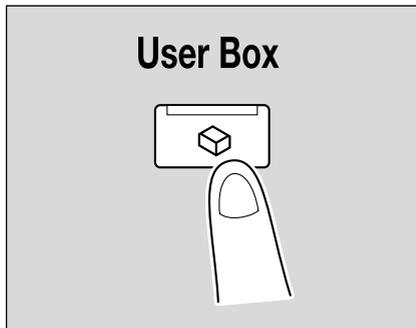
- 1 Touch [Screen Operation].



- 2 Position the registered finger on this device.  
The user is authenticated, and the Basic screen appears.



- 3 Press the [User Box] key in the control panel.



- 4 Touch [Use Document].



- 5 Touch [System User Box].



## 6 Touch [Touch & Print User Box], and then touch [OK].



## 7 Select the document to be printed.

- Multiple documents can be selected.
- To select all documents, touch [Select All].
- To cancel the selection of all documents, touch [Reset].
- To check various information, such as the date/time when the document was stored and the document name, touch [Detail View].



- 8 Touch the [Print] under "Action", and then touch [OK].
- To delete the document, touch [Delete].
  - To check the document details, touch [Document Details].
- The selected document is printed.



#### Note

*If authentication fails many times, the authentication data may not be registered correctly. Therefore, register the user again.*

## 4 Care of Authentication Unit (Biometric Type) AU-101

### Caution

- Before cleaning this device, disconnect it from the multifunctional product. If a force is applied to the USB port, it may be damaged.
- When cleaning this device, do not allow water to enter the device, otherwise the system may be damaged.
- Never use organic solvents, such as benzene or alcohol, to clean this device, otherwise it may be damaged.



### Note

- *When disconnecting or connecting this device, turn off the multifunctional product with the main power switch, and then wait at least 10 seconds before turning it on again. The machine may not operate correctly if it is turned on immediately after being turned off.*
- *Hold the plug when plugging and unplugging the USB cable, otherwise the cable may be damaged.*

### Care of the housing

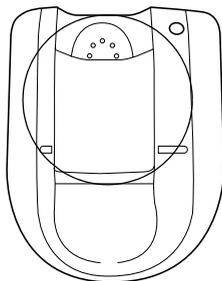
Frequency: Once a month, or when it is dirty

Wipe the housing with a soft, dry cloth. If the housing cannot be cleaned by wiping it, wash it with a cloth dampened with a mild detergent and wrung out well. After the housing is cleaned, rinse the cloth and wring it out well before wiping off the detergent.

**Care of the cover**

Frequency: Once a month, or when it is dirty or covered with fingerprints

Clean the scanner with a soft cloth. If it is extremely dirty, remove the dirt before cleaning it.



## 5 Specifications

Product name		Authentication Unit (Biometric Type) AU-101
Compatible finger width		10 mm to less than 25 mm
Interface		USB 2.0
Dimensions		Approx. 78 mm (W) × 95 mm (D) × 55 mm (H)
Weight		Approx. 150 g (not including the USB cable)
Power consumption		DC 5 V, 500 mA
Environment conditions (when operating)	Temperature	10 to 35 °C
	Humidity	10 to 80 % (Must be no condensation)
Environment conditions (when not operating)	Temperature	-10 to 60 °C
	Humidity	10 to 80 % (Must be no condensation)
Computer	Processor	PC/AT compatible, 1 GHz or more
	Memory	128 MB or more
	Hard disk drive	Available hard disk space: 100 MB or more
	Monitor	800 × 600 pixels, 16-bit color or more
	Network	TCP/IP protocol
	Application	Microsoft Internet Explorer 6.0 (Service Pack 1) or later Microsoft .NET Framework (Service Pack 1) or later
	Interface	USB 1.1 or later
Supported operating systems		Windows 2000 Professional (Service Pack 4) Windows XP Professional Edition (Service Pack 2)

## 6 Troubleshooting

If a problem occurs while running the system, refer to the following.

Condition	Possible cause	Remedy
The USB cable is connected between this device and the multifunctional product, but the status indicator is not lit in green.	The USB port of the multifunctional product may be malfunctioning.	Turn the multifunctional product off with the main power switch and temporarily disconnect the USB cable from this device or the multifunctional product before connecting it again and waiting 10 seconds before turning on the multifunctional product with the main power switch.
The USB cable is connected between this device and the computer, but the status indicator is not lit in green.	The USB port of the computer may be malfunctioning.	Restart the computer.
	Is the driver for this device correctly installed?	Refer to “Registering from Data Administrator”, and check if the driver is correctly installed on the computer. (p. 11)
A tone does not sound from the multifunctional product when scanning begins and when authentication is completed.	Has the tone setting on the multifunctional product been set to “OFF”?	Refer to “Registering users”, and set the tone setting to “ON”. (p. 8)

Condition	Possible cause	Remedy
<p>The message “Failed to register.” appears on a multifunctional product where registration failed.</p> <p>Logon failed. The message “Failed to Authenticate.” appears on the multifunctional product.</p>	<p>With this device, the scanning time is limited for each scan. This message appears if scanning is not possible within the limited period of time. For details on the scanning time, consult with the technical representative.</p>	<p>Refer to the Quick Guide Authentication Unit (Biometric Type AU-101) and check how to position the finger for authentication and scanning in order to complete scanning within the limited period of time. Correctly position the finger to be scanned on the scanner, and do not move the finger until the scanning results are received.</p>
<p>The message “Failed to read data. Place your finger once again and click the [Start reading] button.” appears on a computer where registration failed.</p>	<p>With this device, the scanning time is limited to five seconds for each scan. This message appears if scanning is not possible within the five-second time period.</p>	<p>If the area of the finger to be scanned is dirty or chapped, a correct image cannot be created and scanning may not be completed. Wash your hands and try scanning again, or try to correct chapped fingers. If the area of the finger to be scanned is too wide or too thin (outside of the finger width range of 10 mm to 25 mm), a correct image cannot be created and scanning may not be completed. Try widening your finger or inserting it deeper or less deep into the scanner.</p>

Condition	Possible cause	Remedy
<p>Scanning does not begin.</p>	<p>Is the finger correctly positioned?</p>	<p>Refer to the Quick Guide Authentication Unit (Biometric Type AU-101) and check how to position the finger for authentication and scanning.                      Correctly position the finger to be scanned on the scanner, and do not move the finger until the scanning results are received.                      If the area of the finger to be scanned is dirty or chapped, a correct image cannot be created and scanning may not be completed. Wash your hands and try scanning again, or try to correct chapped fingers.                      If the area of the finger to be scanned is too wide or too thin (outside of the finger width range of 10 mm to 25 mm), a correct image cannot be created and scanning may not be completed. Try widening your finger or inserting it deeper or less deep into the scanner.</p>
	<p>Was the multifunctional product restarted after this device was connected to it?</p>	<p>Turn the multifunctional product off with the main power switch and temporarily disconnect the USB cable from this device or the multifunctional product before connecting it again and waiting 10 seconds before turning on the multifunctional product with the main power switch.</p>

Condition	Possible cause	Remedy
The Add New Hardware Wizard starts when this device is connected to the computer.	Is this device connected to the same USB port used when the driver was installed?	If this device is connected to a USB port different from the one used when the driver was installed, the Add New Hardware Wizard may start. Use the same USB port used when the driver was installed.

If the problem is not corrected after the described operation is performed, contact your technical representative.

