



Epson AcuLaser **CX29 / C2900 PS**

PostScript User's Guide

NPD4472-00 EN

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Contents

Chapter 1 Overview

Printer Name when Installing Print Driver.	5
Available Software and Corresponding OS.	5
Software for Windows.	5
Software for Macintosh.	6
Settings for the Printer.	6

Chapter 2 Installing of Print Drivers for Windows Computers

Supplied Software Disc.	7
Hardware/Software Requirements.	7
Installing the Print Driver	8
Installing Printers Connected to a TCP/IP Network.	8
Using [Add a printer] and Installing- Windows XP/Windows Server 2003.	10
Using [Add a printer] and Installing- Windows Vista/Windows Server 2008.	12
Using [Add a printer] and Installing - Windows 7/Windows Server 2008 R2.	15
Using the USB Port.	17
For Windows XP, Windows Server 2003 / 2008 or Windows Vista.	17
For Windows 7, Windows Server 2008 R2.	18

Chapter 3 Installing of Print Drivers for Macintosh Computers

Supplied Software Disc.	20
Hardware/Software Requirements.	20
Installing the Print Driver	21
Installation Procedure (Mac OSX 10.4/10.5-10.6).	21
Adding a Printer (Mac OS X 10.4).	23
Adding a Printer (Mac OS X 10.5-10.6).	26
Setting the Print Driver.	31

Chapter 4 Barcode Settings

About Barcode Settings.	32
---------------------------------	----

Font Types and Character Sets.	32
Character Set Tables.	33
JAN Character Set Table.	33
Code 39 Character Set Table.	34
NW7 Character Set Table.	35
Code 128 Character Set Table.	35
ITF (Interleaved 2 of 5) Character Set Table.	40
Customer Barcode Character Set Table.	42
Barcode Sizes.	43

Index

Chapter 1

Overview

Printer Name when Installing Print Driver

The model name to be selected when installing the print driver is displayed under the "Printer Name when Installing" in the table below.

Printer Name when Installing	Model being used
Epson AcuLaser CX29NF	Epson AcuLaser CX29 Series
Epson AcuLaser C2900N	Epson AcuLaser C2900 Series

Available Software and Corresponding OS

The following OS and software on the Software Disc are available for use.

Software for Windows

Category	Software	Corresponding OS
Print Driver	Microsoft Corp. print driver (MS Pscript5) + SEIKO EPSON CORPORATION Plugin Driver + PPD File	Windows XP Windows XP (64-bit) Windows Server 2003 Windows Server 2003 (64-bit) Windows Vista Windows Vista (64-bit) Windows 7 Windows 7 (64-bit) Windows Server 2008 Windows Server 2008 (64-bit) Windows Server 2008 R2

Category	Software	Corresponding OS
Adobe Reader	Adobe Reader 9.3.3 *	-

* For systems corresponding to Adobe Reader, refer to the homepage of Adobe Systems Incorporated, etc.

Software for Macintosh

Category	Software	Corresponding OS
Print Driver	PPD File and plug-in Installer	Mac OS X 10.4-10.4.11/10.5 (Except for 10.4.7)
Printer Description File	English Language	-
Screen Font	Western Languages	-

Note:

Adobe Reader for Macintosh is not included on the Software Disc.

Use "Preview" on Mac OS X, or download Adobe Reader from the Adobe website.

Settings for the Printer

When you install Adobe PostScript, the PostScript settings applicable to the printer you selected are installed.

Chapter 2

Installing of Print Drivers for Windows Computers

Supplied Software Disc

The Software Disc provided with the printer contains the following contents.

Note:

The Software Disc supports Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7 and Windows Server 2008 R2.

❑ **PS folder in Drivers folder**

Contains the plug-in files, and the inf file for installing the print driver that adds our product's functions to Microsoft Corporation's PostScript Driver. This corresponds to the 32bit version OS.

❑ **WinScreenFont folder in Utility folder**

Contains 136 screen fonts (19 TrueType fonts and 117 Type1 fonts), corresponding to printer fonts.

❑ **WinAR folder in Utility folder**

Contains Adobe Reader (9.3.3) for Windows use.

❑ **ICC Profile for PS folder in WinICC folder**

Contains ICC profile for Windows use.

❑ **Readme file**

Contains cautionary notes about how to use the print driver. Ensure you read this before using the printer.

Hardware/Software Requirements

The minimum system requirements for the Windows print driver are described below.

Windows XP/Windows Server 2003/Windows Vista/Windows 7/Windows Server 2008/ Windows Server 2008 R2

Computer System

Personal computer running Windows XP/Windows Server 2003/Windows Vista/Windows 7/
Windows Server 2008/Windows Server 2008 R2.

Basic Software

- Windows XP
- Windows XP (64-bit)
- Windows Server 2003
- Windows Server 2003 (64-bit)
- Windows Vista
- Windows Vista (64-bit)
- Windows Server 2008
- Windows Server 2008 (64-bit)
- Windows Server 2008 R2
- Windows 7
- Windows 7 (64-bit)

Installing the Print Driver

Installing the print driver via the Windows "Add Printer Wizard" or the "Easy Install Navi" in the Software Disc enables you to add our product's functions to your Microsoft PostScript driver.

Installing Printers Connected to a TCP/IP Network

This section describes how to start the "Easy Install Navi" and add printers to computers by following the procedure below.

This section describes how to install the print driver for Windows XP, as an example.

1. Start Windows XP.

Note:

Log in as Administrator or as a user within the Administrator group. Refer to the Windows XP documentation for details about the Administrator group.

2. Insert the Software Disc in the CD/DVD drive.
3. Click [Easy Install]. The [SOFTWARE LICENSE AGREEMENT] appears.
4. If you agree to the terms of the [SOFTWARE LICENSE AGREEMENT], select [Agree] and then click [Next]. The [Easy Install Navi] launches.
5. Click [Installing Drivers and Software].
6. Select [Network Installation], and then click [Next].
7. Select the printer you want to install from the printer list, and then click [Next].
If the target printer is not displayed on the list, click [Refresh] to refresh the list or click [Manually add using IP address] to add a printer to the list manually. You may specify the IP address and port name at this point. If you have installed this printer on the server computer, select [I am setting up this printer on a server] check box.

Note:

When using AutoIP, [0.0.0.0] is displayed in the installer. Before you can continue, you must enter a valid IP address.

8. Specify the printer settings, and then click [Next].
 - 1) Enter the printer name.
 - 2) If you want other users on the network to access this printer, select [Share this printer with other computers on the network], and then enter a share name that users can identify.
 - 3) If you want to set a printer as the default, select the [Set this printer as default] check box.
 - 4) By default, [PostScript Driver] check box is on. If this check box is off, select this check box.
9. Select the software and documentation you want to install, and then click [Install]. You can specify folders in which to install the software and documentation. To change the folders, click [Browse].

10. Click [Finish] to exit the wizard when the "Congratulations!" screen appears. If necessary, click [Print Test Page] to print a test page.

Using [Add a printer] and Installing - Windows XP/Windows Server 2003

The section described the installation procedure for Windows XP, and Windows Server 2003. In this manual, Windows XP is used as an example.

Note:

To cancel installation of the print driver during installation, click [Cancel] in the dialog box. You can also click [Back] to delete the settings in that dialog box and return to the previous dialog box.

1. Start Windows XP.

Note:

Log in as a user of an Administrator group. Refer to the Windows XP documentation for details about the Administrator group.

2. On the [Start] menu, click [Printers and Faxes].
3. In the Printers and Faxes window, click [Add a printer].

Note:

For Windows Server 2003, select [Add a printer] in [Printer Tasks].

4. Click [Next].
5. Select how the printer is connected to the computer and click [Next].
Select [Local printer attached to this computer] if the printer is connected directly to the computer or to the network in a TCP/IP(LPD) environment. Otherwise, select [A Network printer, or a printer attached to another computer]. The following is an example of a Local printer.

Note:

- When you select [Local printer attached to this computer], deselect the [Automatically detect and install my Plug and Play printer] check box.*
 - Specify the target printer in the Connect to printer dialog box if you selected [A network printer, or a printer attached to another computer].*
6. Select the port you are using and click [Next].

When the printer is connected in a TCP/IP(LPD) environment:

- 1) Click [Create a new port].
- 2) Select Standard TCP/IP Port in the Type of port list and click [Next].
- 3) Click [Next].
- 4) Enter the IP address of the printer in Printer Name or IP Address, and click [Next].
- 5) Click [Finish] in the dialog box that will be displayed.

When using a USB port:

When using a USB port, select [LPT1] here. When installation of the print driver completes, set the USB port.

See "Using the USB Port" on page 17 to configure the USB port.

The screen for selecting the model and the manufacturer of the printer is displayed.

7. Insert the Software Disc in the CD/DVD drive.
8. Click [Have Disk].
9. For Epson AcuLaser CX29NF:
For 32-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x32\English\sepsmoei.inf" in the [Copy manufacturer's files from] box and click [OK].
For 64-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x64\English\sepsmoei.inf" in the [Copy manufacturer's files from] box and click [OK].

For Epson AcuLaser C2900N:

For 32-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x32\English\sepsmpei.inf" in the [Copy manufacturer's files from] box and click [OK].

For 64-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x64\English\sepsmpei.inf" in the [Copy manufacturer's files from] box and click [OK].

Note:

Click [Browse] to specify a folder on the Software Disc.

10. Select your printer model from the Printers list and click [Next].
11. Enter the printer name, set whether you want to use it as the default printer, and click [Next].

12. Select [Do not share this printer] and click [Next].

Note:

We recommend that you install the driver on each computer with the procedure appropriate to the Operating System.

13. Specify whether to print a test page, and click [Next].
14. After confirming the settings displayed, click [Finish].

Note:

If the dialog box "Digital Signature Not Found" appears, click [Yes] to continue the installation.

Installation begins.

15. Confirm that the printer has been added in the Printers window.
This completes the installation of the print driver. Remove the Software Disc from the drive.

After the installation is complete, all the optional accessories that are installed to the printer must be set up. Display the properties dialog box of the printer, select the [Device Settings] tab, and display [Installable Options] to set up.

Store the Software Disc in a safe place.

Using [Add a printer] and Installing - Windows Vista/Windows Server 2008

This section describes the installation procedure for Windows Vista and Windows Server 2008. In this manual, Windows Vista is used as an example.

Note:

To cancel the installation of the print driver during installation, click [Cancel] in the dialog box. You can also click [Back] to delete the settings in that dialog box and return to the previous dialog box.

1. Start Windows Vista.

Note:

Make sure that you are logged in as an Administrator.

2. On the [Start] menu, select [Control Panel].

3. Select [Printers] under [Hardware and Sound].
4. Select [Add a printer].
5. If the printer is connected directly to your computer or to the network in a TCP/IP (LPD) environment, select [Add a local printer]. Otherwise, select [Add a network, wireless or Bluetooth printer].
After selecting the connection method, click [Next].
6. Select the port you are using, and click [Next].

When the printer is connected in a TCP/IP(LPD) environment:

- 1) Select [Create a new port].
- 2) Select [Standard TCP/IP Port] in the [Type of port] list, and click [Next].
- 3) Enter the IP address of the printer in [Hostname or IP address], and click [Next].
- 4) When “Additional Port Information Required” is displayed, select the series name of the model being used with [Standard] of [Device Type].
- 5) Click [Finish] in the dialog box that will be displayed.

When using a USB port:

When using a USB port, select [LPT1] here. When installation of the print driver completes, set the USB port.

See “Using the USB Port” on page 17 to configure the USB port.

The screen for selecting the model and the manufacturer of the printer is displayed.

7. Insert the Software Disc in the CD/DVD drive.
8. Click [Have Disk].
9. For Epson AcuLaser CX29NF:
For 32-bit editions of Windows, enter “Drive Name:\Drivers\PS\Win_7VistaXP\x32\English\sepsmoei.inf” in the [Copy manufacturer's files from] box and click [OK].
For 64-bit editions of Windows, enter “Drive Name:\Drivers\PS\Win_7VistaXP\x64\English\sepsmoei.inf” in the [Copy manufacturer's files from] box and click [OK].

For Epson AcuLaser C2900N:

For 32-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x32\English\sepsmpei.inf" in the [Copy manufacturer's files from] box and click [OK].

For 64-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x64\English\sepsmpei.inf" in the [Copy manufacturer's files from] box and click [OK].

Note:

Click [Browse] to specify a folder on the Software Disc.

10. Select your printer model from the Printers list and click [Next].
11. Enter the printer name, set whether to use it as the default printer, and click [Next].
12. Select [Do not share this printer] and click [Next].

Note:

We recommend that you install the driver on each computer with the procedure appropriate to the Operating System.

13. Specify whether to print a test page, and click [Next].
14. After confirming the settings displayed, click [Finish].

Note:

If the dialog box "Digital Signature Not Found" appears, click [Yes] to continue the installation.

Installation begins.

15. Confirm that the printer has been added in the Printers window.
This completes the installation of the print driver. Remove the Software Disc from the drive.

After the installation is complete, all the optional accessories that are installed to the printer must be set up. Display the properties dialog box of the printer, select the [Device Settings] tab, and display [Installable Options] to set up.

Store the Software Disc in a safe place.

Using [Add a printer] and Installing - Windows 7/Windows Server 2008 R2

This section describes the installation procedure for Windows 7 and Windows Server 2008 R2. In this manual, Windows 7 is used as an example.

Note:

To cancel the installation of the print driver during installation, click [Cancel] in the dialog box. You can also click [Back] to delete the settings in that dialog box and return to the previous dialog box.

1. Start Windows 7.

Note:

Make sure that you are logged on as an Administrator.

2. On the [Start] menu, select [Devices and Printers].
3. In the [Devices and Printers] window, select [Add a printer].
4. Select how the printer is connected to the computer, and click [Next].

If the printer is connected directly to your computer or to the network in a TCP/IP (LPD) environment, select [Add a local printer].

5. Select the port you are using, and click [Next].

When the printer is connected in a TCP/IP (LPD) environment:

- 1) Select [Create a new port].
 - 2) Select [Standard TCP/IP Port] in the [Type of port] list, and click [Next].
 - 3) Enter the IP address of the printer in [Hostname or IP address], and click [Next].
 - 4) When [Additional port information required] is displayed, select the series name of the model being used with [Standard] of [Device Type].
 - 5) Click [Finish] in the dialog box that will be displayed.
6. Insert the Software Disc in the CD/DVD drive.
 7. Click [Have Disk].

8. For Epson AcuLaser CX29NF:
For 32-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x32\English\sepsmoei.inf" in the [Copy manufacturer's files from] box and click [OK].
For 64-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x64\English\sepsmoei.inf" in the [Copy manufacturer's files from] box and click [OK].

For Epson AcuLaser C2900N:

- For 32-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x32\English\sepsmpei.inf" in the [Copy manufacturer's files from] box and click [OK].
For 64-bit editions of Windows, enter "Drive Name:\Drivers\PS\Win_7VistaXP\x64\English\sepsmpei.inf" in the [Copy manufacturer's files from] box and click [OK].

Note:

Click [Browse] to specify a folder on the Software Disc.

9. Select your printer model from the Printers list, and click [Next].
10. Enter the printer name, set whether to use the printer as the default printer, and click [Next].
11. Select [Do not share this printer], and click [Next].

Note:

We recommend that you install the driver on each computer with the procedure appropriate to the Operating System.

12. Specify whether to print a test page.
13. After confirming the settings displayed, click [Finish].
Installation begins.

Note:

If the [User Account Control] dialog box appears, click [Yes] to continue the installation. If the message "Windows can't verify the publisher of this driver software" is displayed, click [Install this driver software anyway].

14. Confirm that the printer has been added in the Printers window.
This completes the installation of the print driver. Remove the Software Disc from the drive.

After the installation is complete, all the optional accessories that are installed to the printer must be set up. Display the properties dialog box of the printer, select the [Device Settings] tab, and display [Installable Options] to set up.

Store the Software Disc in a safe place.

Using the USB Port

This section explains how to use the OS standard USB port with computers on which Windows XP, Windows Server 2003, Windows Vista, Windows 7, Windows Server 2008 or Windows Server 2008 R2 is installed, for printing.

Note:

- ❑ *A printer added using the procedure below cannot be monitored on Status Monitor.*
- ❑ *For information about devices that connect to the USB port, refer to the manual that is contained in the Software Disc.*

For Windows XP, Windows Server 2003 / 2008 or Windows Vista

As an example, this section describes how to install the print driver for Windows XP.

1. Insert the USB cable into the USB interface connector of the printer.
2. Insert the other end of the USB cable into the USB interface connector of the computer.
3. Turn on the power to the printer.
The [New Hardware Wizard] dialog box is displayed.
4. Select [Install from a list or specific location (Advanced)], and click [Next].
5. Select [Search for the best driver in these locations].
6. Select [Search removable media (floppy, CD-ROM...)], and click [Next].
7. Click [Finish]. The print driver is installed.
8. From the [Start] menu, select [Printers and Faxes].
The [Printers and Faxes] window is displayed.

Note:

For Windows Vista and Windows Server 2008, select [Control Panel] from the [Start] menu, and select [Hardware and Sound] > [Printers].

9. Select the icon of the printer that you installed in step 1, and select [Properties] from the [File] menu.
The [Properties] dialog box is displayed.

10. Check that the USB port for the printer in use is added correctly under [Print to the following port(s)] in the [Ports] tab.
11. Click [Print Test Page] in the [General] tab.
The dialog box appears to confirm whether or not the test print is completed successfully.
12. Check the print result, and if the test print is completed successfully, click [Yes].
13. Configure settings on the [Device Settings] tab for the print driver to recognize all the optional configurations that are installed in the printer.
14. Click [OK] in the [Properties] dialog box.

You have completed the settings to use the printer.

For Windows 7, Windows Server 2008 R2

As an example, this section describes how to install the print driver for Windows 7.

1. Insert the USB cable into the USB interface connector of the printer.
2. Insert the other end of the USB cable into the USB interface connector of the computer.
Displays the message indicating the driver is not installed correctly.
3. Select [Devices and Printers] from the [Start] menu for Windows 7.
The [Devices and Printers] window is displayed.
4. Right click the printer icon that is added to the [Unspecified] in the [Devices and Printers] window and select [Printer Properties].
The [Properties] dialog box is displayed.

Note:

The printer icon with the "!" mark is added at [Printers and Faxes] depending on the driver software to install.

5. Click the [Hardware] tab and select the printer is added from the [Device Functions], click the [Properties] button.
6. Click the [General] tab on the [Properties] dialog box and click the [Change settings] button.
7. Click the [Driver] tab on the [Properties] dialog box and click the [Update Driver] button.
The [Update Driver Software] screen is displayed.

8. Select the [Browse my computer for driver software].
9. Click the [Browse] button to select the driver software and click the [Next].
Start the installation of the driver software, and the screen displays to indicate a successful installation.

Note:

If the [Windows can't verify publisher of this driver software] screen is displayed, select the [Install this driver software anyway] and install the driver software.

10. Click the [Finish] button.
The printer icon is displayed at the [Printers and Faxes] on the [Devices and Printers] window, and you can use the printer.

Note:

If the printer icon with the "!" is added at the [Printers and Faxes], "!" mark will disappear.

Chapter 3

Installing of Print Drivers for Macintosh Computers

Supplied Software Disc

The Software Disc provided with the printer contains the following contents.

Note:

Depending on the software installed on the Software Disc, the [XXXX] folder may not be available. If unavailable, look for the installation items inside of [Other] folder.

Macintosh computers require the following items to work with your printer. You can find them installed on the Software Disc.

- AL-CX29 Software Installer.mpkg/AL-C2900 Print Installer.pkg

Contains the PPD installation packages for Mac OS X 10.4, 10.5, and 10.6.

- The PPD & Plug-in file installer for Mac OS X 10.4, 10.5, and 10.6.

- readme file

- Readme file**

Contains cautionary notes about inquiry windows and how to use the print driver. Ensure you read this before use.

Hardware/Software Requirements

The minimum system requirements for the Macintosh print driver and the utility are described below.

Computer System

- A Macintosh computer running a supported version of Mac OS.

Basic Software

- For PPD & Plug-in Installer - Mac OS X 10.4 and 10.5-10.6

When Using the USB Port

- Mac OS X 10.4
- Mac OS X 10.5 - 10.6

Installing the Print Driver

This section explains the procedures for adding printers to Mac OS X.

Before starting, verify that the USB or Ethernet port has been selected to match your computing environment with the printer. For details, see the documentation that came with your printer.

Installation Procedure (Mac OSX 10.4/10.5-10.6)

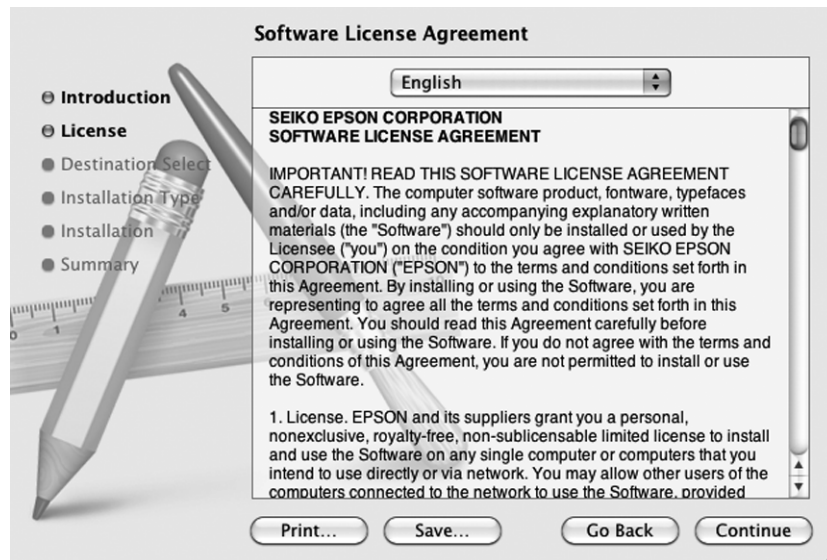
Install the PostScript Printer Description (PPD) file.

1. Start Macintosh.
2. Insert the Software Disc in the CD/DVD drive.
3. For Epson AcuLaser CX29NF:
Double-click [AL-CX29 Print Installer].

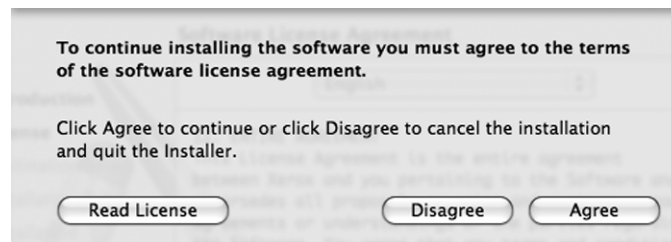
For Epson AcuLaser C2900N:
Double-click [AL-C2900 Print Installer].
4. When the first screen of the installation program appears, click [Continue].

The license screen appears.

5. Read through the license agreement carefully and if you have no objections to it, click [Continue].



6. Click [Agree].



Note:

When the screen to select the installation location appears, click [Continue].

7. Confirm the Installation Type and click [Install].

8. Enter an Administrator name and password, and click [OK].



9. When a message appears telling you installation has completed, click [Close].

This completes the installation.

When using Mac OS X 10.4, proceed to “Adding a Printer (Mac OS X 10.4)” on page 23.

When using Mac OS X 10.5-10.6, proceed to “Adding a Printer (Mac OS X 10.5-10.6)” on page 26.

Adding a Printer (Mac OS X 10.4)

After the PPD file has been installed, set the PPD file for the print driver, and then add the printer.

The print driver controls the printer functions based on the information in the PPD file.

As an example, this section describes how to add a printer in a Mac OS X 10.4.

1. Start Macintosh.
2. Check that the printer port is set to Enable.

- When using IP Printing

Set the LPD port to Enable.

Note:

Printers on an IP network can be detected automatically. To enable the discovery function, start [Bonjour].

- When using [USB-1(2.0)] / [USB-2(2.0)]

Set the USB port to Enable.

To enable the USB port, see the documentation that came with your printer. Depending on the model being used, specification of the print mode may be unnecessary.

3. Start [Printer Setup Utility].

Note:

You can find the Printer Setup Utility in the Utilities folder of the Applications folder.

The Printer List screen appears.

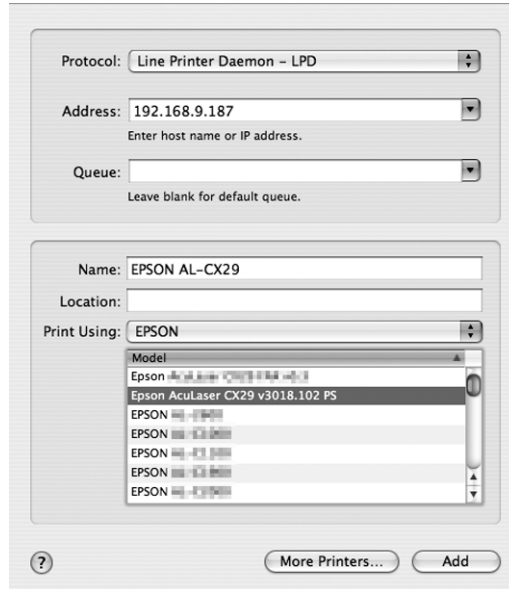
4. Click [Add].



5. Select the protocol used to connect the printer.

When using IP Printing

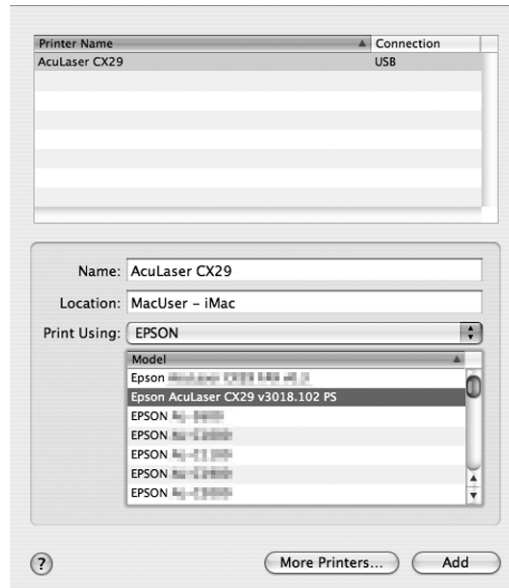
1. Select [IP Printer] from the menu, select [Line Printer Daemon - LPD] from [Protocol], and enter the printer's address in [Address].



2. Select [EPSON] from [Print Using], and select the printer to be used.
3. Click [Add].

When using [USB-1(2.0)] / [USB-2(2.0)]

1. Select [Default Browser] from the menu.



2. Select the printer you are using from the list.
3. Select [EPSON] from [Print Using], and select the printer to be used.
4. Click [Add].
This completes the addition of a printer.

Printer options

Click the printer name on the Printer Setup Utility menu bar, then select [Show Info].

Next, select [Installable Options], and select the options that have been installed on the printer. See “Setting the Print Driver” on page 31 for details about the options.

Adding a Printer (Mac OS X 10.5-10.6)

After the PPD file has been installed, set the PPD file for the print driver, and then add the printer.

The print driver controls the printer functions based on the information in the PPD file.

As an example, this section describes how to add a printer in a Mac OS X 10.5.

1. When using a USB port, execute the following procedure. If not using a USB port, proceed to Step 2.
 - 1) If the USB cable is connected, temporarily disconnect it.
 - 2) Make sure the computer is turned on, and the printer is turned off.
 - 3) Connect the printer and the computer with the USB cable.
 - 4) Turn ON the power of the printer.

2. Make sure the printer port is set to Enable.

- When using IP Printing

Set the LPD port to Enable.

Note:

Printers on an IP network can be detected automatically. To enable the discovery function, start [Bonjour].

- When using [USB-1(2.0)] / [USB-2(2.0)]

Set the USB port to Enable.

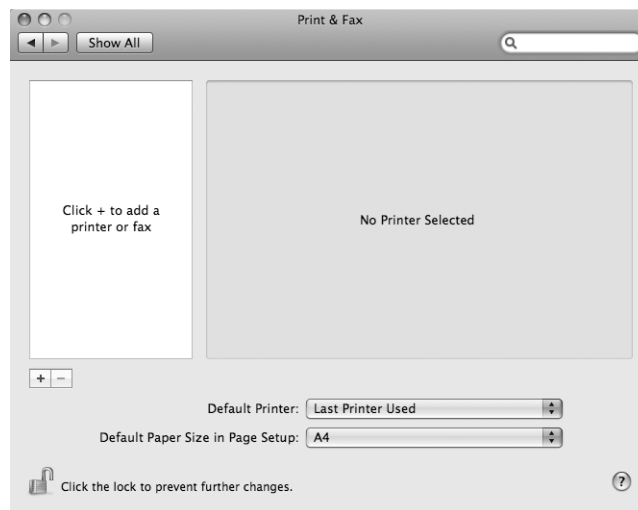
To enable the USB port, see the documentation that came with your printer. Depending on the model being used, specification of the print mode may be unnecessary.

3. Start [System Preferences].

4. Click [Print & Fax].



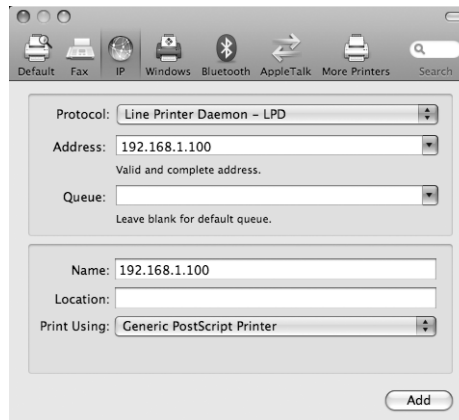
5. Click [+].



6. Select the protocol used to connect the printer.

When using IP Printing

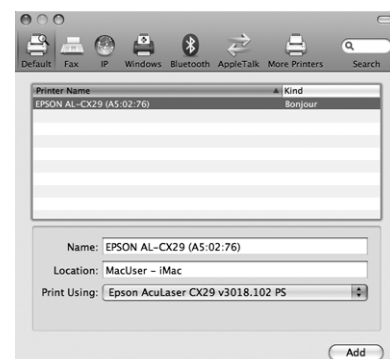
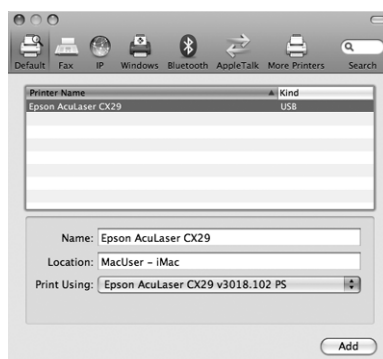
- 1) Select [IP] from the menu, and select [Line Printer Daemon - LPD] for Protocol.



- 2) Enter the IP address for the printer being used in [Address].
- 3) Select [Select a driver to use] from the dropdown list of [Print Using].
- 4) Select the printer to be used.
- 5) Click [Add].
This completes the addition of a printer.

When using **USB-1(2.0) / USB-2(2.0)** or Bonjour

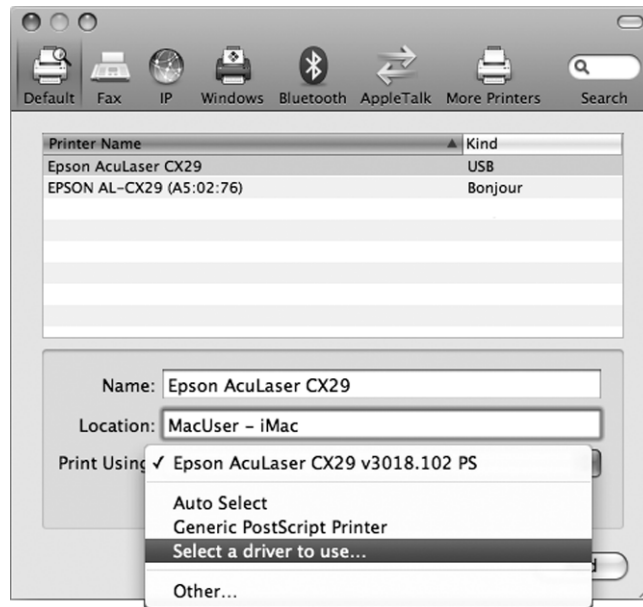
- 1) Select [Default] from the menu.
The following screen appears.



Note:

Normally, the driver of the printer being searched is recognized automatically. If the driver is not recognized automatically, or you desire to select the driver manually, perform the following procedure a) to c); otherwise, proceed to step 2.

- a) Select [Select a driver to use] from the dropdown list of [Printer Using].
A list of the drivers installed on the computer is displayed.



- b) Select the driver to install.
- c) Press the [Add] button.
The printer is added.
- 2) Select the printer to be used.
- 3) Click [Add].
This completes the addition of a printer.

Printer options

Click [Print & Fax] in [System Preferences].

Next, select [Options & Supplies], and select the options that have been installed on the printer. See “Setting the Print Driver” on page 31 for details about the options.

Setting the Print Driver

When installing the print driver, the items unique to models are added to [Installable Options] of the print driver for Mac OS X 10.4, and to [Driver] of [Options & Supplies] for Mac OS X 10.5-10.6.

Printer options can be set in Printer Setup Utility for Mac OS X 10.4, and in [Print & Fax] of System Preferences for Mac OS X 10.5-10.6.

Chapter 4

Barcode Settings

About Barcode Settings

This section explains about the types of compatible barcodes, designated character sets for barcode characters, sizes of printed barcodes, etc.

Note:

This guide assumes that the operator has a basic knowledge of barcodes.

Font Types and Character Sets

The table below lists compatible barcode types.

For the character set used to specify each barcode character, see “Character Set Tables” on page 33.

See “Barcode Sizes” on page 43 for details about the size of printed barcodes.

Barcode type	PostScript font name	Refer to the following table
JAN	HitachiI THINJANH8-RG	“JAN Character Set Table” on page 33
Code 39	HitachiI T-C39H8	“Code 39 Character Set Table” on page 34
NW7	HitachiI THINNW7H8-RG	“NW7 Character Set Table” on page 35
Code 128	HitachiI THINC128H8-RG	“Code 128 Character Set Table” on page 35
ITF (without bearer bar)	HitachiI THINITFH8-RG	“ITF (Interleaved 2 of 5) Character Set Table” on page 40
ITF (with bearer bar)	HitachiI THINITFB-RG	
Customer Barcode	HitachiI THINPOSTBC-RG	“Customer Barcode Character Set Table” on page 42

Font type	PostScript font name
OCR B LetterPress M	OCRBLetM

Note:

The printed barcode's readability depends largely on factors such as the quality of paper used and performance of the barcode reader.

Before using this product, we recommend you thoroughly test it under the conditions in which it will be used.

Character Set Tables

This section describes the character sets used when specifying barcode characters for each barcode type.

JAN Character Set Table

The table below lists the character sets used when printing JAN barcode characters.

Character	Character set					
	Left side odd parity		Left side even parity		Right side even parity	
	HEX notation	ASCII notation	HEX notation	ASCII notation	HEX notation	ASCII notation
0	30	0	41	A	4B	K
1	31	1	42	B	4C	L
2	32	2	43	C	4D	M
3	33	3	44	D	4E	N
4	34	4	45	E	4F	O
5	35	5	46	F	50	P
6	36	6	47	G	51	Q
7	37	7	48	H	52	R
8	38	8	49	I	53	S
9	39	9	4A	J	54	T

Character	Character set					
	Left side odd parity		Left side even parity		Right side even parity	
	HEX notation	ASCII notation	HEX notation	ASCII notation	HEX notation	ASCII notation
Left side guard bar	22	"				
Right side guard bar	23	#				
Center bar	21	!				

Code 39 Character Set Table

The table below lists the character sets used when printing Code 39 barcode characters.

Character	Character set		Character	Character set		Character	Character set	
	HEX notation	ASCII notation		HEX notation	ASCII notation		HEX notation	ASCII notation
\$	24	\$	8	38	8	M	4D	M
%	25	%	9	39	9	N	4E	N
*	2A	*	(SP)	20	SP	O	4F	O
+	2B	+	A	41	A	P	50	P
-	2D	-	B	42	B	Q	51	Q
.	2E	.	C	43	C	R	52	R
/	2F	/	D	44	D	S	53	S
0	30	0	E	45	E	T	54	T
1	31	1	F	46	F	U	55	U
2	32	2	G	47	G	V	56	V
3	33	3	H	48	H	W	57	W
4	34	4	I	49	I	X	58	X
5	35	5	J	4A	J	Y	59	Y

Character	Character set		Character	Character set		Character	Character set	
	HEX notation	ASCII notation		HEX notation	ASCII notation		HEX notation	ASCII notation
6	36	6	K	4B	K	Z	5A	Z
7	37	7	L	4C	L	(SP)	40	@

NW7 Character Set Table

The table below lists the character sets used when printing NW7 barcode characters.

Character	Character set		Character	Character set		Character	Character set	
	HEX notation	ASCII notation		HEX notation	ASCII notation		HEX notation	ASCII notation
\$	24	\$	0	30	0	A	41	A
+	2B	+	1	31	1	B	42	B
-	2D	-	2	32	2	C	43	C
.	2E	.	3	33	3	D	44	D
/	2F	/	4	34	4	A	61	a
			5	35	5	B	62	b
			6	36	6	C	63	c
			7	37	7	D	64	d
			8	38	8			
			9	39	9			
			:	3A	:			

Code 128 Character Set Table

The table below lists the character sets used when printing Code 128 barcode characters.

Value	Character			Character set	
	CODE A	CODE B	CODE C	HEX notation	ASCII notation
0	SP	SP	00	20	SP
1	!	!	01	21	!
2	"	"	02	22	"
3	#	#	03	23	#
4	\$	\$	04	24	\$
5	%	%	05	25	%
6	&	&	06	26	&
7	'	'	07	27	'
8	(	(	08	28	(
9	)	)	09	29)
10	*	*	10	2A	*
11	+	+	11	2B	+
12	,	,	12	2C	,
13	-	-	13	2D	-
14	.	.	14	2E	.
15	/	/	15	2F	/
16	0	0	16	30	0
17	1	1	17	31	1
18	2	2	18	32	2
19	3	3	19	33	3
20	4	4	20	34	4
21	5	5	21	35	5
22	6	6	22	36	6
23	7	7	23	37	7
24	8	8	24	38	8

Value	Character			Character set	
	CODE A	CODE B	CODE C	HEX notation	ASCII notation
25	9	9	25	39	9
26	:	:	26	3A	:
27	;	;	27	3B	;
28	<	<	28	3C	<
29	=	=	29	3D	=
30	>	>	30	3E	>
31	?	?	31	3F	?
32	@	@	32	40	@
33	A	A	33	41	A
34	B	B	34	42	B
35	C	C	35	43	C
36	D	D	36	44	D
37	E	E	37	45	E
38	F	F	38	46	F
39	G	G	39	47	G
40	H	H	40	48	H
41	I	I	41	49	I
42	J	J	42	4A	J
43	K	K	43	4B	K
44	L	L	44	4C	L
45	M	M	45	4D	M
46	N	N	46	4E	N
47	O	O	47	4F	O
48	P	P	48	50	P
49	Q	Q	49	51	Q

Value	Character			Character set	
	CODE A	CODE B	CODE C	HEX notation	ASCII notation
50	R	R	50	52	R
51	S	S	51	53	S
52	T	T	52	54	T
53	U	U	53	55	U
54	V	V	54	56	V
55	W	W	55	57	W
56	X	X	56	58	X
57	Y	Y	57	59	Y
58	Z	Z	58	5A	Z
59	[	[	59	5B	[
60	\	\	60	5C	\
61	]	]	61	5D]
62	^	^	62	5E	^
63	_	_	63	5F	_
64	NUL	`	64	60	`
65	SOH	a	65	61	a
66	STX	b	66	62	b
67	ETX	c	67	63	c
68	EOT	d	68	64	d
69	ENQ	e	69	65	e
70	ACK	f	70	66	f
71	BEL	g	71	67	g
72	BS	h	72	68	h
73	HT	l	73	69	l
74	LF	j	74	6A	j

Value	Character			Character set	
	CODE A	CODE B	CODE C	HEX notation	ASCII notation
75	VT	k	75	6B	k
76	FF	l	76	6C	l
77	CR	m	77	6D	m
78	SO	n	78	6E	n
79	SI	o	79	6F	o
80	DLE	p	80	70	p
81	DC1	q	81	71	q
82	DC2	r	82	72	r
83	DC3	s	83	73	s
84	DC4	t	84	74	t
85	NAK	u	85	75	u
86	SYN	v	86	76	v
87	ETB	w	87	77	w
88	CAN	x	88	78	x
89	EM	y	89	79	y
90	SUB	z	90	7A	z
91	ESC	{	91	7B	{
92	FS	|	92	7C	|
93	GS	}	93	7D	}
94	RS	~	94	7E	~
95	US	DEL	95	7F	DEL
96	FNC 3	FNC 3	96	A1	
97	FNC 2	FNC 2	97	A2	
98	SHIFT	SHIFT	98	A3	
99	CODE C	CODE C	99	A4	

Value	Character			Character set	
	CODE A	CODE B	CODE C	HEX notation	ASCII notation
100	CODE B	FNC 4	CODE B	A5	
101	FNC 4	CODE A	CODE A	A6	
102	FNC 1	FNC 1	FNC 1	A7	
103	START(CODE A)			A8	
104	START(CODE B)			A9	
105	START(CODE C)			AA	
106	STOP			AB	

ITF (Interleaved 2 of 5) Character Set Table

The table below lists the character sets used when printing ITF barcode characters.

Character	Character set		Character	Character set		Character	Character set	
	HEX notation	ASCII notation		HEX notation	ASCII notation		HEX notation	ASCII notation
00	21	!	30	3F	?	60	5D]]
01	22	"	31	40	@	61	5E	^
02	23	#	32	41	A	62	5F	_
03	24	\$	33	42	B	63	60	`
04	25	%	34	43	C	64	61	a
05	26	&	35	44	D	65	62	b
06	27	'	36	45	E	66	63	c
07	28	(	37	46	F	67	64	d
08	29	)	38	47	G	68	65	E
09	2A	*	39	48	H	69	66	F
10	2B	+	40	49	I	70	67	G

Character	Character set		Character	Character set		Character	Character set	
	HEX notation	ASCII notation		HEX notation	ASCII notation		HEX notation	ASCII notation
11	2C	,	41	4A	J	71	68	H
12	2D	-	42	4B	K	72	69	I
13	2E	.	43	4C	L	73	6A	J
14	2F	/	44	4D	M	74	6B	K
15	30	0	45	4E	N	75	6C	L
16	31	1	46	4F	O	76	6D	M
17	32	2	47	50	P	77	6E	N
18	33	3	48	51	Q	78	6F	O
19	34	4	49	52	R	79	70	P
20	35	5	50	53	S	80	71	Q
21	36	6	51	54	T	81	72	R
22	37	7	52	55	U	82	73	S
23	38	8	53	56	V	83	74	T
24	39	9	54	57	W	84	75	U
25	3A	:	55	58	X	85	76	V
26	3B	;	56	59	Y	86	77	W
27	3C	<	57	5A	Z	87	78	X
28	3D	=	58	5B	[	88	79	Y
29	3E	>	59	5C	\	89	7A	Z
90	7B	{	94	A1	DEL	98	A5	
91	7C	|	95	A2		99	A6	
92	7D	}	96	A3		START	A7	
93	7E	~	97	A4		STOP	A8	

With ITF, one character set specifies the pair of a character denoted by a bar and a character denoted by a space.

However, the START character and the STOP character are specified by one character set.

Example:

To print the pair of characters of the bar representing “3” and the space representing “7”, specify “46” (HEX notation).

To print the pair of characters of the bar representing “7” and the space representing “3”, specify “6A” (HEX notation).

Customer Barcode Character Set Table

The table below lists the character sets used when printing customer barcode characters.

Character	Character set		Character	Character set	
	HEX notation	ASCII notation		HEX notation	ASCII notation
START	3C	<	CC1	61	a
STOP	3E	>	CC2	62	b
-	2D	-	CC3	63	c
0	30	0	CC4	64	d
1	31	1	CC5	65	e
2	32	2	CC6	65	f
3	33	3	CC7	67	g
4	34	4	CC8	68	h
5	35	5			
6	36	6			
7	37	7			
8	38	8			
9	39	9			

Barcode Sizes

The table below lists formulae for figuring the approximate dimensions of printed barcodes.

The dimensions of the barcode printed may vary, even when using the same program, depending on conditions such as the characteristics and resolution of the printer used, paper quality, etc. The dimensions derived from the formulae in this table are not guaranteed to be the actual dimensions of the printed barcodes. Use this table as a reference when estimating the size of printed barcodes.

Barcodes type	Formulae	
	Width	Height
JAN (standard)	$P \times 0.502$	$P \times 0.352$
	Side margins not included.	Indicates the height of the guard bar.
JAN (short version)	$P \times 0.354$	$P \times 0.352$
	Side margins not included.	Indicates the height of the guard bar.
Code 39	$P \times (C + 2) \times 0.106$	$P \times 0.352$
	Intercharacter gap of the left and right sides not included. "C" includes the checkdigit.	
NW7	$P \times (C1 \times 0.132 + C2 \times 0.148 - 0.026)$	$P \times 0.352$
	Intercharacter gap of the left and right sides not included. "C1" and "C2" include the checkdigit.	
Code 128	$P \times (C \times 0.081 + 0.096)$	$P \times 0.352$
	Formula for CODE C.	
ITF (without bearer bar)	$P \times ((C/2 \times 0.175) + 0.093)$	$P \times 0.352$
	Quiet zone not included. "C" includes the checkdigit.	
ITF (with bearer bar)	$P \times ((C/2 \times 0.137) + 0.323)$	$P \times 0.352$
	Bearer bar and quiet zone included. "C" includes the checkdigit.	Bearer bar included.

Barcodes type	Formulae	
	Width	Height
Customer Barcode	$P \times 7.297$	$P \times 0.342$
	Spaces before the black bar of START code and after the black bar of the STOP code are not included.	Indicates the height of the long bar.

P: Font size (point)

C: Number of characters

C1: Number of characters (0,1,2,3,4,5,6,7,8,9,-,\$)

C2: Number of characters (:,/,,+,A,B,C,D)

Index

A

Adobe Reader	
Windows OS.....	7

B

Barcode Settings.....	32
Barcode Sizes.....	43

C

Code 128 Character Set Table.....	35
Code 39 Character Set Table.....	34
Customer Barcode Character Set Table.....	42

I

ICC Profile	
Windows OS.....	7
Installing the Adobe PostScript Print Driver	
Macintosh OS.....	21
Installing the Print Driver	
Windows 7/Windows Server 2008 R2.....	15
Windows OS.....	8
Windows Vista/Windows Server 2008.....	12
Windows XP/Windows Server 2003.....	10
ITF Character Set Table.....	40

J

JAN Character Set Table.....	33
------------------------------	----

N

NW7 Character Set Table.....	35
------------------------------	----

R

readme file	
Mac OS.....	20
Windows OS.....	7