

CITIZEN

ZPL emulation Label printers
CUPS Driver Guide

For Ver. 1.1.0

CITIZEN SYSTEMS JAPAN CO., LTD.

Caution

- (1) You are hereby notified that any dissemination, distribution or copying of this document without written consent is strictly prohibited.
- (2) The contents of this document are subject to change without prior notice.
- (3) We tried to ensure the content of this document but if you find any mistakes, please let us know.
- (4) Regardless of article (3), we cannot be responsible for any damages/influences caused by the use of this driver.
- (5) If you do not agree any of above, you are not allowed to use the driver.

Trade marks

CUPS, Red Hat, Debian, CentOS, Ubuntu, Apple, Macintosh and all other company names or product names are the trademarks or registered trademarks of their respective holders.

Table of Contents

1. Introduction	4
1.1 Outline	4
1.2 Supported OS.....	4
1.3 Operating environment.....	4
1.4 Supported Model.....	4
2. Steps of CUPS driver installation	5
3. Printer driver installation	5
3.1 CUPS driver installation procedure to Linux	5
3.1.1 RPM file installation on GUI	5
3.1.2 RPM file installation on command line.....	6
3.2 CUPS driver installation procedure to Mac OSX	7
3.2.1 Steps of the installation	7
4. Adding printer to CUPS.....	10
4.1 Basic installation	10
4.2 Installation for Plug & Play interface	13
5. Driver function and settings	15
5.1 Steps up to the "Set Default Options" menu.....	15
5.2 "Set Default Options" menu	17
5.2.1 General.....	17
5.2.2 Printer Settings	17
6. CUPS driver uninstallation	18
6.1 CUPS driver uninstallation procedure of Linux	18
6.1.1 Deleting driver from CUPS	18
6.1.2 RPM file uninstallation on GUI	18
6.1.3 RPM file uninstallation on command line.....	18
6.2 CUPS driver uninstallation procedure of Mac OSX	18
6.2.1 Deleting driver from CUPS	18
6.2.2 Delete the filter file and the PPD file	18
6.2.3 Delete the package information.....	18

1. Introduction

1.1 Outline

This document describes an installation procedure and the function of the CUPS driver. Before using, please read this document, and use it correctly.

CUPS (Common Unix Printing System) is a standard printing system of Unix-based OS such as Linux and Mac OSX. The target reader of this document is expert of Unix-based OS and printing systems works correctly. If you do not understand what this document tries to explain, please leave the installation/setting to experts.

1.2 Supported OS

This driver supports the following operation system.

- Linux (32bit/64bit).
- Mac OSX 10.9 or higher.

1.3 Operating environment

The explanation of this document is tested in the following environment.

Linux Distribution		CUPS Ver.
Red Hat	CentOS 6.7 (32bit)	1.4.2
	CentOS 7.2 (64bit)	1.6.3
Debian	Ubuntu 14.04 LTS (32bit)	1.7.2
	Ubuntu 14.04 LTS (64bit)	1.7.2
	Raspbian Jessie (ARM)	1.7.5

Mac OSX	CUPS Ver.
Mac OSX (Intel) 10.15.7	2.3.1
Mac OSX (Apple Silicon) 14.2.1	2.3.4

1.4 Supported Model

This driver supported ZPL emulation barcode printers of CITIZEN.

For details of each model, refer to the Printer User's Guide.

2. Steps of CUPS driver installation

Driver installation takes following 2 steps.

Step1: Printer driver installation (Explanation in section3)

Step2: Adding printer to CUPS (Explanation in section4)

3. Printer driver installation

By this installation job, files (PPD=definition file and filter file) in the package are copied.

3.1 CUPS driver installation procedure to Linux

These instructions use CentOS6.5 as the example operation system. Depending on the version of the CentOS, there are some differences in the picture. But it is a similar procedure.

In Red Hat based Distribution, RPM package is used for installation.

The RPM file installation can be done either on GUI or command line (terminal).

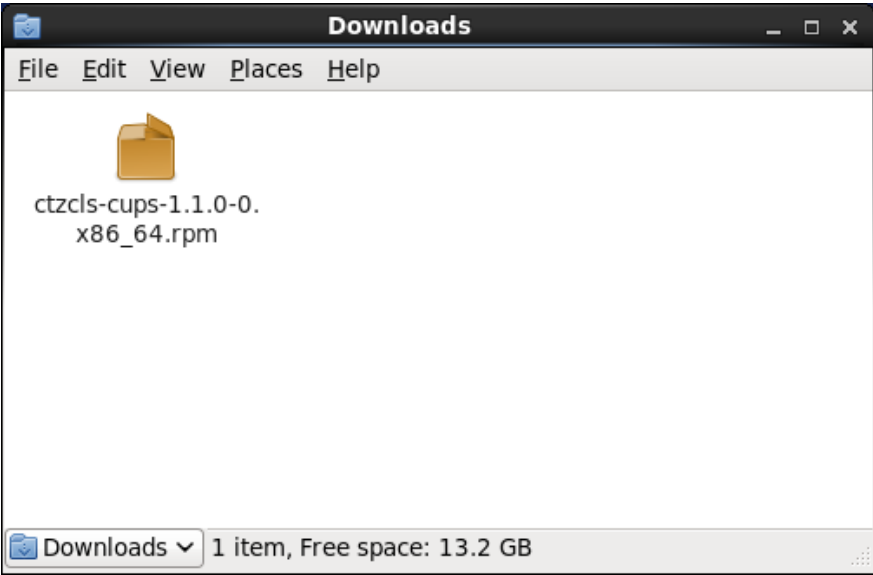
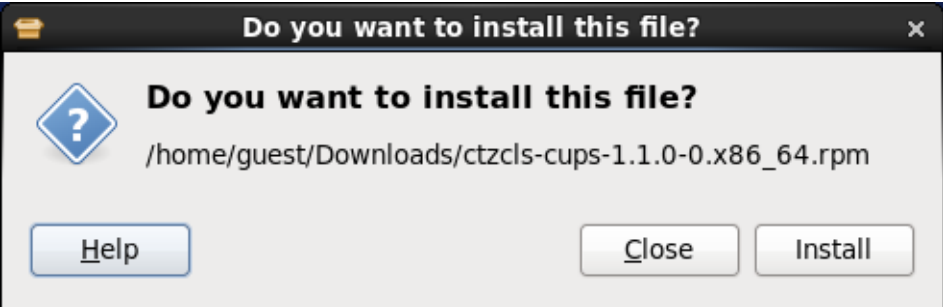
“DEB” package file is also available.

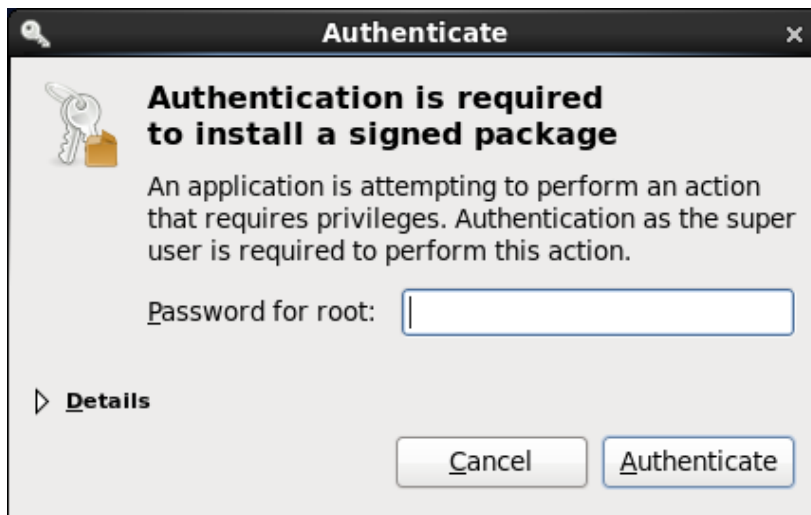
As the installation steps for the Debian based distribution like Ubuntu are close to the explanation of RPM file.

Please refer to this document for the installation with DEB package file as well.

(Exception: Explanation for command line is added for DEB file.)

3.1.1 RPM file installation on GUI

	<p>Double-click RPM file.</p> <p>It is not mandatory to put the ROM file on the desktop like left picture.</p>
	<p>When the message like left picture comes up, press “Install” button.</p>



When password for root is required, please enter the root password.
The installation of the printer driver is executed.

3.1.2 RPM file installation on command line

Enable the root privileges by "su" command.

Move to the directory where the RPM file is located.

Run "rpm" command with "-i" or "-U" option and file name.

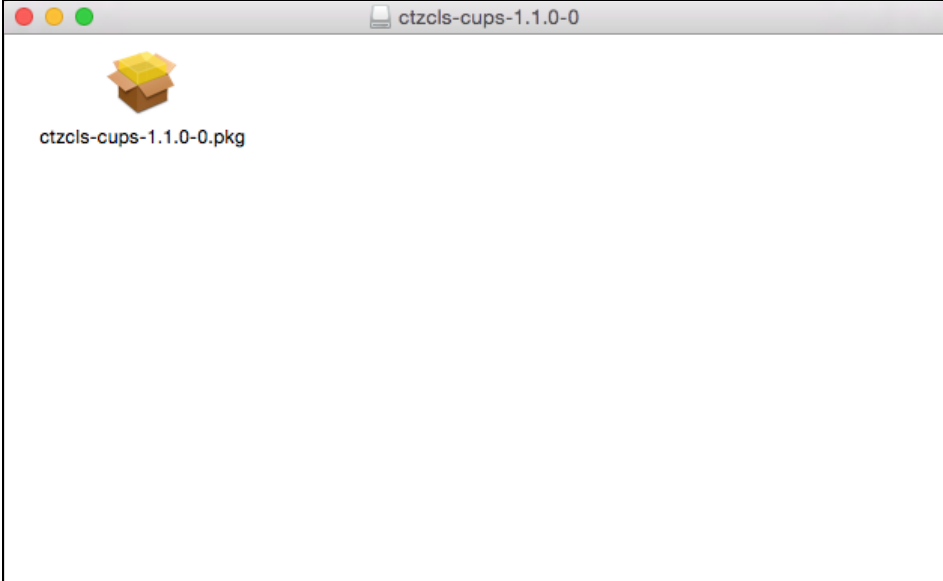
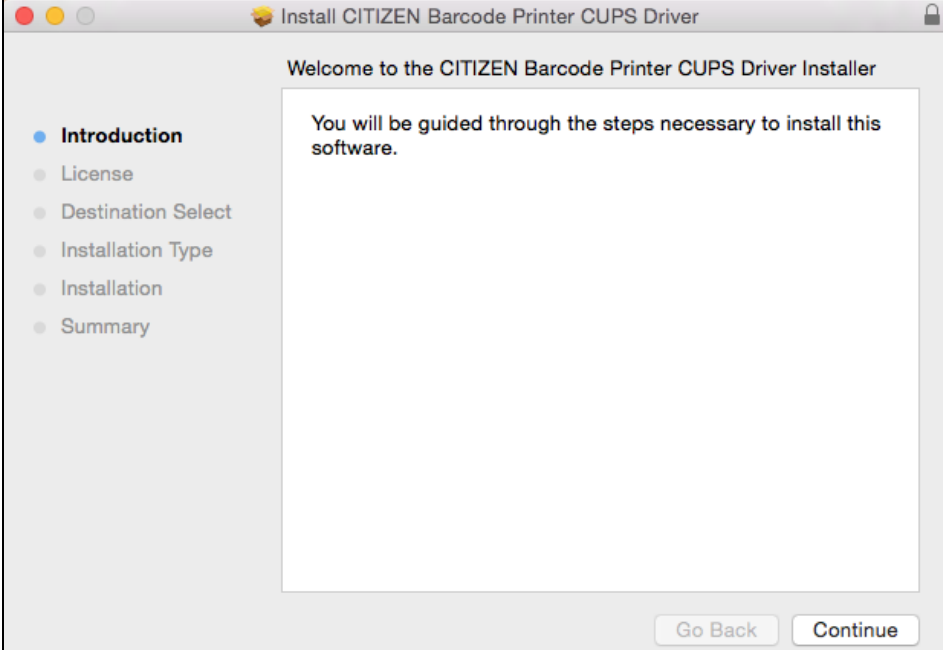
Example: `rpm -i ctzcls-cups-1.1.0-0.i686.rpm`

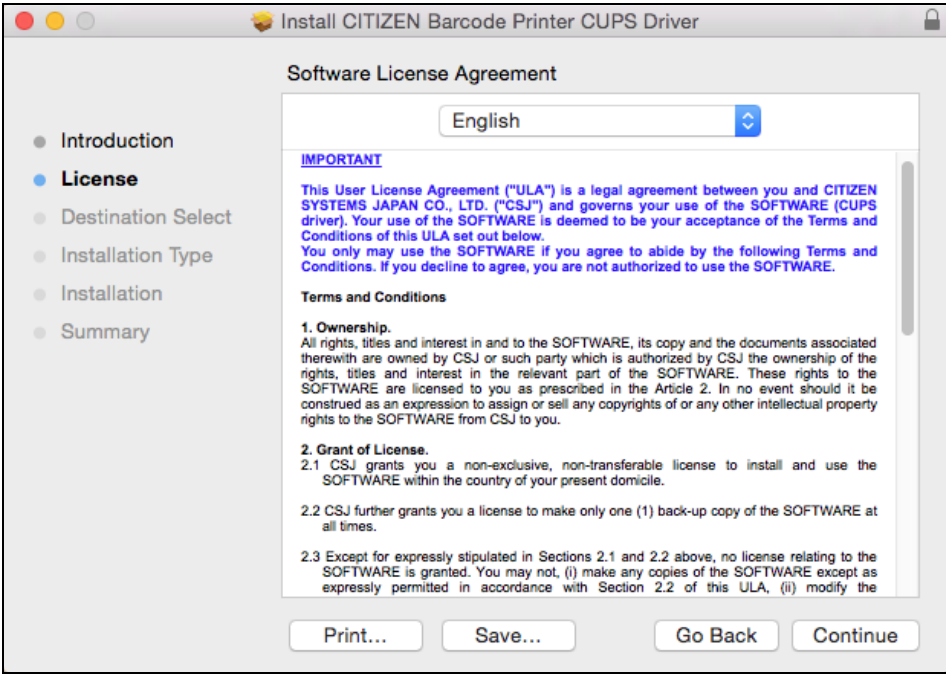
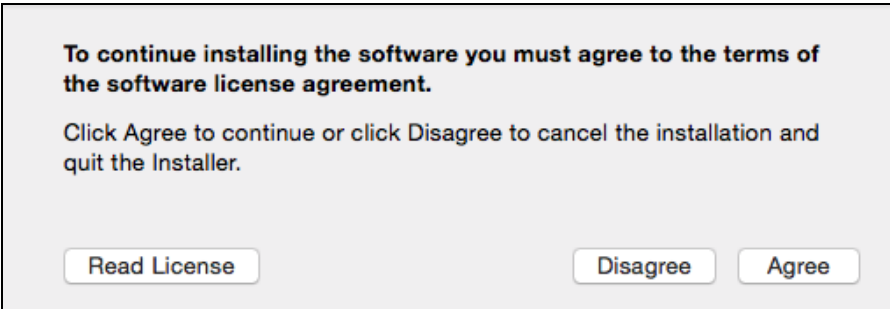
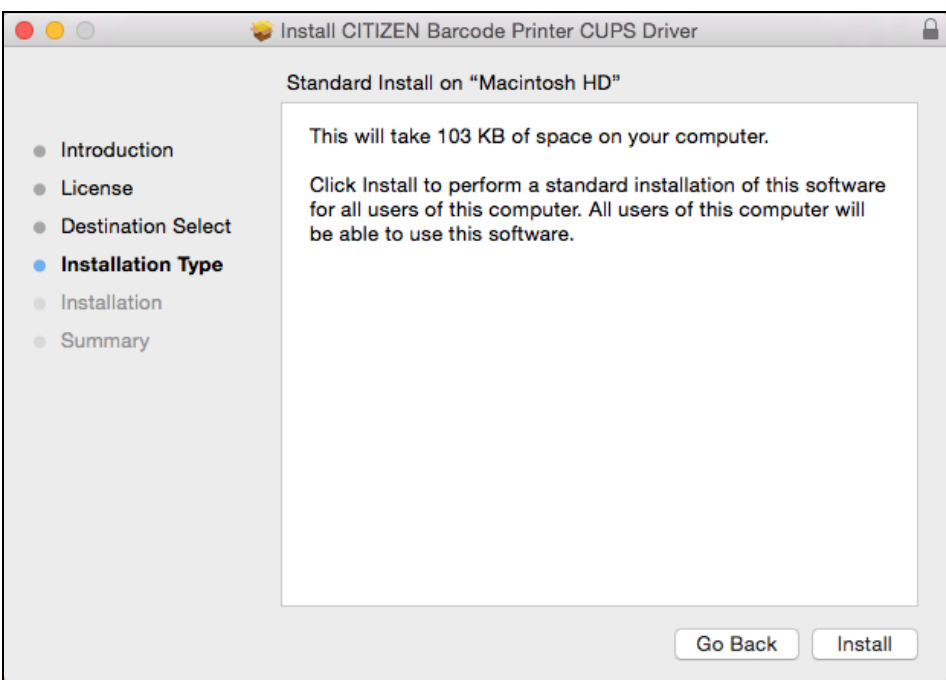
(For the DEB package file of Debian based distribution, use the dpkg command with "-i" option and file name.)

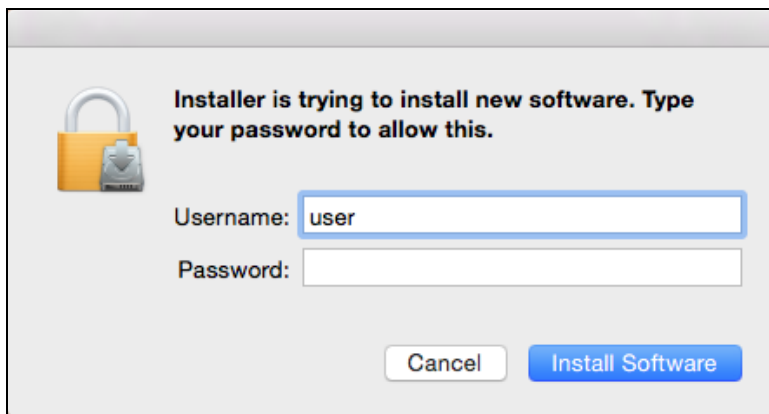
3.2 CUPS driver installation procedure to Mac OSX

These instructions use Mac OSX 10.10 as the example operation system. Depending on the version of the Mac OSX, there are some differences in the picture. But it is a similar procedure.

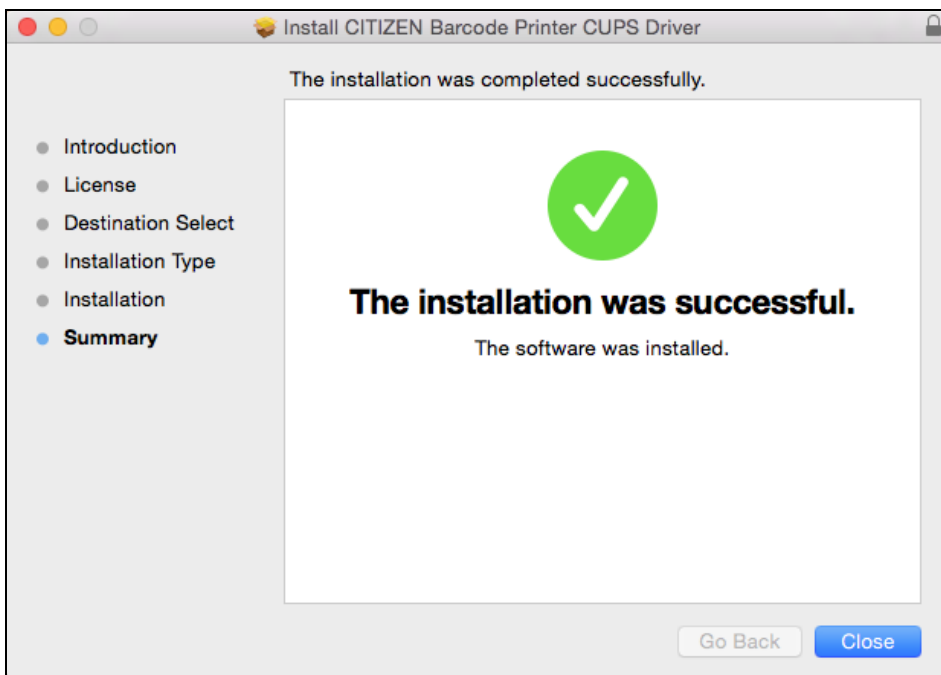
3.2.1 Steps of the installation

	<p>Double-click the disk image file (.dmg) to mount disk image. Then double-click the package file.</p>
	<p>When the message like left picture comes up, press "Continue" button.</p>

	<p>When the message like left picture comes up, press "Continue" button.</p>
	<p>If you agree with the software license agreement, press "Agree" button.</p>
	<p>When the message like left picture comes up, press "Install" button. Printer driver files are installed to boot volume.</p>



Please enter the password.
If you log-in as the user without administrator privileges, enter the name and password for administrator.



When installation is finished successfully, you can see the screen like this. Press "Close" button to finish installation.

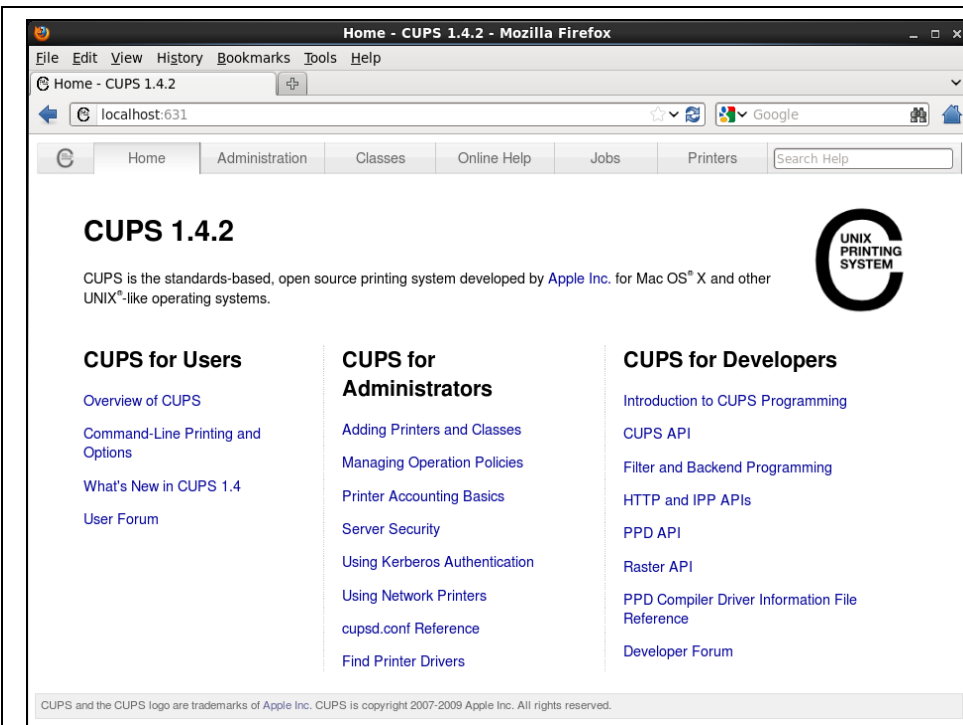
4. Adding printer to CUPS

This procedure is the same in Linux and Mac OSX.

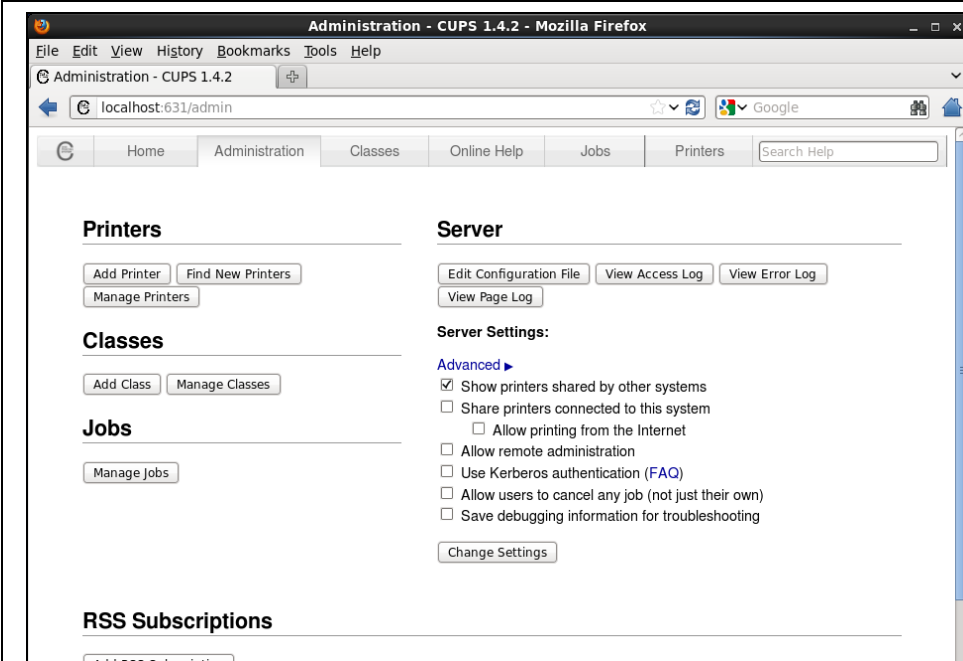
4.1 Basic installation

After the RPM file installation is done, the installation steps are slightly different by the printer interface.

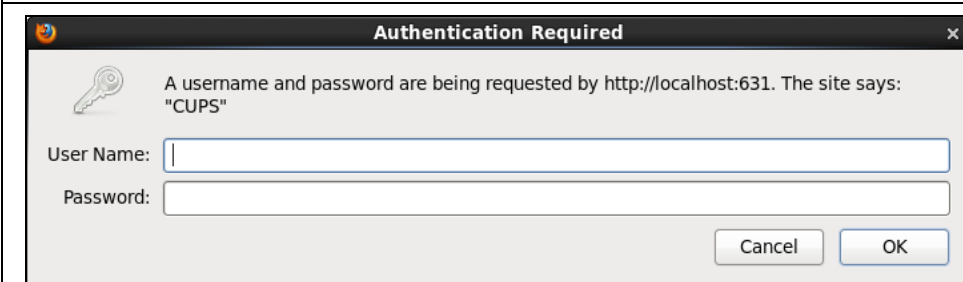
This example shows the steps to install driver of CL-S521 connected via serial port.



On the browser, navigate to <http://localhost:631>. This is the home page of CUPS.



Choose "Administration" tab and press "Add Printer" button.



If user name & password is required, please enter the user name and password of the administrator.

Add Printer

Local Printers:

- ☐ SCSI Printer
- ☒ Serial Port #1
- ☐ Serial Port #2
- ☐ LPT #1

Discovered Network Printers:

Other Network Printers:

- ☐ Backend Error Handler
- ☐ Internet Printing Protocol (ipp)
- ☐ AppSocket/HP JetDirect
- ☐ Internet Printing Protocol (http)
- ☐ LPD/LPR Host or Printer
- ☐ Internet Printing Protocol (https)
- ☐ Windows Printer via SAMBA

If the serial port to connect the printer is shown in the port list, choose the port (Ex. Serial Port #1) and press "Continue".

If the printer interface is LAN, select the AppSocket/HPJetDirect other network printer, Socket://IP address: 9100 and please enter.

Add Printer

Connection: serial:/dev/ttyS0?baud=115200

Baud Rate: 9600

Parity: None

Data Bits: 8

Flow Control: None

When serial port setting menu is shown, choose the setting to match the serial port of the connected printer. (Serial port setting of the printer can be checked by self printing.) Press "Continue" button.

Add Printer

Name: CL-S521
(May contain any printable characters except "/", "#", and space)

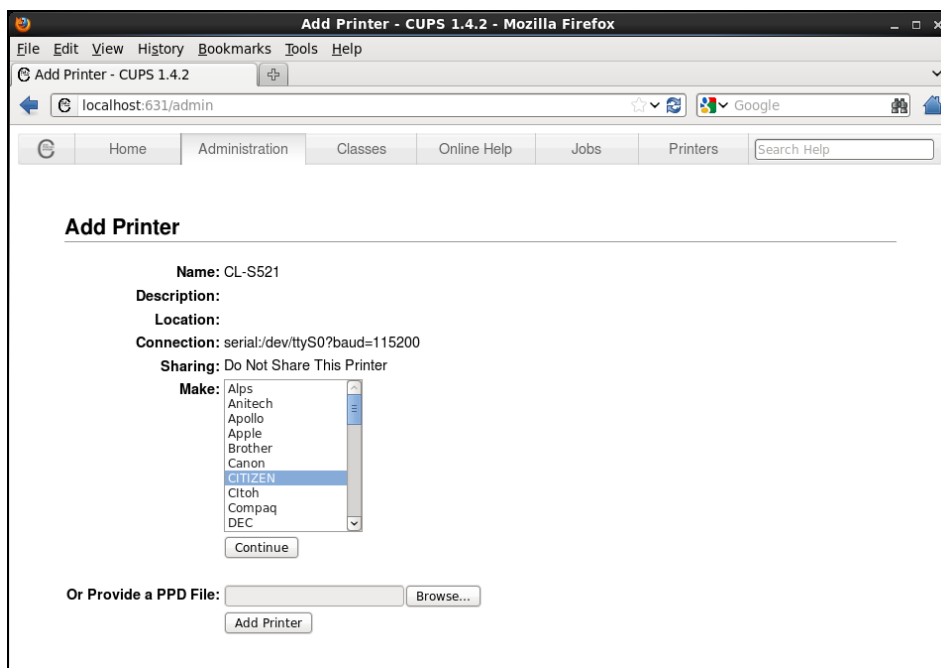
Description:
(Human-readable description such as "HP LaserJet with Duplexer")

Location:
(Human-readable location such as "Lab 1")

Connection: serial:/dev/ttyS0?baud=115200

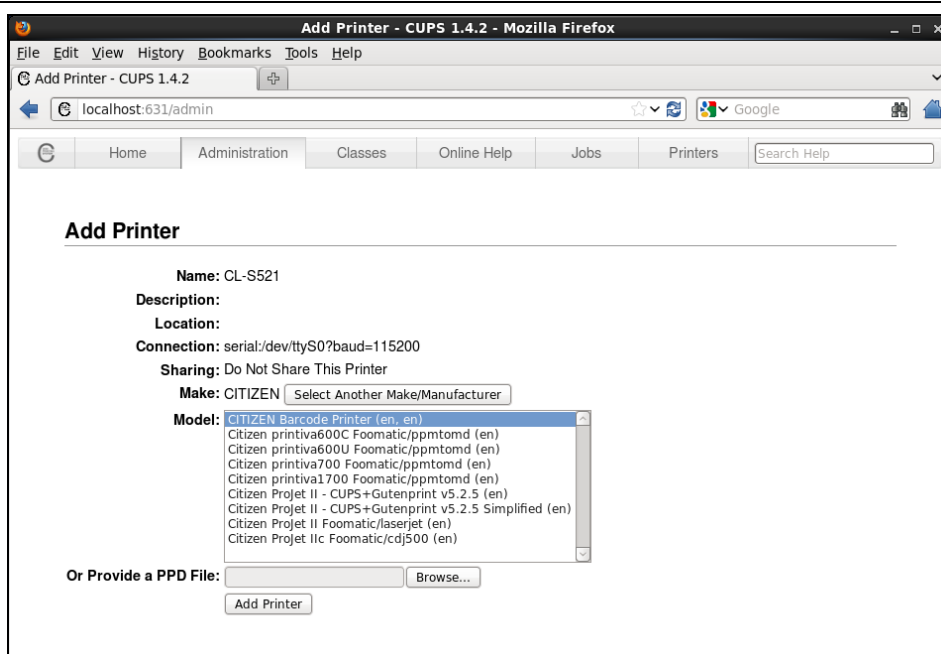
Sharing: ☐ Share This Printer

If you like, enter any name to "Name", "Description" and "Location". In this example, "CL-S521" is set to "Name". If you want to share the driver, put the check mark in "Share This Printer".



This is to choose the PPD file which is copied from RPM file.

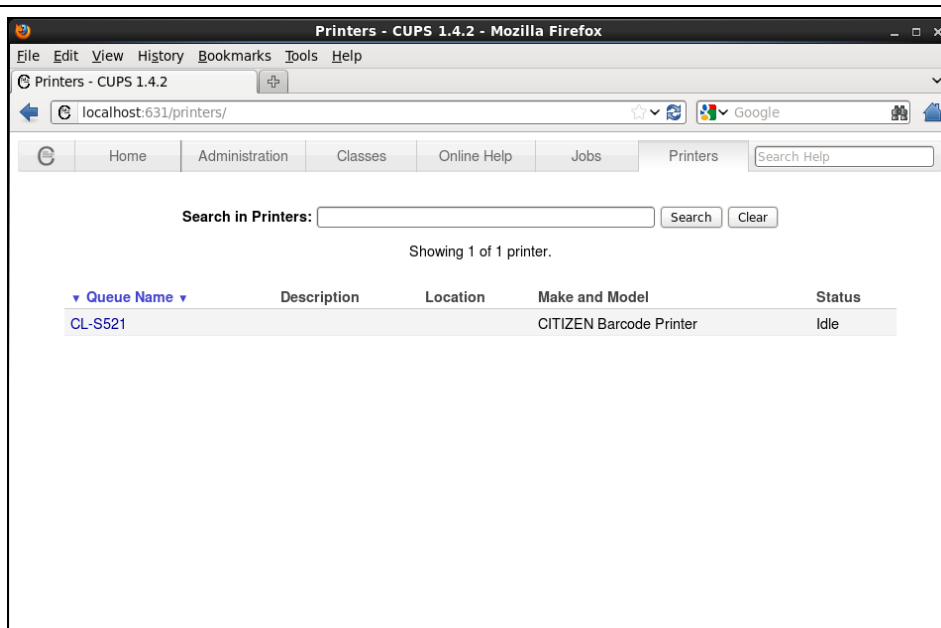
Choose "CITIZEN" from "Maker" list and press "Continue" button.



Choose the model to install in the "CITIZEN Barcode Printer" list and press "Add Printer" button.

This will end the printer driver installation and move to "Set Default Options" menu.

If you continue setting for "Set Default Options", please move to section 5.2.

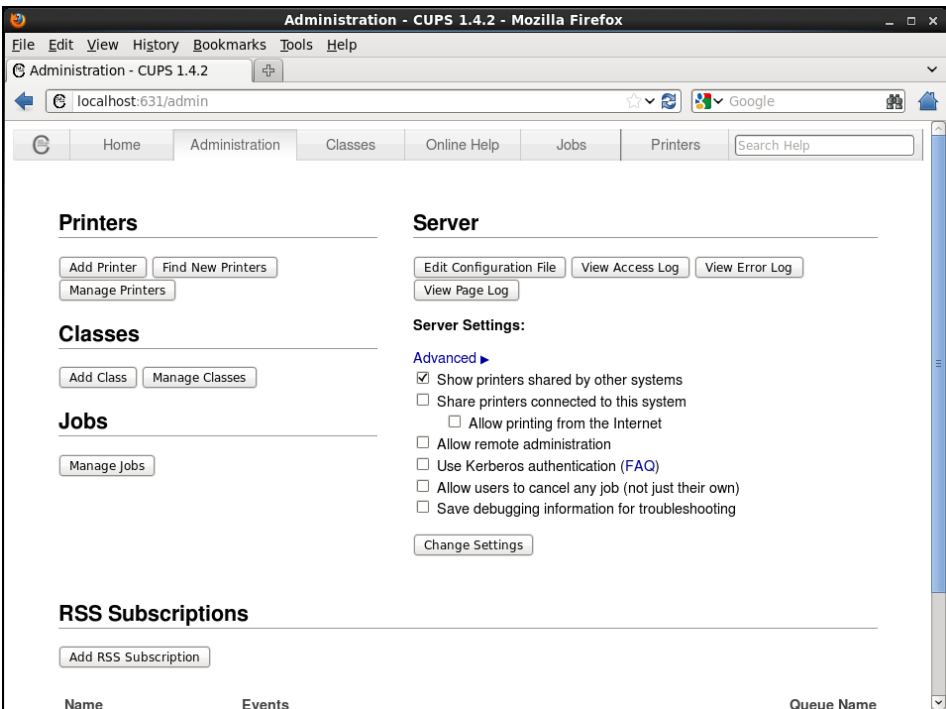
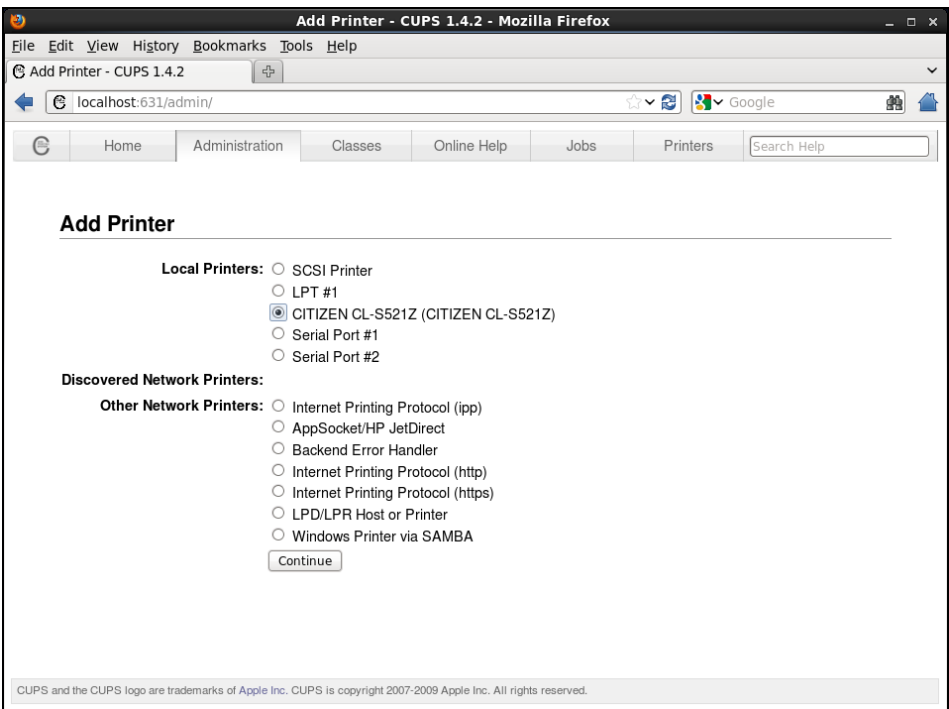


Added printer driver CL-S521 can be found on the "Printers" tab.

4.2 Installation for Plug & Play interface

After the RPM file installation is done, connect the printer. If the interface is USB/parallel interface (where plug & Play function works), printer is automatically recognized by the CUPS.

And the steps to install driver is slightly different from basic installation.

	<p>Choose "Administration" tab and press "Add Printer" button.</p>
	<p>Printer can be found at "Local Printers" Choose the printer and press "Continue".</p>

Add Printer - CUPS 1.4.2 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

localhost:631/admin

Home Administration Classes Online Help Jobs Printers Search Help

Add Printer

Name: CITIZEN_CL-S521Z
(May contain any printable characters except " ", "#", and space)

Description: CITIZEN CL-S521Z
(Human-readable description such as "HP LaserJet with Duplexer")

Location:
(Human-readable location such as "Lab 1")

Connection: usb://CITIZEN/CL-S521Z

Sharing: ☐ Share This Printer

Continue

The "Name" and "Description" are already filled. Follow the steps of basic installation from here. If necessary, you can change them.

Add Printer - CUPS 1.4.2 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

localhost:631/admin

Home Administration Classes Online Help Jobs Printers Search Help

Add Printer

Name: CITIZEN_CL-S521Z

Description: CITIZEN CL-S521Z

Location:

Connection: usb://CITIZEN/CL-S521Z

Sharing: Do Not Share This Printer

Make: CITIZEN [Select Another Make/Manufacturer](#)

Model: CITIZEN Barcode Printer (en, en)
Citizen printiva600C Foomatic/ppmtomd (en)
Citizen printiva600U Foomatic/ppmtomd (en)
Citizen printiva700 Foomatic/ppmtomd (en)
Citizen printiva1700 Foomatic/ppmtomd (en)
Citizen Project II - CUPS+Gutenprint v5.2.5 (en)
Citizen Project II - CUPS+Gutenprint v5.2.5 Simplified (en)
Citizen Project II Foomatic/laserjet (en)
Citizen Project IIc Foomatic/cdj500 (en)

Or Provide a PPD File: [Browse...](#)

Add Printer

Choose the model to install in the "CITIZEN Barcode Printer" list and press "Add Printer" button. This will end the printer driver installation and move to "Set Default Options" menu. If you continue setting for "Set Default Options", please move to section 5.2.

Printers - CUPS 1.4.2 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Printers - CUPS 1.4.2

localhost:631/printers/

Home Administration Classes Online Help Jobs Printers Search Help

Search in Printers: [Search](#) [Clear](#)

Showing 1 of 1 printer.

Queue Name	Description	Location	Make and Model	Status
CITIZEN_CL-S521Z	CITIZEN CL-S521Z		CITIZEN Barcode Printer	Idle

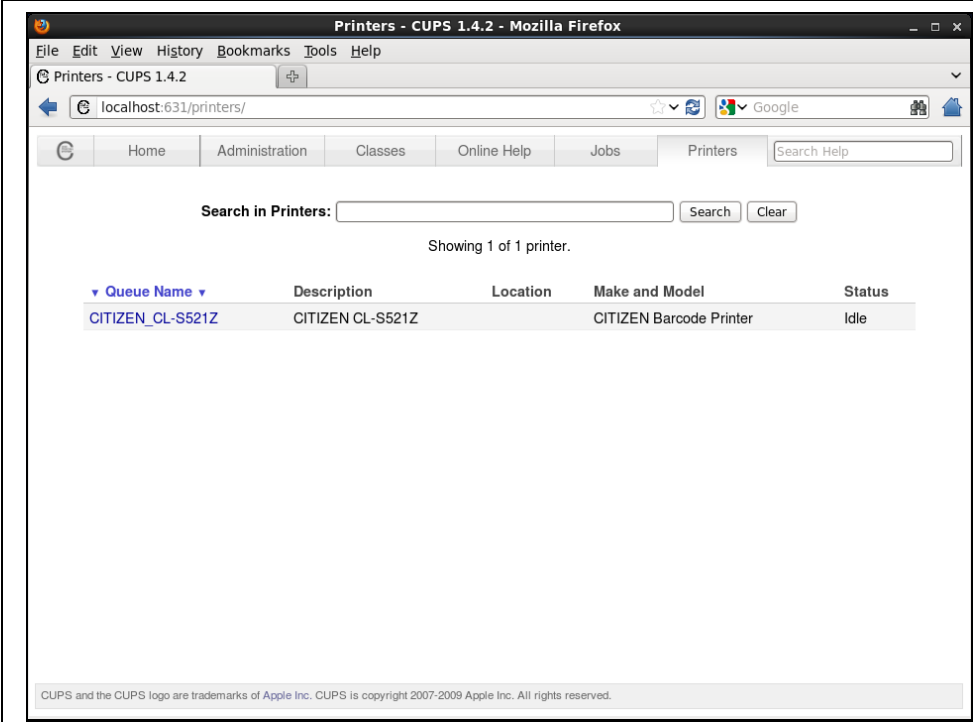
When the driver installation is finished, driver can be found with the name recognized by CUPS.

5. Driver function and settings

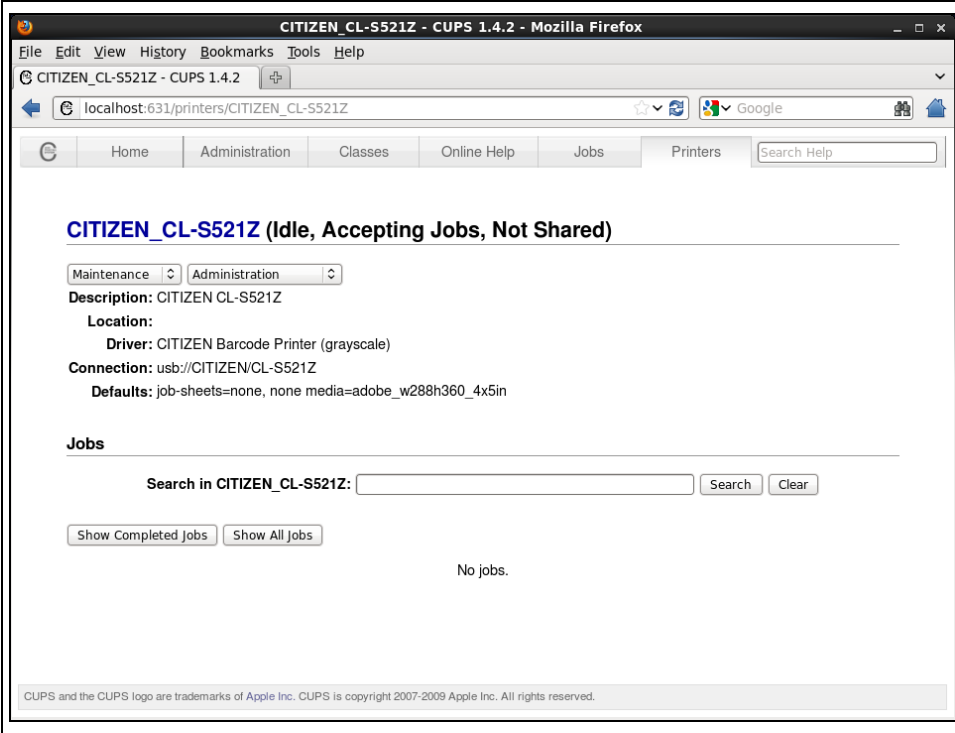
This driver is not designed for specific model but for generic specifications of our barcode printers. Therefore, it is necessary to change the settings after the driver installation according to the specification of each model and configuration. This procedure is the same in Linux and Mac OSX.

5.1 Steps up to the "Set Default Options" menu

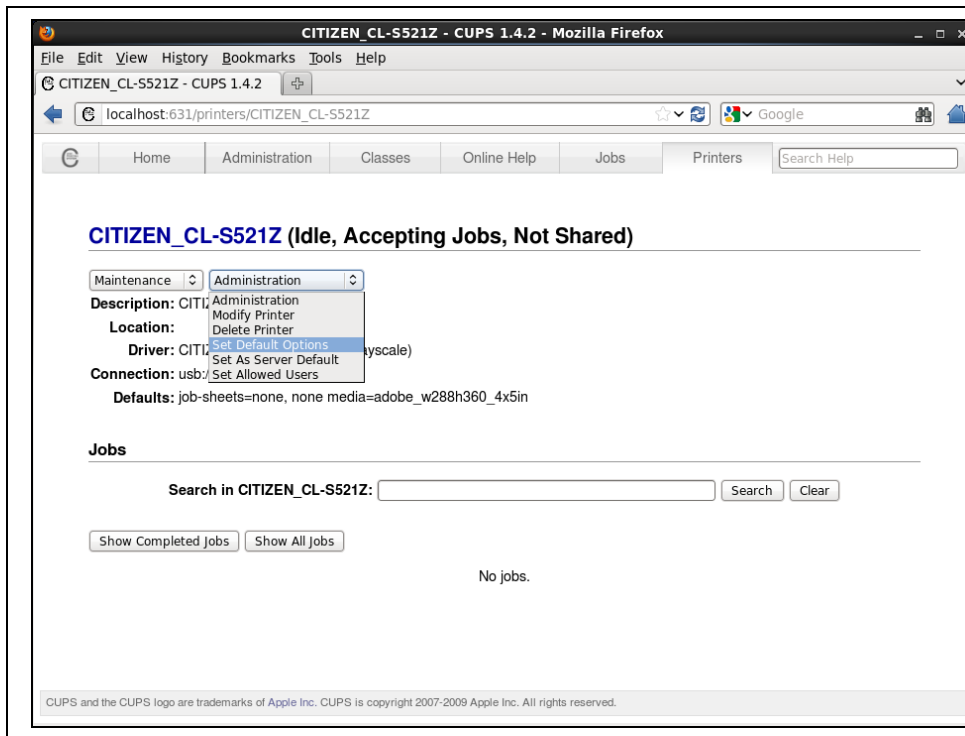
Choose "Printers" tab.



Installed drivers are shown. Choose the link of the driver for function setting.



"Maintenance" and "Administration" menu can be found.

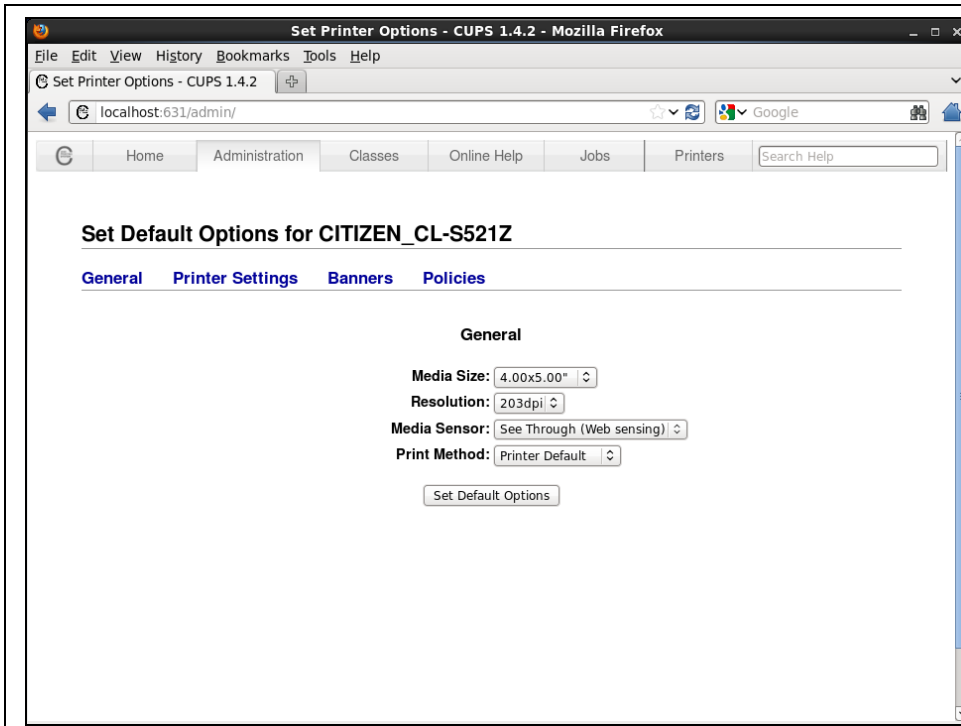


In the “Administration” menu, choose “Set Default Options” for driver option (function) setting.

5.2 "Set Default Options" menu

In this menu, "General" and "Printer Settings" are unique options available on our CUPS driver. Since "Banners" and "Policies" are common function of CUPS, explanation is omitted.

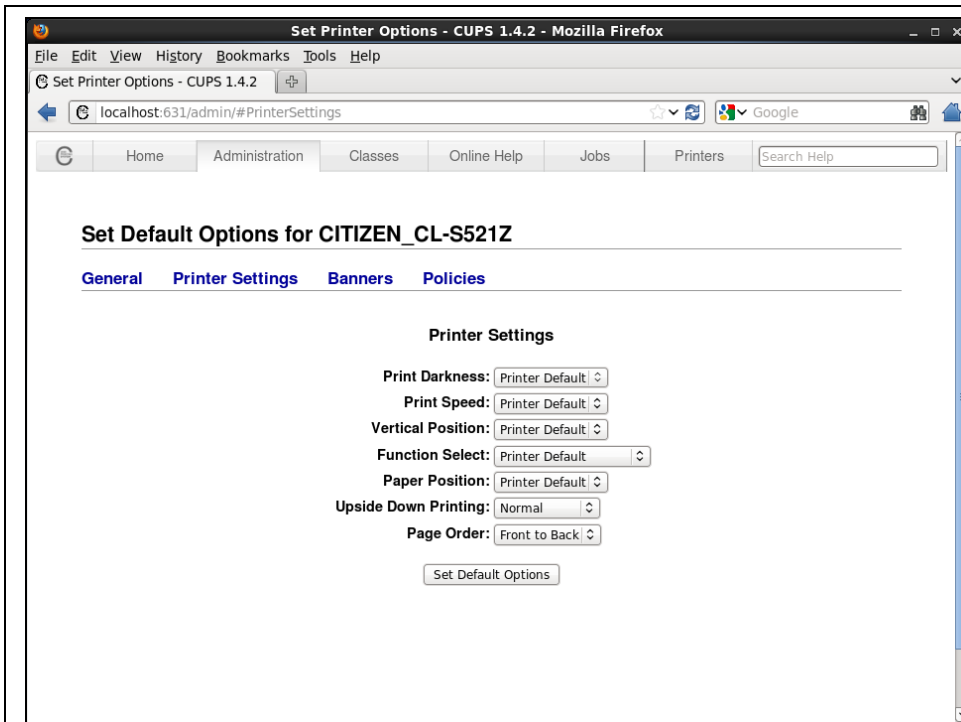
5.2.1 General



You can choose following setting in "General".

Media Size:
1.25x0.25" - 6.00x6.50"
Custom
Resolution:
203 dpi
300 dpi
Media Sensor:
Continuous
See Through
Reflect
Print Method:
Printer Default
Thermal Transfer
Direct Thermal

5.2.2 Printer Settings



You can choose following setting in "Printer Settings".

Print Darkness:
1 - 30
Print Speed:
1inch/sec. -
10inches/sec.
Vertical Position:
0 dot - 120 dots
Function Select:
Tear-Off
Peel-Off
Rewind
Cutter
Cutter (Job End Only)
Paper Position:
-120 dots - 120 dots
Upside Down Printing:
Normal
Upside Down
Page Order:
Front to Back
Back to Front

6. CUPS driver uninstallation

6.1 CUPS driver uninstallation procedure of Linux

6.1.1 Deleting driver from CUPS

From Administration menu explained in section 5.1, choose "Delete Printer".

6.1.2 RPM file uninstallation on GUI

If the software to manage the package is available, uninstall the RPM file.

6.1.3 RPM file uninstallation on command line

Enable the root privileges by "su" command.

Run the "rpm" command with "-e" option.

Example: rpm -e ctzcls-cups

(For the DEB package file of Debian based distribution, use the dpkg command with "-r" option and file name.)

6.2 CUPS driver uninstallation procedure of Mac OSX

6.2.1 Deleting driver from CUPS

From Administration menu explained in section 5.1, choose "Delete Printer".

6.2.2 Delete the filter file and the PPD file

Installer installs the filter file and PPD file.

If you want to delete the files, run "Terminal" and delete filter files and PPD files by "rm" command. Deleting file requires administration privileges. So use "sudo" command like "sudo rm [file]".

[Installed file list]

Filter file

Library	Printers	CITIZEN	Filter	rastertocls
---------	----------	---------	--------	-------------

PPD file

Library	Printers	PPDs	Contents	Resources	ctzcls.ppd.gz
---------	----------	------	----------	-----------	---------------

6.2.3 Delete the package information

Package information added by the installation can be deleted as follows.

Command to delete package information

```
sudo pkgutil --forget jp.co.citizen-systems.ctzcls-cups.pkg
```

ZPL emulation Label printers CITIZEN CUPS Driver Guide

May 7, 2024 For Ver. 1.1.0

CITIZEN SYSTEMS JAPAN CO., LTD.

<https://csj.citizen.co.jp/>