Application Note: ZSN108111-v4

Date: June 12, 2019

Product(s) Affected: Zebra printers using CPCL, EPL and ZPL command languages.

Task: Installing the CUPS Zebra printer driver on a Linux/Unix or Mac OS X operating system.

Overview.

Zebra does not provide a driver for use on Linux/Unix or Mac OS X operating systems but instead suggests the use of the Common Unix Printing System (CUPS) driver.

This document describes how to use CUPS to print to Zebra printers on a Linux/Unix or Mac OS X operating system. The CUPS drivers with Zebra printer support are included in some Linux distributions and Mac OS X 10.6 Snow Leopard and above.

Zebra's technical support staff can offer limited assistance by providing documentation and escalating issues to the CUPS developers for investigation when used on the platforms listed below. After escalation, Zebra has no control on when issues may be investigated or addressed.

Support is limited to general inquiries relating to the operating systems listed below and providing existing documentation for the actions described below. Zebra support representatives are not available to provide step by step installation via the telephone. In order to provide solutions, any inquiries or issues should be reproducible in our support lab.

Limited support and documentation are available for the following actions relating to the 1.4 and later versions of CUPS:-

- Providing details on where to obtain a download of the CUPS driver.
- Installing a CUPS Zebra printer driver.
- Configuring the CUPS Zebra printer driver.
- Printing a test page to a Zebra printer.

Zebra provides limited assistance for CUPS on the following platforms:-
- RedHat
- SUSE
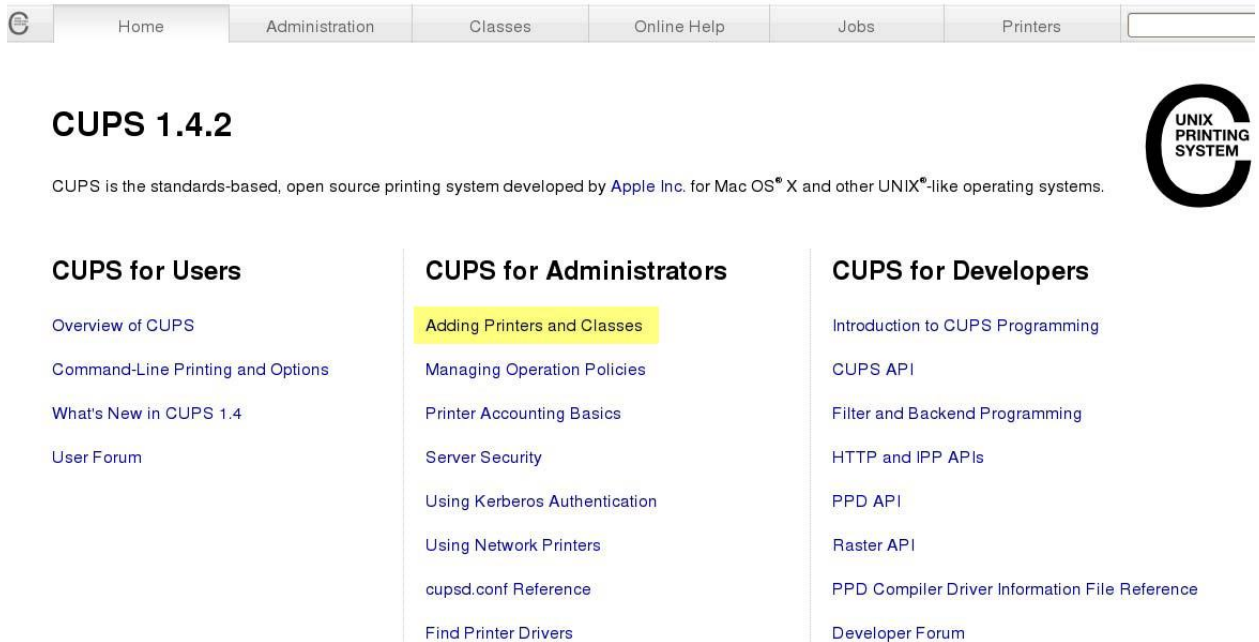- Ubuntu
- MAC OS X (Snow Leopard and above)

Click here and search our Support Community for additional information on each of the above listed actions.

For further information, support above and beyond what Zebra provides and latest versions of CUPS, visit www.cups.org

Procedure

This procedure describes how to install a CUPS driver and configure the settings.
The examples are based on CUPS v1.4.4.

1. Open a web browser (typically Safari for Mac OS X or FireFox for Linux) and enter **http://localhost:631** in the address bar to access the CUPS configuration web page.

2. From the Home page select 'Adding Printers and Classes'.

3. Under Printers, select 'Add Printer' (Classes are a way of grouping similar printers if you desire). The system will search for printers.

Printers

(Add Printer) (Find New Printers) (Manage Printers)

Classes

(Add Class) (Manage Classes)

Jobs

(Manage Jobs)

Add Printer

✳ Looking for printers...

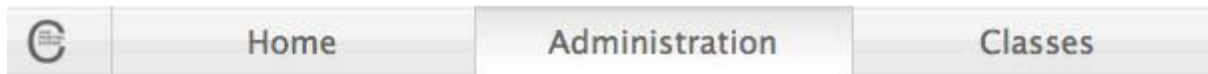**Local Printers:** ○ Fax Printer (fax)
Discovered Network Printers:
Other Network Printers:
(Continue)

4. CUPS will complete a search for printers and display a list of discovered printers and ports under the following categories :-
   • Local printers

- Discovered Network Printers
- Other network printers

An example is shown below. The list of ports and printers will vary depending on your system.

5. **<u>Network connected printers.</u>**

   5.1. For a network connected printer, select **AppSocket/HP JetDirect** and click continue.
   5.2. When prompted to enter connection information, enter the printer's IP address and port number in this format: **socket://<ip address>:<port>**.
   The default port for Zebra Desktop and Tabletop printers is 9100.
   The default port for Zebra Mobile printers is 6101.
   Example:
    socket://10.3.9.55:9100

Add Printer

Connection: `socket://10.3.9.55:9100`

Examples:

```
http://hostname:631/ipp/
http://hostname:631/ipp/port1

ipp://hostname/ipp/
ipp://hostname/ipp/port1

lpd://hostname/queue

socket://hostname
socket://hostname:9100
```

See "Network Printers" for the correct URI to use with your printer.

[Continue]

5.3. Click continue. Enter Name, Description and Location information for the printer. Check the 'Share this printer' option if the printer is to be shared. Click continue.

Add Printer

Name: `GK420D`
(May contain any printable characters except "/", "#", and space)

Description: `Ethernet-10.3.9.55`
(Human-readable description such as "HP LaserJet with Duplexer")

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

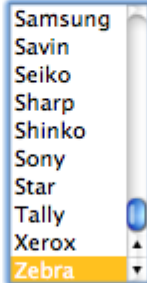**Connection:** socket://10.3.9.55:9100

Sharing: ☐ Share This Printer

[Continue]

5.4. Select the make of printer. Scroll through the list and select 'Zebra' and click continue. If Zebra does not appear in the list of printer manufacturers, it may be necessary to perform a system update that includes an update to the CUPS driver. Zebra does not provide support when a PPD file is used to add a printer.

Add Printer

Name: GK420D
Description: Ethernet-10.3.9.55
Location: LAB
Connection: socket://10.3.9.55:9100
Sharing: Do Not Share This Printer
Make:
- Samsung
- Savin
- Seiko
- Sharp
- Shinko
- Sony
- Star
- Tally
- Xerox
- Zebra

[Continue]

Or Provide a PPD File: [Choose File] no file selected

[Add Printer]

5.5. The CUPS driver does not provide a full list of Zebra printer models. Instead, select the command language used by the printer from CPCL, EPL1, EPL2 or ZPL and click 'Add Printer'.

Add Printer

Name: GK420D
Description: Ethernet–10.3.9.55
Location: LAB
Connection: socket://10.3.9.55:9100
Sharing: Do Not Share This Printer
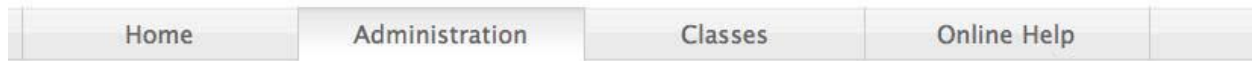**Make:** Zebra (Select Another Make/Manufacturer)
Model:

> Zebra CPCL Label Printer (en)
> Zebra EPL1 Label Printer (en)
> Zebra EPL2 Label Printer (en)
> Zebra ZPL Label Printer (en)

Or Provide a PPD File: (Choose File) no file selected

(Add Printer)

5.6. Continue to step 8 for details on configuring the default printer options.

6. **USB connected printers.**

6.1. With the printer connected and powered on, the printer will be detected and listed under Local Printers. Select the printer and click continue.

6.2. If the printer is connected and turned on after the search has completed, a found new printer dialog box will appear and you will be asked to choose a driver from a database.

6.3. Choose the "Select printer from database" option and select Zebra from the list of printer manufacturers. If Zebra does not appear in the list of printer manufacturers, it may be necessary to perform a system update that includes an update to the CUPS driver. Click the forward or next button.

6.4. The CUPS driver does not provide a full list of Zebra printer models. Instead, select the command language used by the printer from CPCL, EPL1, EPL2 or ZPL and click 'Add Printer'.

6.5. Enter Printer Name, Description and Location information for the printer. The name and description boxes will be pre-populated by the PnP information and can be changed if desired. Click Apply.

6.6. A test page dialog will be displayed. Print a test page if required.

6.7. Continue to step 8 for details on configuring the default printer options.

7. **Parallel and Serial connected printers.**

7.1. After clicking Add Printer from the main Administration page, the Add Printer page will show available communication ports including Serial and Parallel ports as shown in the example below. If the printer is to be connected to either a parallel or serial port, select the appropriate port and continue the installation.

Add Printer

Local Printers:	○ Serial Port #1
	○ Serial Port #2
	○ SCSI Printer
	○ LPT #1
	○ HP Printer (HPLIP)
	○ HP Fax (HPLIP)
Discovered Network Printers:	○ Zebra Printer (Zebra Printer)
Other Network Printers:	○ Internet Printing Protocol (ipp)
	○ LPD/LPR Host or Printer
	○ Internet Printing Protocol (http)
	○ ThinPrint Gateway Printer for VMware
	○ AppSocket/HP JetDirect
	○ ThinPrint Printer for VMware
	○ Windows Printer via SAMBA
	○ Backend Error Handler

[Continue]

7.2. Enter a Name, Description and Location for the printer and then click continue.

7.3. Select the make of printer. Scroll through the list and select 'Zebra' and click continue. If Zebra does not appear in the list of printer manufacturers, it may be necessary to perform a system update that includes an update to the CUPS driver. Zebra does not provide support when a PPD file is used to add a printer.

7.4. The CUPS driver does not provide a full list of Zebra printer models. Instead, select the command language used by the printer from CPCL, EPL1, EPL2 or ZPL and click 'Add Printer'.

7.5. Continue to step 8 for details on configuring the default printer options.

8. **Set the default printer options.**

8.1. After adding a printer the 'Set Default Options' page will be displayed. The different options for CPCL, EPL1, EPL2 and ZPL are listed below.

8.2. At any time, the default printer options can be changed. To do this, go to the CUPS Home page and select 'Adding Printers and Classes'. Under 'Printers', click the 'manage printers' button.

8.2.1.Click the printer you wish to configure.

8.2.2.From the Administration drop down list, select 'Set Default Options'.

8.3. **For ZPL Printers, the following options are available to configure under the General category.**

8.3.1.Media size
    8.3.1.1.   Select the media size from the drop down list.

8.3.2.Resolution
    8.3.2.1.   Select the printer resolution from the drop down list.

8.3.3.Media Tracking
    8.3.3.1.   Select the media tracking type from the drop down list.

8.3.4.Media Type
    8.3.4.1.   Select the media type from the drop down list.
    8.3.4.2.   Selecting the Printer Default option will result in no media type command being sent to the printer. The current printer setting will be used.

8.4. **For EPL1 Printers, the following options are available to configure under the General category.**

8.4.1.Media size
    8.4.1.1.   Select the media size from the drop down list.

8.4.2.Resolution
    8.4.2.1.   Select the printer resolution from the drop down list.

8.5. **For EPL2 Printers, the following options are available to configure under the General category.**

8.5.1.Media size
    8.5.1.1.   Select the media size from the drop down list.

8.5.2.Resolution
    8.5.2.1.   Select the printer resolution from the drop down list.

8.5.3.Media Type
    8.5.3.1.   Select the media type from the drop down list.

8.5.3.2. Selecting the Printer Default option will result in no media type command being sent to the printer. The current printer setting will be used.

8.6. **For CPCL Printers, the following options are available to configure under the General category.**

8.6.1.Media size
8.6.1.1. Select the media size from the drop down list.

8.6.2.Resolution
8.6.2.1. Select the printer resolution from the drop down list.

8.6.3.Media Tracking
8.6.3.1. Select the media tracking type from the drop down list.