

# **HID® FARGO® HDP® 6600**

CUPS Driver  
User Guide

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## Contacts

For technical support, please visit: <https://support.hidglobal.com>.

## What's new

Date	Description	Revision
May 2023	Initial release.	A.0

A complete list of revisions is available in [Revision history](#).

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# Section 01

## Introduction

## 1.1 Supported CUPS driver versions


Common Unix Printing System (CUPS) is a modular printing system for Unix-like computer operating systems. The CUPS driver allows a computer to act as a print server. A computer running the CUPS driver as a host can accept print jobs from client computers, process these jobs, and send them to the appropriate printer.

The minimum required CUPS version for this driver is 1.7.2. If a previous version of the CUPS interface is being used, contact HID Global Technical Support at <https://support.hidglobal.com>.

The operating systems able to use CUPS include 64-bit Linux versions:

- NeoKylin 7
- NeoKylin 10
- Ubuntu 14.04
- Ubuntu 16.04
- Ubuntu 18.04
- Ubuntu 20.04
- Unity OS

## 1.2 Firmware requirements

Printer firmware 1.0.4.10 is required to use the CUPS driver with an HDP6600 card printer connected by USB. You can print a settings card to verify the firmware version. From the printer display, use the buttons to select  > **Test Prints** > **Settings**.

### 1.2.1 Linux with USB connection

For each Linux host machine, only one USB connection to a printer is supported.

# Section **02**

Installation and maintenance

## 2.1 CUPS driver download

1. Open a web browser and go to: <https://www.hidglobal.com/drivers>.
2. From the **All Brands** list, select **FARGO**.
3. From the **All OSs** list, select **Linux** or **Linux x64**.
4. From the list of driver files, select the **HID FARGO HDP6600 Linux driver**. Click **DOWNLOAD**.
5. Read the End User License Agreement and click **I Accept** to download the driver.

## 2.2 CUPS driver manual installation

**Important:** The HDP6600 card printer must not be connected to the computer using a USB cable before the driver is installed.

1. Copy the downloaded driver archive file into the root directory of the system.
2. With root privileges, run the following command:

```
sudo tar xf /HDP6600-x64.tar.gz -C /
```

## 2.3 CUPS driver automatic installation

**Important:** The HDP6600 card printer must not be connected to the computer using a USB cable before the driver is installed.

1. Be sure that the "driver\_install.sh" file is stored in the same directory as the downloaded driver file.
2. Add execution privileges to the script file using the following command:

```
chmod +x install_HDP6600_Driver.sh
```

3. Execute the following script file:

```
sudo ./install_HDP6600_Driver.sh
```

The installation begins. As the installation progresses, messages are displayed on the screen. When the installation has completed, you are prompted to reboot your system.

```
root@test-virtual-machine:/home/test/Drivers/to_unzip/HDP6600_drv# ./driver_install-x64.sh
Begin Installation of HDP6600 Card Printer Driver on GNU/Linux-x86_64
Found Installation Archive: HDP6600-x64.tar.gz
Begin File Extraction...
usr/
usr/share/
usr/share/cups/
usr/share/cups/model/
usr/share/cups/model/HDP6600.ppd
usr/lib/
usr/lib/cups/
usr/lib/cups/filter/
usr/lib/cups/filter/rastertofargo-2.0.0
etc/
etc/udev/
etc/udev/rules.d/
etc/udev/rules.d/92-fargo.rules
File Extraction Complete.
Update Device Rules...
Device Rules Updated.
Installation of HDP6600 Card Printer Driver is complete.
root@test-virtual-machine:/home/test/Drivers/to_unzip/HDP6600_drv#
```



## 2.4 Upgrade the CUPS driver from an older version

Follow the installation instructions in [2.1 CUPS driver download](#) to download the driver file. Then, see [2.2 CUPS driver manual installation](#) or [2.3 CUPS driver automatic installation](#) to overwrite the existing driver with the new driver.

Note:

Depending upon the desired configuration options, you may have to delete and reinstall the printer using the new PPD file. Additional modification of the default print job configuration options may be necessary.



## 2.5 Remove a driver

There is not an uninstall process to remove a driver. Therefore, the driver files must be deleted manually. The following table shows the locations and names of the files that are installed on the system for the driver.

To remove a driver, locate these files and delete them from your system.

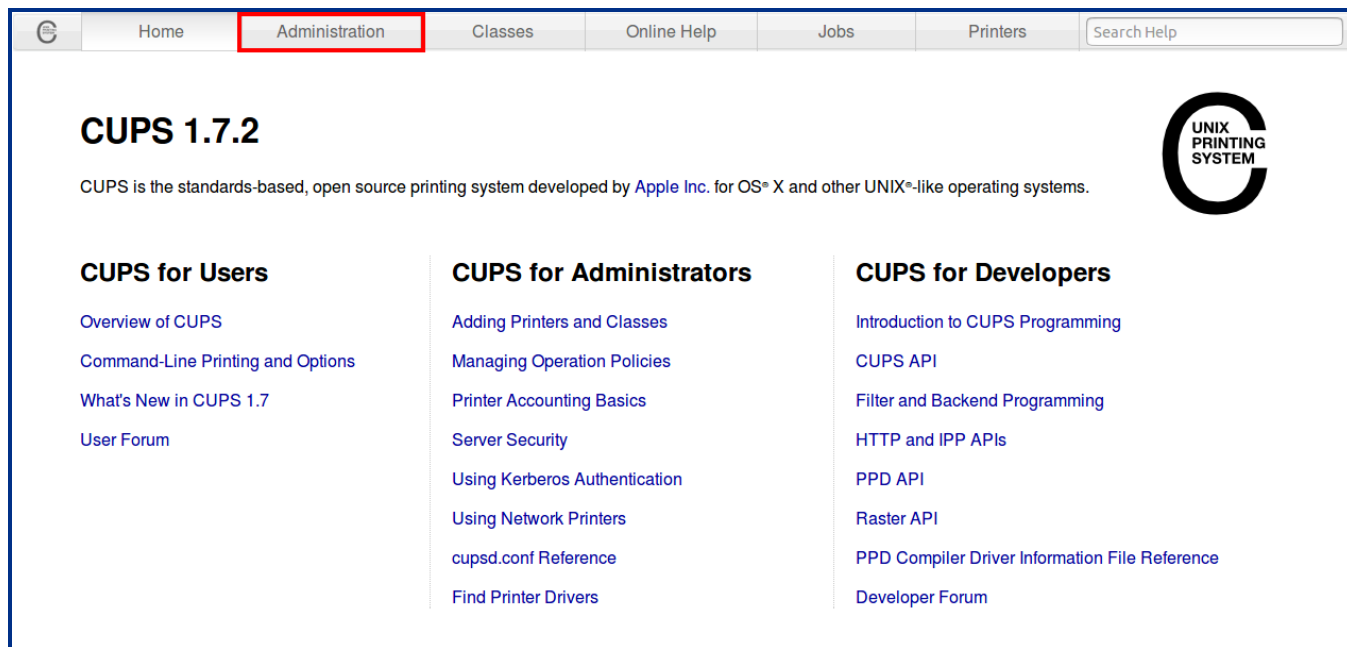
File	Description
/usr/share/cups/model/HDP6600.ppd	PPD file for the HDP6600 card printer.
/usr/libexec/cups/filter/rastertofargo-x.y.z	Raster filter driver for the FARGO HDP card printers.
/etc/udev/rules.d/92-FARGO.rules	Linux device management rules file.

## 2.6 Determine the printer IP address

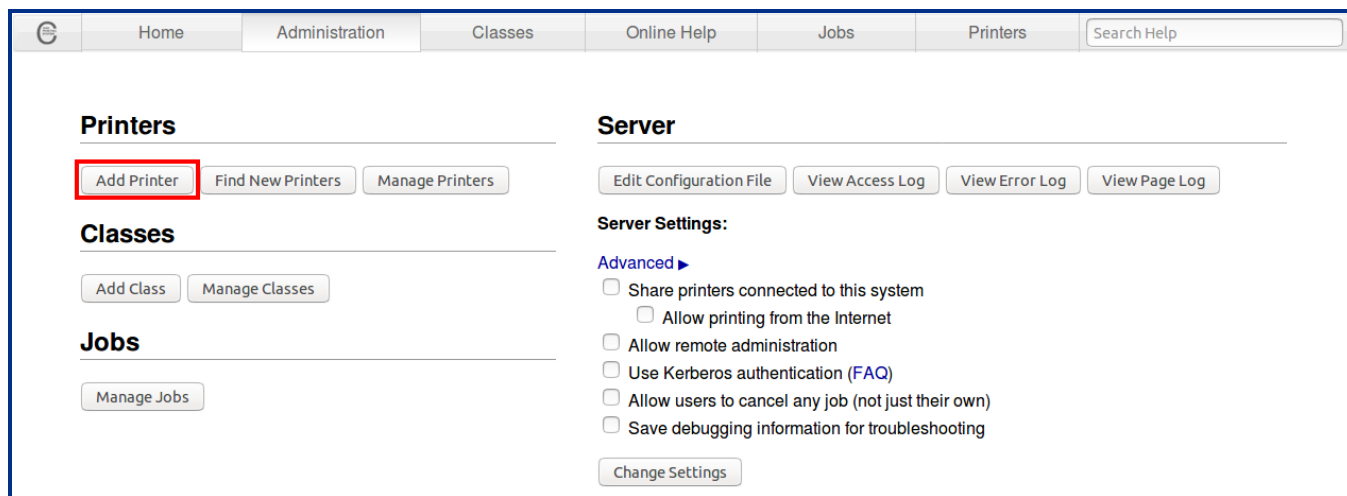
The printer IP address must be determined prior to adding a network connected printer. You can view the printer IP address from the printer display by using the buttons to select   >**Network Info** > **IPv4**.

## 2.7 Add a printer connection using a USB cable

1. Connect the USB cable to the printer.
2. Power on the printer.
3. Open a web browser and go to <http://localhost:631/>.
4. Open the CUPS home page and click the **Administration** tab.



5. Click **Add Printer**.



6. If the CUPS **Authentication Required** message is displayed when adding a printer, enter your login **username** and **password** to continue. See your CUPS documentation for more information about permissions and authentication procedures.

7. Select the USB-connected printer or the http printer.

**Add Printer**

**Local Printers:**

- ☐ Serial Port #1
- ☐ HP Printer (HPLIP)
- ☐ HP Fax (HPLIP)

**Discovered Network Printers:**

**Other Network Printers:**

- ☐ Internet Printing Protocol (ipp)
- ☒ Internet Printing Protocol (http)
- ☐ Internet Printing Protocol (ipps)
- ☐ LPD/LPR Host or Printer
- ☐ AppSocket/HP JetDirect
- ☐ Internet Printing Protocol (ipp14)
- ☐ Internet Printing Protocol (https)
- ☐ Windows Printer via SAMBA

Continue

8. If you selected

- A USB printer, make sure the USB connections between the printer and the Linux workstation are firm and that the printer is powered on.
- An http printer, enter the IP address for the printer followed by the port number 9100 using the format  
socket://aaa.bbb.ccc.ddd:9100  
where aaa.bbb.ccc.ddd is the IP address of the printer.

**Add Printer**

**Connection:** socket://192.168.1.100:9100

**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

9. Depending upon the requirements, the printer data can be modified in the **Add Printer** window:

The screenshot shows the 'Add Printer' window with the following fields and values:

- Name:** HDP6600\_Card\_Printer (May contain any printable characters except "/", "#", and space)
- Description:** ID Card Printer (Human-readable description such as "HP LaserJet with Duplexer")
- Location:** Office (Human-readable location such as "Lab 1")
- Connection:** socket://192.168.1.100:9100
- Sharing:** ☐ Share This Printer
- Color Management:** ☒ Enabled
- Continue** button

- Enter a new name for the printer, if needed.
- Enter a brief description of the printer.
- Enter a brief description of the location of the printer.

10. In the **Make** list, select **HID** and click **Continue**.

The screenshot shows the 'Add Printer' window with the following fields and values:

- Name:** HDP6600\_Card\_Printer
- Description:** ID Card Printer
- Location:** Office
- Connection:** socket://192.168.1.100:9100
- Sharing:** Do Not Share This Printer
- Color Management:** Enabled
- Make:** A list box containing the following manufacturers: Fujitsu, Generic, Genicom, Gestetner, Heidelberg, **HID** (highlighted), Hitachi, HP, IBM, Imagen.
- Continue** button
- Or Provide a PPD File:**  No file selected.
- Add Printer** button

11. In the **Model** list, select the **HDP6600** model and click **Add Printer**.

The screenshot shows a web application interface for adding a printer. At the top, there is a navigation bar with tabs: Home, Administration, Classes, Online Help, Jobs, Printers, and a Search Help field. The 'Administration' tab is selected. Below the navigation bar, the page title is 'Add Printer'. The main content area displays the following configuration details for the printer:

- Name:** HDP6600\_Card\_Printer
- Description:** ID Card Printer
- Location:** Office
- Connection:** socket://192.168.1.100:9100
- Sharing:** Do Not Share This Printer
- Color Management:** Enabled
- Make:** HID (with a dropdown menu showing 'Select Another Make/Manufacturer')
- Model:** HID HDP6600 Card Printer (en) (highlighted with a red box)

Below the configuration details, there is a section titled 'Or Provide a PPD File:' with a 'Browse...' button and the text 'No file selected.' Below this, there is an 'Add Printer' button (highlighted with a red box).

# Section 03

## Managing the printer

## 3.1 CUPS web interface

The CUPS web-based interface is disabled by default on some operating systems. If you receive a message that it is disabled, enter the following at the command line:

```
cupscctl WebInterface=yes
```

To access the CUPS web-based interface for printer management enter the following URL:

```
http://localhost:631/printers
```

**Note:** For a remote server, substitute the appropriate host name string in place of localhost.

### 3.2 Printers tab

Configuration of the HDP6600 printer is completed through the printer queue. The printer queue is accessed from the CUPS home page.

Note:

Information about the CUPS web interface can be found by selecting the **Home** tab and clicking the associated link.

- Click the **Printers** tab to access the printer queue.
  - Select **HDP6600** from the **Queue Name** list.
- The printer queue opens to display all printer default information.

Home

Administration

Classes

Online Help

Jobs

Printers

Search Help

HDP6600\_Card\_Printer (Idle, Accepting Jobs, Not Shared, Color-Managed)

Maintenance

Administration

Description: ID Card Printer

Location: Office

Driver: HDP6600 Card Printer (color, 2-sided printing)

Connection: socket://192.168.1.100:9100

Defaults: job-sheets=none, none media=om\_cr80\_55.74x87.49mm sides=one-sided

Jobs

Search in HDP6600\_Card\_Printer:

Search

Clear

Show Completed Jobs

Show All Jobs

No jobs.

Printer options	Options
Maintenance	<ul style="list-style-type: none"> <li>Print Test Page</li> <li>Pause Printer</li> <li>Reject Jobs</li> <li>Move All Jobs</li> <li>Cancel All Jobs</li> </ul>
Administration	<ul style="list-style-type: none"> <li>Modify Printer</li> <li>Delete Printer</li> <li>Set Default Options</li> <li>Set As Server Default</li> <li>Set Allowed Users</li> </ul>



### 3.3 Option configuration

Print job option configuration is completed by using the **Set Default Options** window of the CUPS web interface. This window is accessed from the **Print Queue Administration** window.

On the **Administration** tab, select **Set Default Options**.

Home
 Administration
 Classes
 Online Help
 Jobs
 Printers
 Search Help

HDP6600\_Card\_Printer (Idle, Accepting Jobs, Not Shared, Color-Managed)

Maintenance
 Administration

Description: ID Ca
 Location: Office
 Driver: HDP6
 Connection: socke
 Defaults: job-sh

Administration
 Modify Printer
 Delete Printer
 Set Default Options
 Set As Server Default
 Set Allowed Users

-sided printing)
 om\_cr80\_55.74x87.49mm sides=one-sided

Jobs

Search in HDP6600\_Card\_Printer:
 Search
 Clear

Show Completed Jobs
 Show All Jobs

No jobs.

The options on this window vary depending upon the selected printer.

Set Default Options for HDP6600\_Card\_Printer

Device Options
 Image Color
 K Resin Printing
 Magnetic Track Encoding
 Banners
 Policies

Device Options

Print Both Sides:
 Yes
 No
 Flip Card Before Print:
 Yes
 No
 Transfer Temperature Offset:
 0
 Transfer Dwell Time Front (Seconds Per Inch):
 1.5
 Transfer Dwell Time Back (Seconds Per Inch):
 1.5
 Card Flattener Enable (Simplex Only):
 No
 Flattener Temp Offset (Celcius):
 160
 Flattener Dwell Time (Seconds Per Inch) (%):
 2.0
 Flattener Delay (Seconds):
 0.0

Set Default Options

## 3.4 Setting default options

The following is an example of the **Set Default Options** window. The selections you make to this list become the default options for your printer. To set the default options:

1. Set each option to your desired default.
2. Click **Set Default Options**. A message stating that the default settings have been successfully changed is displayed.

### Set Default Options for HDP6600\_Card\_Printer

[Device Options](#)
[Image Color](#)
[K Resin Printing](#)
[Magnetic Track Encoding](#)
[Banners](#)
[Policies](#)

#### Device Options

Print Both Sides: ☐ Yes ☒ No

Flip Card Before Print: ☐ Yes ☒ No

Transfer Temperature Offset:

Transfer Dwell Time Front (Seconds Per Inch):

Transfer Dwell Time Back (Seconds Per Inch):

Card Flattener Enable (Simplex Only):

Flattener Temp Offset (Celcius):

Flattener Dwell Time (Seconds Per Inch) (%):

Flattener Delay (Seconds):

**Set Default Options**

**Note:** After a brief period, this window automatically transfers back to the **Print Queue Administration** window and the printer configuration process is complete.

Home
 [Administration](#)
[Classes](#)
[Online Help](#)
[Jobs](#)
[Printers](#)

### Set Default Options for HDP6600\_Card\_Printer

Printer [HDP6600\\_Card\\_Printer](#) default options have been set successfully.

## 3.5 View printer specific options from the command line

Each printer has its own set of supported options that are detailed in the driver PPD file. However, you cannot access this file directly. The `lpoptions` command provides a list of the available options supported by the printer. At a command line, enter:

```
lpoptions -p [printer] -l
```

where [printer] is the current printer name.

Each of the available options is displayed on a new line. Each option listing

- Starts with the option name followed by a slash
- Continues with the text description for that option
- Finishes with a colon

Following the colon is a list of all selection values that are supported for that option. An asterisk (\*) in front of a selection value indicates that this is the default selection for that option.

For a listing of available printer names, enter the following command:

```
lpstat -p
```

## 3.6 Set printer-specific options from the command line

For many print jobs, the default printer options are sufficient. However, at times you may need to change the options for a particular file you are printing.

The `lp` and `lpr` commands allow you to pass printer options using the `-o` option prefix:

```
lp -d [printer] -o landscape -o scaling=75 -o media=A4 [filename]
```

or

```
lpr -P [printer] -o landscape -o scaling=75 -o media=A4 [filename]
```

## 3.7 Printing from the command line

CUPS provides both System V (`lp`) and Berkeley (`lpr`) printing commands. To print a file to the current default printer, use this basic print command:

```
lpr -P [printer] [filename]
```

or

```
lp -d [printer] [filename]
```

## 3.8 Printing with magnetic stripe encoding

To print with magnetic stripe encoding use the following command format:

```
lp -d [printer] -o "MagTrack1=%25MAGTEST1%3F MagTrack2=%3B1234567890%3F  
MagTrack3=%3B1234567890%3F" [filename]
```

# Section 04

Print job configuration options

## 4.1 Device Options

### Set Default Options for HDP6600\_Card\_Printer

Device Options   Image Color   K Resin Printing   Magnetic Track Encoding   Banners   Policies

#### Device Options

Print Both Sides: ☐ Yes ☒ No

Flip Card Before Print: ☐ Yes ☒ No

Transfer Temperature Offset:

Transfer Dwell Time Front (Seconds Per Inch):

Transfer Dwell Time Back (Seconds Per Inch):

Card Flattener Enable (Simplex Only):

Flattener Temp Offset (Celcius):

Flattener Dwell Time (Seconds Per Inch) (%):

Flattener Delay (Seconds):

Set Default Options

Field	Description
Print Both Sides	<p>Determines whether duplex printing is enabled or disabled. If the printer is equipped with a flipper module then odd numbered sides of the print job are printed on the front side of the card and even numbered sides are printed on the back side of the card. Options are:</p> <ul style="list-style-type: none"> <li><b>Yes:</b> This option enables duplex printing. If the printer is equipped with a flipper module, then odd numbered sides of the print job are printed on the front side of the card and even numbered sides are printed on the back side of the card.</li> <li><b>No:</b> This is the default. This option disables duplex printing. If the print job has multiple sides, then each side is printed on a separate card.</li> </ul> <p>To configure this field from the command line, enter:</p> <p><b>PrintBothSides=Selection</b></p> <p>where <b>Selection</b> is <b>True</b> or <b>False</b>.</p>
Flip Card Before Printing	<p>Whether to flip the card before printing to put the front image on the back side of the card and the back image on the front side of the card. Options are:</p> <ul style="list-style-type: none"> <li><b>Yes:</b> This option enables flipping of the card before printing.</li> <li><b>No:</b> This is the default. This option disables flipping of the card before printing.</li> </ul> <p>To configure this field from the command line, enter:</p> <p><b>FlipCard=Selection</b></p> <p>where <b>Selection</b> is <b>True</b> or <b>False</b>.</p>

Field	Description
Transfer Temperature Offset	<p>Sets temperature offset for InTM Film transfer in Celsius. The default is 0. Options are:</p> <ul style="list-style-type: none"> <li>Adjust the value higher (+) to use more heat when transferring image to the card.</li> <li>Adjust the value lower (-) to use less heat when transferring image to the card.</li> </ul> <p>To configure this field from the command line, enter:</p> <p><b>TransferTemp=Selection</b></p> <p>where <b>Selection</b> is a numeric value from <b>-50</b> to <b>15</b>.</p>
Transfer Dwell Time Front (Seconds Per Inch)	<p>Sets dwell time for InTM Film transfer in seconds per inch for the front side of the card. The default is 1.5.</p> <p>To configure this field from the command line, enter:</p> <p><b>TransferDwell=Selection</b></p> <p>where <b>Selection</b> is a numeric value from <b>1.0</b> to <b>3.0</b>.</p>
Transfer Dwell Time Back (Seconds Per Inch)	<p>Sets dwell time for InTM Film transfer in seconds per inch for the back side of the card. The default is 1.5.</p> <p>To configure this field from the command line, enter:</p> <p><b>TransferDwell=Selection</b></p> <p>where <b>Selection</b> is a numeric value from <b>1.0</b> to <b>3.0</b>.</p>
Card Flattener Enable (Simplex Only)	<p>Whether enable flattening of the card after printing. The default is disabled.</p> <p>To configure this field from the command line, enter:</p> <p><b>FlattenerEnable=Selection</b></p> <p>where <b>Selection</b> is <b>True</b> or <b>False</b>.</p>
Flattener Temp Offset (Celcius)	<p>Sets the flattener temperature. The default is 160.</p> <p>To configure this field from the command line, enter:</p> <p><b>FlattenerTemp=Selection</b></p> <p>where <b>Selection</b> is a numeric value from <b>100</b> to <b>200</b>.</p>
Flattener Dwell Time (Seconds Per Inch)	<p>Sets flattener dwell time for InTM Film in seconds per inch. The default is 2.0.</p> <p>To configure this field from the command line, enter:</p> <p><b>FlattenerDwell=Selection</b></p> <p>where <b>Selection</b> is a numeric value from <b>1.0</b> to <b>3.0</b>.</p>
Flattener Delay (Seconds)	<p>A delay time before flattening the card. The default is 0.</p> <p>To configure this field from the command line, enter:</p> <p><b>FlattenerDelay=Selection</b></p> <p>where <b>Selection</b> is a numeric value from <b>0</b> to <b>15.0</b>.</p>

## 4.2 Image color

Set Default Options for HDP6600\_Card\_Printer

Device Options

Image Color

K Resin Printing

Magnetic Track Encoding

Banners

Policies

Image Color

Ribbon Side 1: YMCK

Ribbon Side 2: YMCK

Color Mode: Color RGBK

Color Correction: Default

Resin Dither: Optimize for Graphics

Dye-Sub(YMC) Heat Offset: 0

Resin(K) Heat Offset: 0

Set Default Options

Field	Description
Ribbon Side 1	<p>Selects colors that will be available for the front side of the card. Options are:</p> <ul style="list-style-type: none"> <li>YMCK (default)</li> <li>YMC</li> <li>K</li> </ul> <p>To configure this field from the command line, enter:</p> <div>ColorsFront=Selection</div> <p>where <b>Selection</b> is YMCK, YMC, or K.</p>
Ribbon Side 2	<p>Selects colors that will be available for the back side of the card. Options are:</p> <ul style="list-style-type: none"> <li>YMCK (default)</li> <li>YMC</li> <li>K</li> </ul> <p>To configure this field from the command line, enter:</p> <div>ColorsBack=Selection</div> <p>where <b>Selection</b> is YMCK, YMC, or K.</p>
Color Mode	<p>The input color mode of the raster image processor. Options are:</p> <ul style="list-style-type: none"> <li>Color RGB</li> <li>Color RGBK (RGB + black)</li> </ul> <p>To configure this field from the command line, enter:</p> <div>ColorModel=Selection</div> <p>where <b>Selection</b> is Color RGB or Color RGBK.</p>



Field	Description
Color Correction	<p>Optimize image color. Options are:</p> <ul style="list-style-type: none"> <li>• <b>None:</b> Performed by application.</li> <li>• <b>Default:</b> Default.</li> <li>• <b>Legacy:</b> Matches to legacy printers.</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>ColorMatch=Selection</pre> <p>where <b>Selection</b> is <b>None</b>, <b>Default</b>, or <b>Legacy</b>.</p>
Resin Dither	<p>Selects which dithering method is used. Options are:</p> <ul style="list-style-type: none"> <li>• <b>Optimize for Graphics:</b> This is the default. Use this option when printing barcodes and graphics with resin.</li> <li>• <b>Optimize for Photos:</b> Use this option when printing photo quality images with resin.</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>ResinDither=Selection</pre> <p>where <b>Selection</b> is <b>Graphics</b> or <b>Photos</b>.</p>
Dye-Sub (YMC) Heat Offset	<p>Selects the intensity of the dye-sub. The default is 0. Options are:</p> <ul style="list-style-type: none"> <li>• Adjust the value higher (+) to use more heat when transferring dye-sub colors to the card. This produces a darker, more saturated image.</li> <li>• Adjust the value lower (-) to use less heat when transferring dye-sub colors to the card. This produces a lighter, less saturated print.</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>DyeSubHeat=Selection</pre> <p>where <b>Selection</b> is a numeric value from <b>-50</b> to <b>50</b>.</p>
Resin(K) Heat Offset	<p>Selects the intensity of the Resin(K). The default is 0. Options are:</p> <ul style="list-style-type: none"> <li>• Adjust the value higher (+) to use more heat to transfer resin to a card when printing resin black on the front side of the card.</li> <li>• Adjust the value lower (-) to use less heat to transfer resin to a card when printing resin black on the front side of the card.</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>ResinHeat=Selection</pre> <p>where <b>Selection</b> is a numeric value from <b>-50</b> to <b>50</b>.</p>

## 4.3 K Resin Printing

### Set Default Options for HDP6600\_Card\_Printer

Device Options   Image Color   **K Resin Printing**   Magnetic Track Encoding   Banners   Policies

#### K Resin Printing

Use K Resin to Print Black in Images: ☐ Yes ☒ No

Remove YMC Under K Resin: ☒ Yes ☐ No

K Resin Threshold in Images:

Set Default Options

Field	Description
Use K Resin to Print Black in Images	<p>Selects if the K-Panel is used on the card. Options are:</p> <ul style="list-style-type: none"> <li><b>Yes:</b> Instructs the printer to use the resin black ribbon panel to print all black pixels found within the image data on the card.</li> <li><b>No:</b> This is the default.</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>ColorModel=Selection</pre> <p>where <b>Selection</b> is <b>Yes</b> or <b>No</b>.</p>
Remove YMC Under K Resin	<p>Determines if YMC is printed under the resin black on the card. Options are:</p> <ul style="list-style-type: none"> <li><b>Yes:</b> Enables YMC dye-sub black to be printed underneath the resin black for pixels that are affected by the K-Panel Area option. This option provides a gradual transition between background colors and the edges of text and bar codes printed with resin black.</li> <li><b>No:</b> This is the default. YMC dye-sub black is not printed under the resin black for pixels that are affected by the K-Panel Area option. This option maximizes the sharpness of text and bar codes printed with resin black.</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>YMCunderK=Selection</pre> <p>where <b>Selection</b> is <b>Yes</b> or <b>No</b>.</p>
K Resin Threshold in Images	<p>Changes the level at which the driver moves a pixel to be printed on a resin panel instead of a YMC. The default value is 2:</p> <p>To configure this field from the command line, enter:</p> <pre>ResinThreshold=Selection</pre> <p>where <b>Selection</b> is a numeric value from <b>1</b> to <b>255</b>.</p>

## 4.4 Magnetic track encoding options

Set Default Options for HDP6600\_Card\_Printer

Device Options

Image Color

K Resin Printing

Magnetic Track Encoding

Banners

Policies

Magnetic Track Encoding

Track 1 Encoding Mode: ISO

LRC Generation: Even Parity

Character Size: 7 Bits

Parity: Odd Parity

ASCII Offset: Space

Bit Density: 210

Reverse Bit Order: ☐ Yes ☒ No

Add Leading Zeros: ☐ Yes ☒ No

Track 2 Encoding Mode: ISO

LRC Generation: Even Parity

Character Size: 5 Bits

Parity: Odd Parity

ASCII Offset: Zero

Bit Density: 75

Reverse Bit Order: ☐ Yes ☒ No

Add Leading Zeros: ☐ Yes ☒ No

Track 3 Encoding Mode: ISO

LRC Generation: Even Parity

Character Size: 5 Bits

Parity: Odd Parity

ASCII Offset: Zero

Bit Density: 210

Reverse Bit Order: ☐ Yes ☒ No

Add Leading Zeros: ☐ Yes ☒ No

Set Default Options

Field	Description
Track 1 Encoding Mode (Magnetic Encoding)	<p>Sets the encoding mode independently for each of the three magnetic tracks. Options are:</p> <ul style="list-style-type: none"> <li>ISO - This is the default.</li> <li>Custom</li> <li>JIS</li> <li>Raw</li> </ul> <p>To configure this field from the command line, enter:</p> <div>MagNTrackMode=Selection</div> <p>where N is 1, 2, or 3 and Selection is ISO, Custom, JIS, or Raw.</p>

Field	Description
LRC Generation	<p>Sets the LRC generation independently for each of the three magnetic tracks. Options are:</p> <ul style="list-style-type: none"> <li>• None</li> <li>• Even Parity - This is the default.</li> <li>• Odd Parity</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>MagNLRCGeneration=Selection</pre> <p>where <b>N</b> is <b>1, 2, or 3</b> and <b>Selection</b> is <b>None, Even,</b> or <b>Odd</b>.</p>
Character Size	<p>Sets the character size (in bits per character) independently for each of the three magnetic tracks. Options are:</p> <ul style="list-style-type: none"> <li>• 4 Bits</li> <li>• 5 Bits - This is the default for magnetic tracks 2 and 3.</li> <li>• 7 Bits - This is the default for magnetic track 1.</li> <li>• 8 Bits</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>MagNCharSize=Selection</pre> <p>where <b>N</b> is <b>1, 2, or 3</b> and <b>Selection</b> is <b>4, 5, 7, or 8</b>.</p>
Character Parity	<p>Sets the character parity independently for each of the three magnetic tracks. Options are:</p> <ul style="list-style-type: none"> <li>• None</li> <li>• Even Parity</li> <li>• Odd Parity - This is the default.</li> </ul> <p>To configure from the command line:</p> <pre>MagNParity=Selection</pre> <p>where <b>N</b> is <b>1, 2, or 3</b> and <b>Selection</b> is <b>None, Even,</b> or <b>Odd</b>.</p>
Character ASCII Offset	<p>Sets the character ASCII offset independently for each of the three magnetic tracks. Options are:</p> <ul style="list-style-type: none"> <li>• Null</li> <li>• Space - This is the default for magnetic track 1.</li> <li>• Zero - This is the default for magnetic tracks 2 and 3.</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>MagNASCIIOffset=Selection</pre> <p>where <b>N</b> is <b>1, 2, or 3</b> and <b>Selection</b> is <b>Null, Space,</b> or <b>Zero</b>.</p>
Track Bit Density	<p>Sets the encoding bit density independently for each of the three magnetic tracks. Available options:</p> <ul style="list-style-type: none"> <li>• 75 - This is the default for magnetic track 2.</li> <li>• 128</li> <li>• 210 - This is the default for magnetic tracks 1 and 3.</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>MagNBitDensity=Selection</pre> <p>where <b>N</b> is <b>1, 2, or 3</b> and <b>Selection</b> is <b>75, 128,</b> or <b>210</b>.</p>

## 4.4.1 Card printer driver magnetic encoder settings

This table shows the settings that should be used to correctly configure HID card printers.

Encoding mode	Shift left data	LRC generation	Character size	Character parity	ASCII offset	Bit density	Reverse bit order	Add leading zero
ISO	No	Even	Track 1 = 7 Track 2 = 5 Track 3 = 5	Odd	Track 1 = Space Track 2 = Zero Track 3 = Zero	Track 1 = 210 Track 2 = 75 Track 3 = 210	Yes	Yes
Custom	Yes, No	No, Even, Odd	5, 7	No, Even, Odd	Null, Space, Zero	75, 128, 210	Yes	Yes
Raw	No	No	4, 8	No	Null	75, 210	Yes, No	Yes, No
JIS	No	Even	8	Even	Null	210	No	No

## 4.5 Magnetic stripe encode data

Magnetic stripe encode data must be passed to the CUPS driver using the command line. The following command line options have been defined for this purpose:

- Magtrack1
- Magtrack2
- Magtrack3

Each option is set equal to the string of data to be encoded for that track. The string of encode data must be passed to the CUPS driver in URL character encoding mode. See [URL character encoding mode](#).

A command line option flag (-o) must precede the first track of magnetic stripe encode data passed on the command line. The second and third tracks, however, may be specified following the first track without including additional command line option flags.

Command line example:

```
lp -d <Printer_Queue_Name> -o "Magtrack1=%25MAGTEST1%3F Magtrack2=%3B1234567890%3F
Magtrack3=%3B1234567890%3F" <Filename>
```

### 4.5.1 Magnetic stripe encoding - format details

The following sections describe the URL character encoding mode and details the currently supported magnetic stripe encoding modes:

- ISO mode
- JIS II mode
- Custom mode
- Raw mode

## 4.5.2 URL character encoding mode

The CUPS driver uses URL encoding mode when defining data to be encoded to each of the magnetic stripes. To be recognized, all characters passed to the driver, including any special characters (such as start and end sentinels), must be described with a URL encoding mode.

In URL encoding mode all ASCII characters, except for the reserved character set defined here, are represented by their normal ASCII character codes. Each character in the reserved character set must be represented by a 3-character sequence: a percent character (%) followed by a 2-character representation of the hex equivalent of the ASCII character code.

The following shows the reserved ASCII characters and their associated 3-character URL encoding sequence.

ASCII character	URL encoding	ASCII character	URL encoding
!	%21	#	%23
\$	%24	%	%25
&	%26	'	%27
(	%28	)	%29
*	%2A	+	%2B
,	%2C	/	%2F
:	%3A	;	%3B
=	%3D	?	%3F
@	%40	[	%5B
]	%5D		

## 4.5.3 ISO magnetic encoding mode

The ISO magnetic encoding mode comprises three components:

- Start Sentinel
- Track Character Data
- End Sentinel

The first character of each track data string must be the track specific start sentinel (SS), and the last character must be the track specific end sentinel (ES).

The data characters in between the SS and ES must be limited to the track specific range of valid character codes.

The total number of characters for each track must be limited to the track specific maximum character count.

When segmenting track data, the track specific field separator (FS) must be used.

This table details the required start sentinel, end sentinel, field separator, valid character code range, and the maximum character count for each of the three magnetic tracks.

Track	Start sentinel (SS)	End sentinel (ES)	Field separator (FS)	Valid character code range	Maximum character count
1	%	?	^	ASCII 32-95	78
2	;	?	=	ASCII 48-63	39
3	;	?	=	ASCII 48-63	109

## 4.5.4 JIS II magnetic encoding mode

The JIS II magnetic encoding mode allows you to specify string data to be encoded on the magnetic stripe using the JIS II encoding format. JIS normally is only for Track 2. Track 1 and 3 are not standard JIS, but is supported. JIS II does not expect a beginning and ending sentinel for the encoding character string.

## 4.5.5 Custom magnetic encoding mode

The custom magnetic encoding mode allows you to independently specify each of the various encoding parameters for each magnetic track. Individual characters are encoded on each magnetic track using the set of parameters. For custom encoding more flexibility than for JIS II or ISO is provided.

## 4.5.6 Raw magnetic encoding mode

The raw magnetic encoding mode allows you to specify raw binary string data to be encoded on the magnetic stripe. A specific format of the input data is not assumed and all encoding parameters for each magnetic track are ignored, except for the track bit density. Using RAW format requires the binary data to be specified more completely than for other formats. Such options as parity, LRC, shift left data are not supported. The bit density can be any value between 75 and 210; however, a value not selectable from the UI can only be specified by a command line option.

## 4.6 Banners option

Set Default Options for HDP6600\_Card\_Printer

Device Options
Image Color
K Resin Printing
Magnetic Track Encoding
Banners
Policies

### Banners

Starting Banner:

Ending Banner:

Field	Description
Starting Banner	<p>Specifies the message that is displayed on the banner (other than the default). Options are:</p> <ul style="list-style-type: none"> <li>• None - This is the default.</li> <li>• Standard</li> <li>• Confidential</li> <li>• Unclassified</li> <li>• Classified</li> <li>• Secret</li> <li>• Top Secret</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>job-sheets = StartBanner, EndBanner</pre> <p>where: <b>StartBanner</b> and <b>EndBanner</b> are each one of the following: <b>None</b>, <b>Standard</b>, <b>Confidential</b>, <b>Unclassified</b>, <b>Classified</b>, <b>Secret</b>, or <b>Topsecret</b>.</p>

Field	Description
Ending Banner	<p>Specifies the message that is displayed on the banner (other than the default). Options are:</p> <ul style="list-style-type: none"> <li>• None - This is the default.</li> <li>• Standard</li> <li>• Confidential</li> <li>• Unclassified</li> <li>• Classified</li> <li>• Secret</li> <li>• Top Secret</li> </ul> <p>To configure this field from the command line, enter:</p> <pre>job-sheets = StartBanner, EndBanner</pre> <p>where <b>StartBanner</b> and <b>EndBanner</b> are each one of the following: <b>None</b>, <b>Standard</b>, <b>Confidential</b>, <b>Unclassified</b>, <b>Classified</b>, <b>Secret</b>, and <b>Topsecret</b>.</p>

## 4.7 Policies options

**Set Default Options for HDP6600\_Card\_Printer**

Device Options   Image Color   K Resin Printing   Magnetic Track Encoding   Banners   Policies

### Policies

**Error Policy:**

**Operation Policy:**

Field	Description
Error Policy	<p>Defines the policy that is used when a backend is unable to send a print job to the printer. Options are:</p> <ul style="list-style-type: none"> <li>• Abort-job: Aborts the job and proceeds with the next job in the queue.</li> <li>• Retry-current-job: Retries the current job immediately.</li> <li>• Retry-job: Retries the job after waiting N seconds, where the cupsd.conf JobRetryInterval directive controls the value of N.</li> <li>• Stop-printer - This is the default. Stops the printer and keeps the job for future printing.</li> </ul> <p>The Error Policy is supported using the <b>lpadmin</b> command on the command line interface.</p>
Operation Policy	<p>Defines the required authentication type. Options are:</p> <ul style="list-style-type: none"> <li>• Default - This is the default.</li> <li>• Kerberos</li> </ul> <p>The Operation Policy is supported using the <b>lpadmin</b> command on the command line interface.</p>



# Section 05

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## Revision history

Date	Description	Revision
May 2023	Initial release.	A.0



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