HDP5000 CUPS Driver User Guide

Linux & MAC OS

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HDP5000 CUPS User Guide Linux & Mac OS User Guide (Rev 1.1), property of HID/Fargo Electronics, Incorporated

The revision number for this document will be updated to reflect changes, corrections, updates and enhancements to this document.

Revision Control Number	Date	Document Title
Revision 1.1	October 2009	HDP5000 CUPS User Guide Linux & Mac OS Added webpage link for driver setup Updated driver install instruction MAC Ethernet setup
Revision 1.0	August 2009	HDP5000 CUPS User Guide Linux & Mac OS

These reference documents were thoroughly reviewed to provide HID Global with professional and international standards, requirements, guidelines and models for our technical, training and user documentation. At all times, the Copyright Protection Notice for each document was adhered to within our HID Global documentation process. This reference to other documents does not imply that HID Global is an ISO-certified company at this time.

ANSI/ISO/ASQ Q9001-2000 American National Standard, (sub-title) Quality Management Systems - Requirements (published by the American Society of Quality, Quality Press, P.O. Box 3005, Milwaukee, Wisconsin 53201-3005)

The ASQ ISO 9000:2000 Handbook (editors, Charles A. Cianfrani, Joseph J. Tsiakals and John E. West; Second Edition; published by the American Society of Quality, Quality Press, 600 N. Plankinton Avenue, Milwaukee, Wisconsin 53203)

Juran's Quality Handbook (editors, Joseph M. Juran and A. Blanton Godfrey; Fifth Edition, McGraw-Hill)

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Supported Distributions CUPS

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

Linux 32-bit - Ubuntu 7.10, Fedora Core 7 & 8, Red Hat Enterprise 5, openSuse 10.3, NovelSuse 9.

MAC OS X Version 10.4 -10.5

File structure	
CUPS service name & path	/etc/init.d/cupsys
CUPS PPD model path	/usr/share/ppd/custom
CUPS filter path	/usr/lib/cups/filter
CUPS config path	/etc/cups
LOG directory	/var/log

Installation Procedure for the CUPS Driver on Linux OS

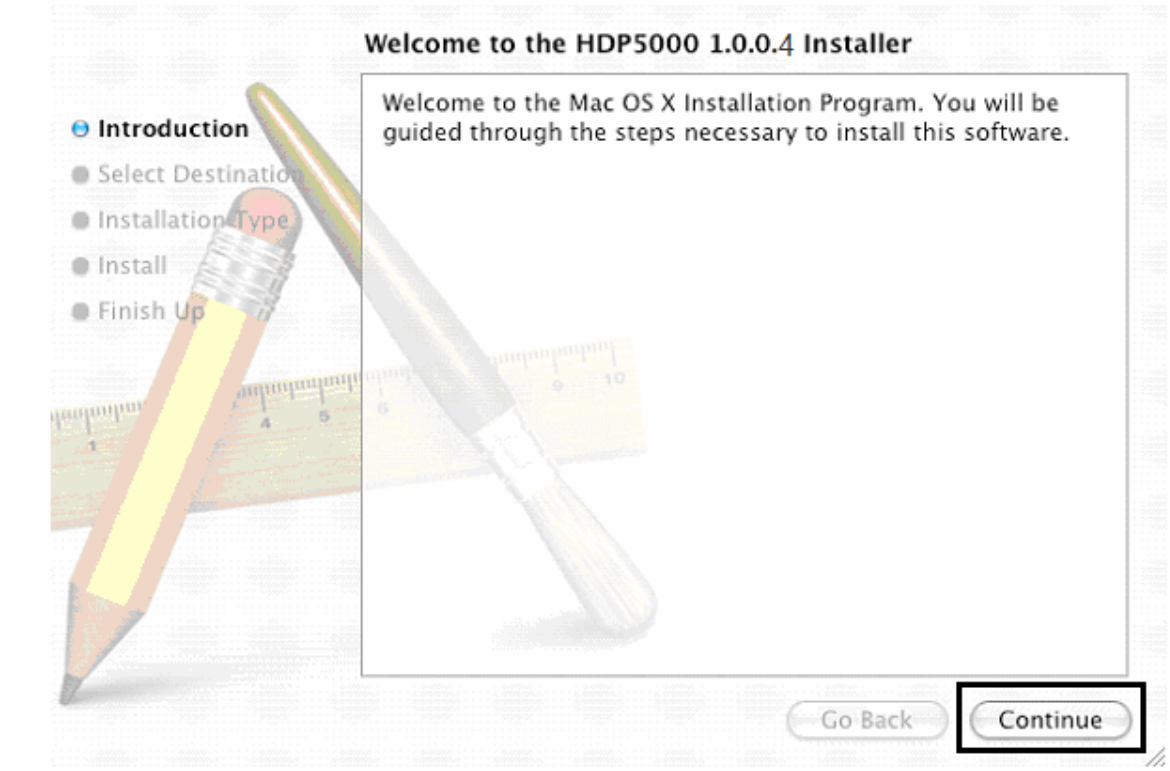
Note: On some Linux Distributions, it may be necessary to disable SELinux (security enhanced Linux) capabilities in order to install or use the CUPS Driver.

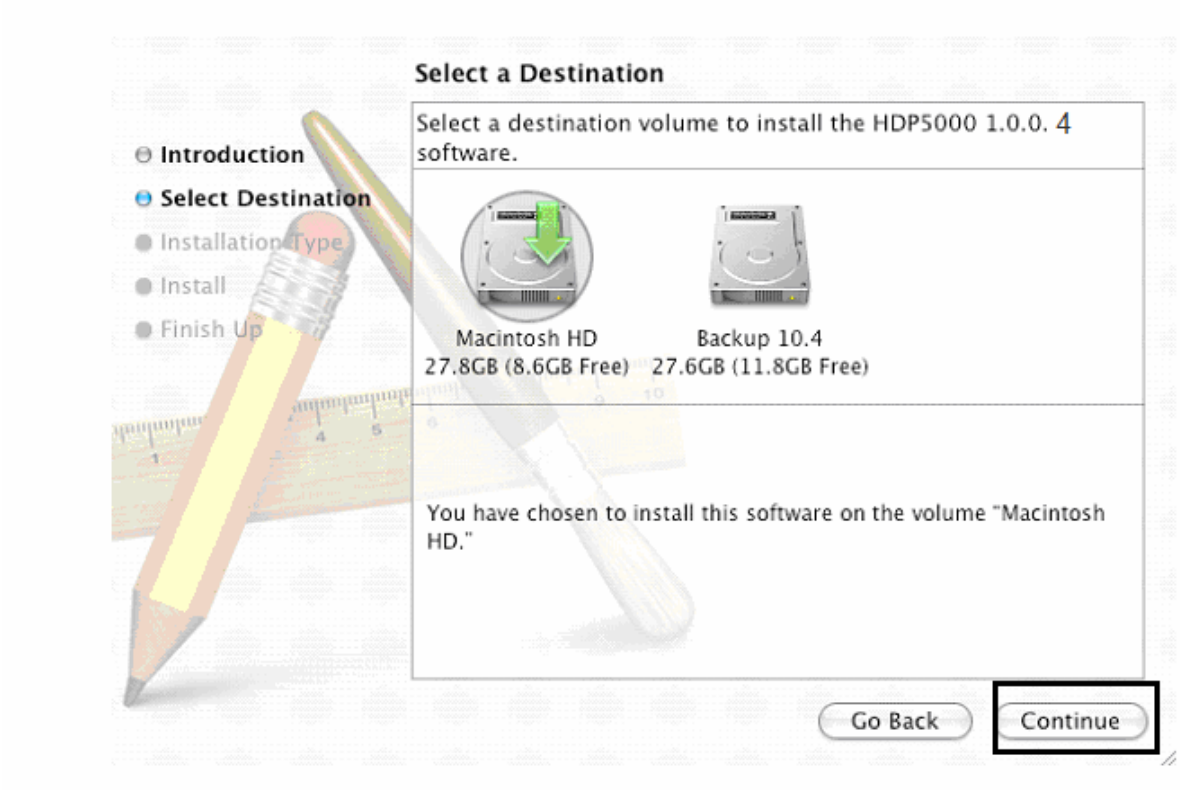
Refer to the SELinux web site at: www.nsa.gov/selinux/ or the documentation for your specific distribution for more information.

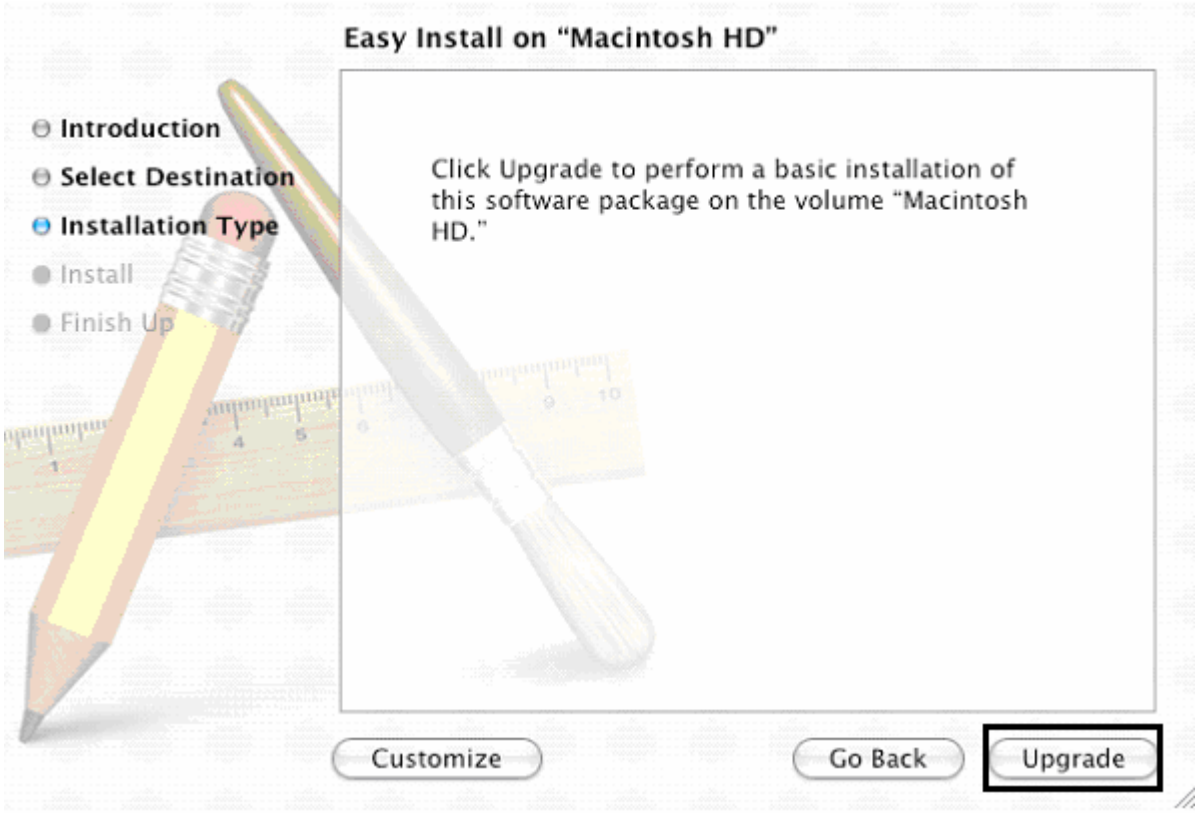
Step	Procedure
1	Unpack the driver tar-ball by running the following command as root from the directory the file was downloaded to: # tar -xzvPf fargoHDP5000-1.0.0.4-1.tgz (**Note**: If an existing driver was already present on the system, it may be necessary to restart CUPS to allow the file changes to take effect.)

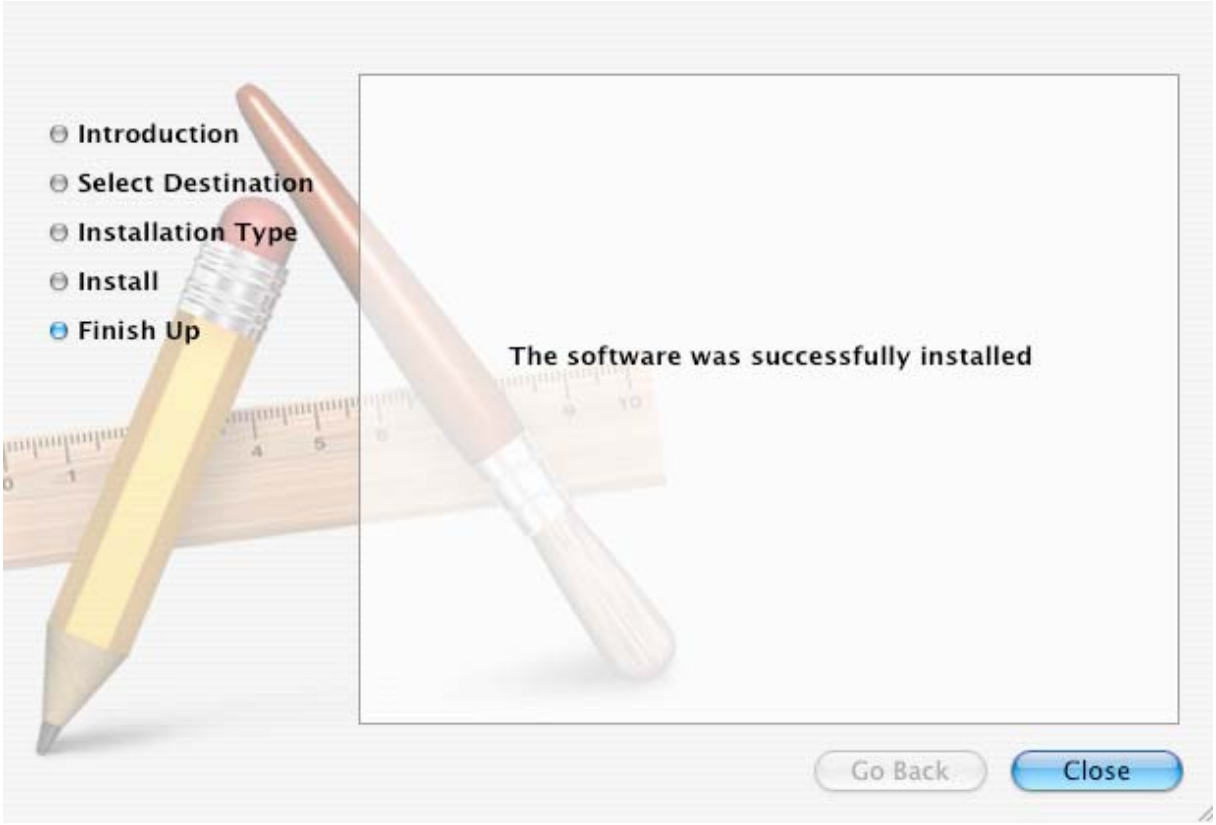
Installation Procedure for MAC OS X Driver

- Download the Mac Printer Driver from www.fargosupport.com to the desktop. (This will be in Zip format)
- Unzip the folder
- Double-click on the HDP5000V1.0.0.4 PKG folder to start the installation




Select a Destination
Introduction
Select Destination
Installation Type
Install
Finish Up
Select a destination volume to install the HDP5000 1.0.0. 4 software.
Macintosh HD
27.8GB (8.6GB Free)
Backup 10.4
27.6GB (11.8GB Free)
You have chosen to install this software on the volume "Macintosh HD."
Go Back
Continue


Easy Install on "Macintosh HD"
Introduction
Select Destination
Installation Type
Install
Finish Up
Click Upgrade to perform a basic installation of this software package on the volume "Macintosh HD."
Customize
Go Back
Upgrade


Introduction
Select Destination
Installation Type
Install
Finish Up
The software was successfully installed
Go Back
Close

HID/Fargo Printer Driver Setup

Once the CUPS and MAC driver are installed the printer options are setup as shown below.

Go to webpage http://localhost:631

In order to access the Set Printer Driver options shown below.

(NOTE: Click here for Ethernet setup. Ethernet Installation Procedure for the MAC Driver)

Selecting the Card Size

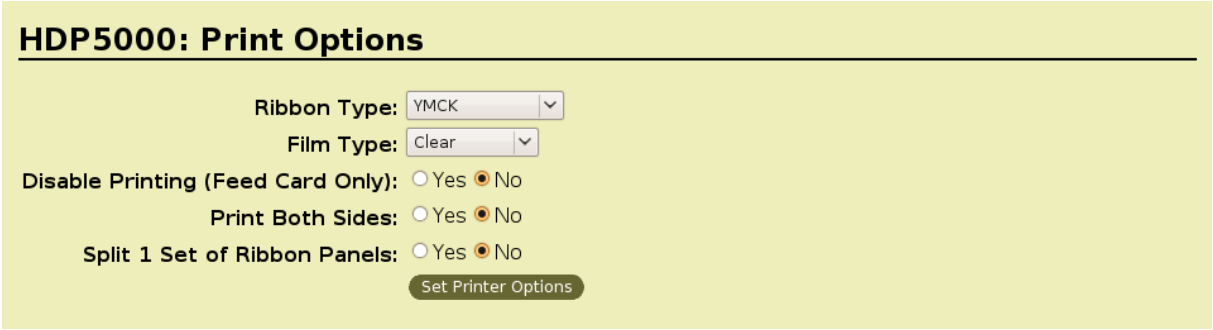
Card Options available include the Card Size only

Card Type, Orientation and Copies options are not supported. These options are supported in the application used to print.

Command Line Usage	CUPS option	Description
PageSize = CR80	Media Size = CR80	Sets the Page Size for the print job to CR-80 (3.375"L x 2.125"W / 85.6mmL x 54mmW).

Selecting the Supported Ribbon Types

Command Line Usage	CUPS option	Description
Ribbon = YMC	Ribbon Type = YMC	Sets the Ribbon type for the print job to YMC – Full Color
Ribbon = YMCK	Ribbon Type = YMCK	Sets the Ribbon type for the print job to YMCK – Full Color/ Resin Black.
Ribbon = YMCKK	Ribbon Type = YMCKK	Sets the Ribbon type for the print job to YMCKK – Full Color/Two Resin Black.
Ribbon = YMCKH	Ribbon Type = YMCKH	Sets the ribbon type for the print job to YMCKH – Heat seal.
Ribbon = K	Ribbon Type = K	Sets the Ribbon type for the print job to Premium Resin.
Ribbon = PremiumResin	Ribbon Type = Premium Resin	Sets the Ribbon type for the print job to Premium Resin.



Selecting the Disable Printing Option

Command Line Usage	CUPS option	Description
DisablePrinting = True	Disable Printing = Yes	Select it to encode or re-encode cards to save time and avoid the use of printing supplies.
DisablePrinting = False	Disable Printing = No	Select it to perform full printing and encoding operations.

Selecting the Print Both Sides Option

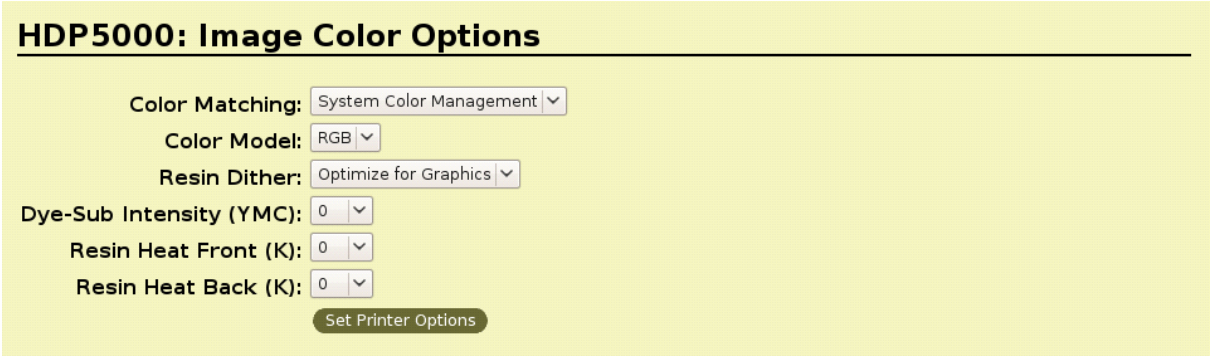
Command Line Usage	CUPS option	Description
PrintBothSides = True	Print Both Sides = Yes	If the Printer is equipped with a Flipper Module, it will print the second page of a print job on the back side of a card
PrintBothSides = False	Print Both Sides = No	If the print job has multiple pages, it will print on separate cards.

Selecting the Split 1 set of Ribbon Panels Options

Requires PrintBothSides = True and the Print Back Side option must be set to one of the "Print Only" values

Command Line Usage	CUPS option	Description
SplitRibbon = True	Split 1 set of Ribbon Panels = Yes	Select this option to automatically print full-color on the front of a card and resin black on the back of a card.
SplitRibbon = False	Split 1 set of Ribbon Panels = No	Each side of the card will use a full set of Ribbon panels regardless of the Ribbon configuration.

Using the Image Color Capabilities



Selecting the Color Matching Options

Command Line Usage	CUPS Option	Description
ColorMatching = System	Color Matching = System Color Management	This provides a closer match to the RGB color specifications. (**Note:** This option shifts colors to a different color model so the colors in the image will more closely match how they appear on the monitor.)
ColorMatching = None	Color Matching = None	Select **None** for print speed versus print color or for use of third party color matching software.

Selecting Resin Dither:

Select the appropriate dither method according to the type of image to be printed. (**Note:** This option only affects those objects printed on the backside of a card with the resin black Panel of a YMCK or YMCKK Print Ribbon. This is only enabled when using at least one K panel and dual sided enabled, splitting one set of panels.)

Command Line Usage	**CUPS Option**	**Description**
ResinDither = graphics	Resin Dither = Optomized for Graphics	This is a lower quality print.
ResinDither = photo	Resin Dither = Optomized for Photos	This is a higher quality print.

Following the Dye-Sub Intensity Procedure

Command Line Usage	**CUPS option**	**Description**
DyeSubIntensity=0 <-50 to 50>	Dye-Sub Intensity (YMC) = 0	1. Adjust the Dye-Sub Intensity value higher to use more heat when transferring dye-sub colors to the card. (**Note:** This will produce a darker, more saturated image.) 2. Adjust the dye-sub Intensity value lower to use less heat when transferring dye-sub colors to the card. (**Note:** This will produce a lighter print.)

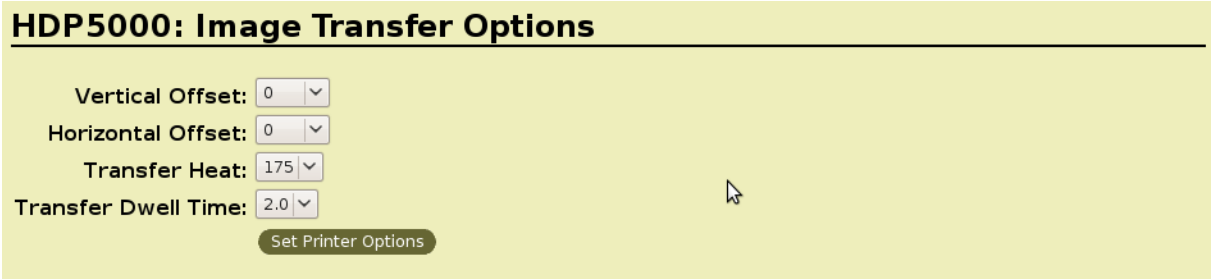
Following the Resin Heat Front Procedure

Command Line Usage	CUPS option	Description
ResinHeatFront=0 <-50 to 50>	Resin Heat Front (K) = 0	1. Adjust the Resin Heat Front value higher to use more heat to transfer resin to a card. 2. Adjust the Resin Heat Front value lower to reduce the amount of heat (used to transfer resin to the card).

Following the Resin Heat Back Procedure

Command Line Usage	CUPS option	Description
ResinHeatBack = 0 <-50 to 50>	Resin Heat Back (K) = 0	1. Adjust the Resin Heat Back value higher to use more heat and increase the transfer of resin to a card. 2. Adjust the Resin Heat Back value lower to reduce the amount of heat used and reduce the transfer of resin to the card.

Image Transfer Options



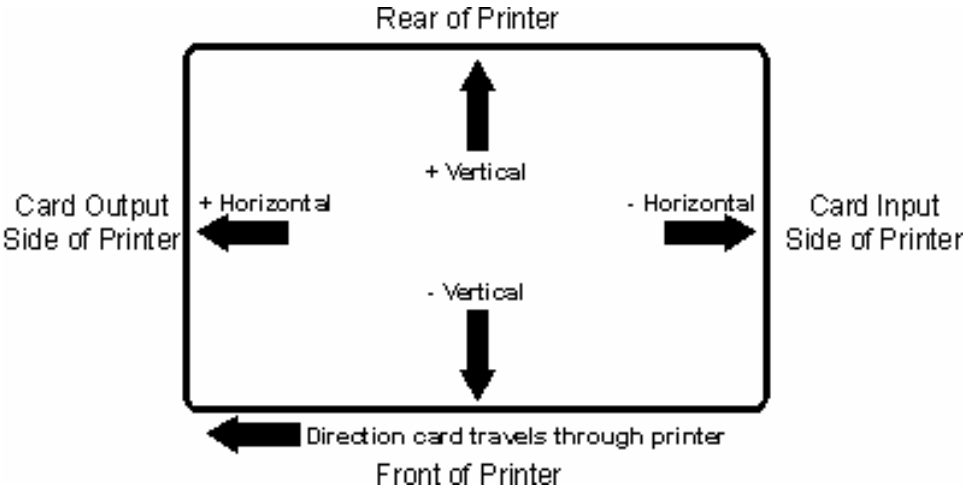
Selecting the Horizontal Option

Note: Over adjusting the Horizontal offset may result in ribbon breaking.

Command Line Usage	CUPS option	Description
HOffset=0 <-100 to 100>	Horizontal Offset = 0	Use the Horizontal adjustment to move the image toward the card output side of the Printer (if a positive number is entered) and toward the card input side of the Printer (if a negative number is entered).

Selecting the Vertical Option

Command Line Usage	CUPS option	Description
VOffset=0 <-100 to 100>	Vertival Offset = 0	Use the Vertical adjustment to move the image toward the front of the Printer (if a positive number is entered) and toward the rear of the Printer (if a negative number is entered).



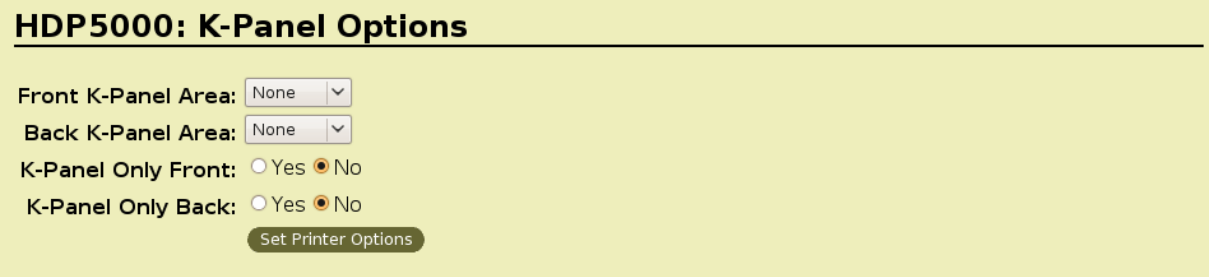
Transfer Temperature

Command Line Usage	CUPS option	Description
TransferHeat =0 <150 to 190>	Transfer Heat = 0 <150 to 190>	Transfer Temperature Sets temperature for InTM transfer in Celsius Lower limit = 150.0 Celsius, Upper limit = 190.0 Celsius • **UltraCard III - Composite:** Default = 175.0 Celsius • **UltraCard- PVC:** Default = 175.0 Celsius • **Custom:** Default = 175.0 Celsius

Transfer Dwell Time

Command Line Usage	CUPS option	Description
TransferDwell =20 <10 to 30>	Transfer Dwell = 20 <1.0 to 3.0>	Transfer Dwell Time Sets dwell time for InTM transfer in seconds per inch Lower limit = 1.0 seconds per inch, Upper limit = 3.0 seconds per inch • **UltraCard III - Composite:** Default = 2.0 seconds per inch • **UltraCard - PVC:** Default = 2.0 seconds per inch • **Custom:** Default = 2.0 seconds per inch

K-Panel Options



Selecting the Front K-Panel Area

Command Line Usage	CUPS option	Description
KPanelAreaFront = None	Front K-Panel Area = None	Select **None** to have any graphics objects that are black in color to be printed using composite colors (YMC)
KPanelAreaFront = FullCard	Front K-Panel Area = Full Card	Select **Full card** to print any black graphic objects on the card in resin. Note: If using a YMCK Ribbon, Split 1 Set of Ribbon Panels must be set to No.

Selecting the Back K-Panel Options

Command Line Usage	CUPS Options	Description
KPanelAreaBack = None	Back K-Panel Area = None	Select **None** to have any graphics objects that are black in color to be printed using composite colors (YMC)
KPanelAreaBack = FullCard	Back K-Panel Area = Full Card	Select **Full card** to print any black graphic objects on the card in resin. (**Note:** If using a YMCK Ribbon, Split 1 Set of Ribbon Panels must be set to **No**. It requires Print Both Sides be set to **True**.)

Selecting the K-Panel Only Front Options

Command Line Usage	CUPS Options	Description
KPanelOnlyFront = True	K-Panel Only Front = Yes	Select **K-Panel Only Front** if printing resin black onto a white background in order to maximize the sharpness of printed text and bar codes.
KPanelOnlyFront = False	K-Panel Only Front = No	Select **K-Panel Only Front** to have all black printed with the Yellow (Y), Magenta (M) and Cyan (C) Ribbon panels directly beneath the resin black (K) panel.)

Selecting the K-Panel Only Back Options

Command Line Usage	CUPS Options	Description
KPanelOnlyBack = True	K-Panel Only Back = Yes	Select **K-Panel Only Back** if printing resin black onto a white background to maximize the sharpness of printed text and bar codes.
KPanelOnlyBack = False	K-Panel Only Back = No	Select **K-Panel Only Back** to have all black printed with the Yellow (Y), Magenta (M) and Cyan (C) Ribbon panels directly beneath the resin black (K) panel.)

Lamination Options

Lamination Position and Speed:

Command Line Usage	CUPS Options	Description
LaminationPosition = <-100 to +100>	Lamination Position = < -100 to +100>	**Horizontal Offset:** To move the overlaminate more toward the card output side of the Printer, enter a positive number
LaminationSpeed = < 8 to 55>	Lamination Speed = <0.8 to 5.5> *Is a value from 8 to 55 divided by 10.*	**Dwell Time:** Controls the throughput speed of the cards.

Lamination Side:

Command Line Usage	CUPS Options	Description
LaminationSide = 0	Lamination Side = None	No Lamination will be done.
LaminationSide = 1	Lamination Side = Front	Only front of card will be laminated.
LaminationSide = 2	Lamination Side = Back	Only back of card will be laminated
LaminationSide = 3	Lamination Side = Both	Both sides of card will be laminated.
LaminationSide = 4	Lamination Side = Opposite	Will flip the card again before laminating.

Lamination Film Types Per Cartridge

Command Line Usage	CUPS Options	Description
LaminationType1 = 0	Lamination Film type for cartridge 1 = Clear Film	Indicates that clear film is being used in cartridge 1.
LaminationType1 = 1	Lamination Film type for cartridge 1 = 0.6 Polygard	Indicates that 0.6 Polyguard is being used in cartridge 1.
LaminationType1 = 2	Lamination Film type for cartridge 1 = 1.0 Polyguard	Indicates that 1.0 Polyguard is being used in cartridge 1.
LaminationType1 = 3	Lamination Film type for cartridge 1 = Polyguard Alternating Patch	Indicates that Polyguard Alternating Patch is being used in cartridge 1.
LaminationType1 = 4	Lamination Film type for cartridge 1 = Registered Film	Indicates that Registered Film is being used in cartridge 1.
LaminationType1 = 5	Lamination Film type for cartridge 1 = Holographic Film	Indicates that Holographic Film is being used in cartridge 1.
LaminationType1 = 6	Lamination Film type for cartridge 1 = None	Indicates that no film is being used in cartridge 1.
LaminationType2 = 0	Lamination Film type for cartridge 2 = Clear Film	Indicates that clear film is being used in cartridge 2.
LaminationType2 = 1	Lamination Film type for cartridge 2 = 0.6 Polygard	Indicates that 0.6 Polyguard is being used in cartridge 2.
LaminationType2 = 2	Lamination Film type for cartridge 2 = 1.0 Polyguard	Indicates that 1.0 Polyguard is being used in cartridge 2.

LaminationType2 = 3	Lamination Film type for cartridge 2 = Polyguard Alternating Patch	Indicates that Polyguard Alternating Patch is being used in cartridge 2.
LaminationType2 = 4	Lamination Film type for cartridge 2 = Registered Film	Indicates that Registered Film is being used in cartridge 2.
LaminationType2 = 5	Lamination Film type for cartridge 2 = Holographic Film	Indicates that Holographic Film is being used in cartridge 2.
LaminationType2 = 6	Lamination Film type for cartridge 2 = None	Indicates that no film is being used in cartridge 2.

Lamination Transfer Temperatures per Cartridge

Command Line Usage	**CUPS Options**	**Description**
LaminationTransferTemp1 = <500 to 1700>	Transfer Temp (Celsius) = <50 to 170 C>	Sets the transfer temperature in Celsius for cartridge number 1.
LaminationTransferTemp2 = <500 to 1700>	Transfer Temp (Celsius) = <50 to 170 C>	Sets the transfer temperature in Celsius for cartridge number 2.

Magnetic Encoding Options

Setting the Encoding Mode

Command Line Usage	CUPS option	Description
MagEncodingMode1 = ISO	Magnetic Stripe Encoding Mode = ISO	Sets the Encoding Mode for the Print job to ISO. See Sending ISO Magnetic Encoding Information for additional information.
MagEncodingMode1 = JIS2	Magnetic Stripe Encoding Mode = JIS II	Sets the Encoding Mode for the Print job to JIS II. See Sending JIS II Magnetic Encoding Information for additional information.
MagEncodingMode1 = Raw	Magnetic Stripe Encoding Mode = Raw	Sets the Encoding Mode for the Print job to RAW. See Sending ISO Magnetic Encoding Information for additional information.
MagEncodingMode2 = ISO	Magnetic Stripe Encoding Mode = ISO	Sets the Encoding Mode for the Print job to ISO. See Sending ISO Magnetic Encoding Information for additional information.
MagEncodingMode2 = JIS2	Magnetic Stripe Encoding Mode = JIS II	Sets the Encoding Mode for the Print job to JIS II. See Sending JIS II Magnetic Encoding Information for additional information.
MagEncodingMode2 = Raw	Magnetic Stripe Encoding Mode = Raw	Sets the Encoding Mode for the Print job to RAW. See Sending ISO Magnetic Encoding Information for

		additional information.
MagEncodingMode3 = ISO	Magnetic Stripe Encoding Mode = ISO	Sets the Encoding Mode for the Print job to ISO. See Sending ISO Magnetic Encoding Information for additional information.
MagEncodingMode3 = JIS2	Magnetic Stripe Encoding Mode = JIS II	Sets the Encoding Mode for the Print job to JIS II. See Sending JIS II Magnetic Encoding Information for additional information.
MagEncodingMode3 = Raw	Magnetic Stripe Encoding Mode = Raw	Sets the Encoding Mode for the Print job to RAW. See Sending ISO Magnetic Encoding Information for additional information.

Setting the Coercivity

Command Line Usage	CUPS option	Description
Coercivity = High	Coercivity = High	Sets the coercivity for magnetic encoding to 2750 Oersted
Coercivity = Low	Coercivity = Low	Sets the coercivity for magnetic encoding to 300 Oersted

Sending ISO Magnetic Encoding Information

The CUPS Driver uses URL Encoding when defining data to be encoding to the Magnetic Stripe. Any special characters (such as start and end sentinels) must be described with URL encoding to be recognized. See the URL Encoding Reference Reviewing the URL Encoding Reference for additional information..

- The first character of this data string must be the track's specific Start Sentinel (SS) and the last character must be the specific End Sentinel (ES).
- The characters or data in between the SS and ES can include all of the valid characters specific to each track.
- The number of these characters, however, is limited by each track's maximum character capacity.

When segmenting track data, the appropriate Field Separator (FS) must be used. The table below shows the SS, ES, FS and the valid characters defined for each track.

Track	Start Sentinel	End Sentinel	Field Separator	Valid Characters	Maximum Number of Characters
Track 1	%	?	^	ASCII 32-95	78
Track 2	;	?	=	ASCII 48-63	39
Track 3	;	?	=	ASCII 48-63	109

Sending JIS II Magnetic Encoding Information

The CUPS Driver uses URL Encoding when defining data to be encoding to the Magnetic Stripe. Any special characters (such as start and end sentinels) must be described with URL encoding to be recognized. See the URL Encoding Reference below.

Sending RAW Magnetic Encoding Information

The CUPS Driver uses URL Encoding when defining data to be encoding to the Magnetic Stripe. Any special characters (such as start and end sentinels) must be described with URL encoding to be recognized.

Reviewing the URL Encoding Reference

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

Reviewing the ASCII Code and Character Table

ASCII Code	Character	ASCII Code	Character	ASCII Code	Character
32	space	56	8	80	P
33	!	57	9	81	Q
34	“	58	:	82	R
35	#	59	;	83	S
36	$	60	<	84	T
37	%	61	=	85	U
38	&	62	>	86	V
39	'	63	?	87	W
40	(	64	@	88	X
41	)	65	A	89	Y
42	*	66	B	90	Z
43	+	67	C	91	[
44	'	68	D	92	\
45	-	69	E	93	]
46	.	70	F	94	^
47	/	71	G	95	_
48	0	72	H		
49	1	73	I		
50	2	74	J		
51	3	75	K		
52	4	76	L		
53	5	77	M		
54	6	78	N		
55	7	79	O		

Using the Command Line Option Setup for CUPS

Adding a USB Printer

The primary CUPS interface can be accessed on the local computer using a web browser. The address for the CUPS interface is: http://localhost:631/

Step	Procedure
1	Attach Power and USB to the printer.
2	From a Terminal window, run lshal to retrieve the list of devices.
3	Refer to the Example Output for lshal below for a sample of output to look for to identify the printer. Record the Device URI to be able to add the printer. Example Device URI: `/org/freedesktop/Hal/devices/usb_device_9b0_2110_A8010217_if0_printer_A8010217`
4	Choose **Add Printer**. (**Note**: If you are asked for a username and password, enter your login username and password or the “root” username and password.)
5	a. Enter a Name, Location and Description for the Printer. b. Click **Continue**.
6	a. If an entry exists in the dropdown, select the HAL Printing backend option OR b. Select Internet Printing protocol (ipp) c. Click **Continue**.
7	a. Enter the Device URI recorded previously using the HAL printer Backend Example: `hal:///org/freedesktop/Hal/devices/usb_device_9b0_2110_A8010217_if0_printer_A8010217` b. Click **Continue**.
8	a. Select Fargo Electronics from the Make list. b. Click **Continue**. Note: If Fargo Electronics is not listed in the Make list, it may be necessary to restart CUPS and begin the process to add the printer again.
9	a. Select HDP5000 (en) from the Model list. b. Click **Add Printer**.

10	After installation is complete, it may be necessary to specify the page scaling options for the Print Queue.

Example output from lshal

udi = '/org/freedesktop/Hal/devices/usb_device_9b0_2110_A8010217_if0_printer_A8010217'

info.addons = {'hal_lpadmin --add'} (string list)

info.callouts.remove = {'hal_lpadmin --remove'} (string list)

info.capabilities = {'printer'} (string list)

info.category = 'printer' (string)

info.interfaces = {'org.freedesktop.Hal.Device.Printer'} (string list)

info.parent = '/org/freedesktop/Hal/devices/usb_device_9b0_2110_A8010217_if0' (string)

info.product = 'HDP5000' (string)

info.udi = '/org/freedesktop/Hal/devices/usb_device_9b0_2110_A8010217_if0_printer_A8010217' (string)

info.vendor = 'Fargo Electronics Inc ' (string)

linux.device_file = '/dev/usb/lp0' (string)

linux.hotplug_type = 2 (0x2) (int)

linux.subsystem = 'usb' (string)

linux.sysfs_path = '/sys/devices/pci0000:00/0000:00:1d.1/usb6/6-1/6-1:1.0/usb/lp0' (string)

printer.commandset = {'NONE'} (string list)

printer.description = 'HDP5000 Card Printer' (string)

printer.device = '/dev/usb/lp0' (string)

printer.originating_device = '/org/freedesktop/Hal/devices/usb_device_9b0_2110_A8010217_if0' (string)

printer.product = 'HDP5000' (string)

printer.serial = 'A8010217' (string)

printer.vendor = 'Fargo Electronics Inc ' (string)

Adding a Network Printer

The primary CUPS interface can be accessed on the local computer using a web browser. The address for the CUPS interface is: http://localhost:631/

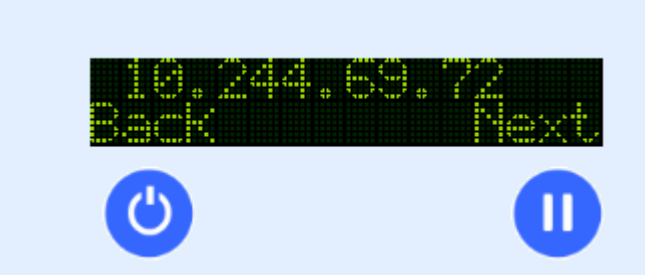
Step	Procedure
1	Choose Add Printer (**Note**: If you are asked for a username and password, enter your login username and password or the “root” username and password.
2	a. Enter a Name, Location and Description for the Printer. b. Click **Continue**.
3	a. Select Internet Printing protocol (ipp) from the device list. b. Click **Continue**.
4	a. Specify the Device URI, which is socket://[Hostname], where [Hostname] is the IP address or DNS name for the Printer. b. Click **Continue**. See Determining the Printer IP Address for additional information.
5	a. Select Fargo Electronics from the Make List. b. Click **Continue**..
6	Select appropriate printer mondel (en) from the Model list. Click **Add Printer**.
7	After installation is complete, it may be necessary to specify the page scaling options for the print Queue.
8	Run the following command as root: (Where HDP5000 is the name of the print queue created): # lpoptions -p HDP5000 -o scaling=100

Determining the Printer IP Address

Use this procedure to determine the IP address of a Printer.

Step	Procedure
1	Apply power to the Printer.
2	Ensure that the Printer is connected to the network via the RJ45 jack on the back of the Printer.
3	Wait up to one minute for the Printer to allow the Printer to obtain an IP address from DHCP.
4	Press **Info** Then hit **Next** until you get to the IP: prompt.

Display: IP Address Card



Probing for Fargo Network Printers on the Network

The fargo-netprobe program installed with the driver can be used to probe for Fargo printers on the local subnetwork. This program must be run as root:

```
# fargo-netprobe
192.168.1.127
```

Reviewing the File Listing

/usr/share/cups/profiles/sRGB.icm	Reference Color Profile
/usr/share/cups/profiles/HDP5000CLR.icm	Printer Specific Color Profile
/usr/share/cups/model/HDP5000.ppd	PPD File for the HDP5000 Card Printer
/usr/lib/cups/filter/rastertofargoHDP5000	Raster Filter for the HDP5000 Card Printer
/usr/share/fargo/HDP5000/HDP5000Tst.prn	Test Print file
/usr/ share/fargo/HDP5000 /RibbonCalibration.prn	Ribbon Sensor Calibration File
/usr/ share/fargo/HDP5000/CleanPrinter.prn	Clean Printer File
/usr/ share/fargo/HDP5000/FilmCalibration.prn	Film Sensor Calibration File
/usr/ share/fargo/HDP5000/LaminatorCalibration.prn	Lamination Sensor Calibration File

Printing a Sample Card

Entering the Print Only Command

Using the Fargo Card Printer

To test the functionality of the printer, you can type the following command to print a sample card (root privileges not necessary):

$ lpr samplecard.jpg

Entering the Print with Mag Encoding Command

Run the following command:

lp –d [PrintQueueName] –o “Magtrack1=%25MAGTEST1%3F Magtrack2=%3B1234567890%3F Magtrack3=%3B1234567890%3F” [filename]

Managing Printer from the Cups Web Interface.

The Web printer management interface is located at:

http://localhost:631/printers

From there you can perform all printer management tasks with a few simple mouse clicks.

Printer-Specific Options

Each printer has its own options that are based on the options in the PPD (driver) file. The *lpoptions* command provides a way to see a list of the available options:

lpoptions –p HDP5000 -l *ENTER*

Each option starts with the option name, a slash, the human readable text for that option, and a colon. This is followed by a list of values for that option. The asterisk (*) in from of the value indicates that this is the default setting.
The options themselves follow the colon:

To see a list of available printers

lpstat –p –d *ENTER*

Setting Printer Options

For many types of files, the default printer options may be sufficient for your needs. However, at times you may need to change the options for a particular file you are printing. Cups provides both they System V (lp) and Berkeley (lpr) printing commands.

The *lp* and *lpr* commands allow you to pass printer options using the *–o* options:

lpoptions –o landscape –o scaling=75 –o media=A4 filename.jpg *ENTER*

lpoptions –p HDP5000 –o PageSize=CR79 (printer specific) *ENTER*

Canceling Print jobs from Command Line

Use the lpstat command to show jobs and the printers:

lpstat –o –p *ENTER*

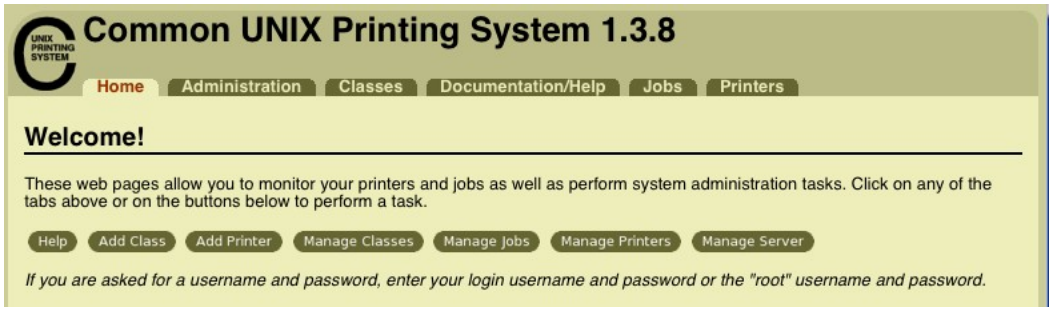
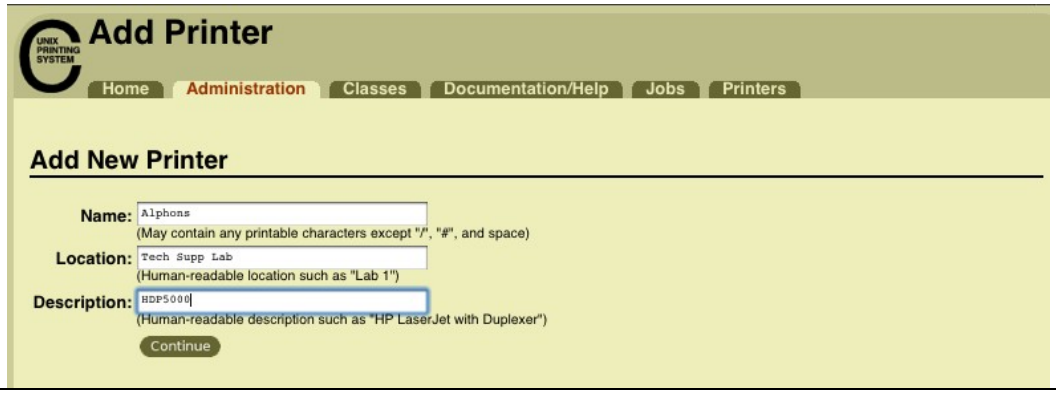
The cancel and lprm commands cancel a print job:

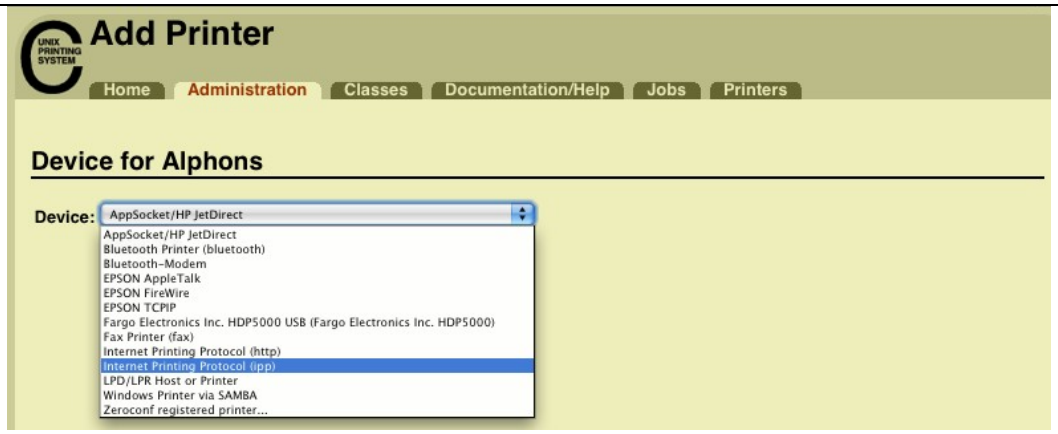
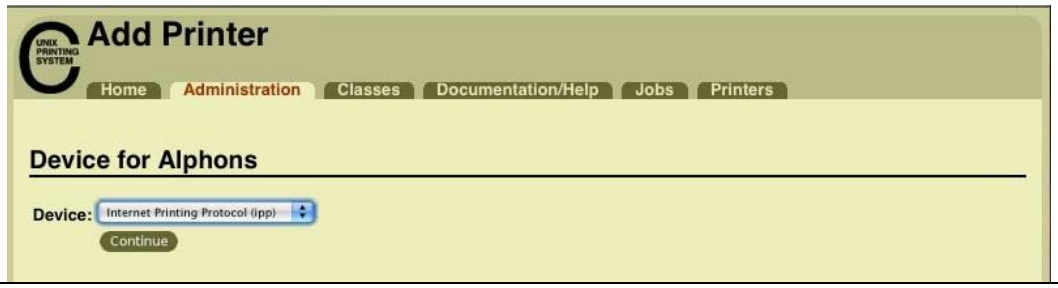
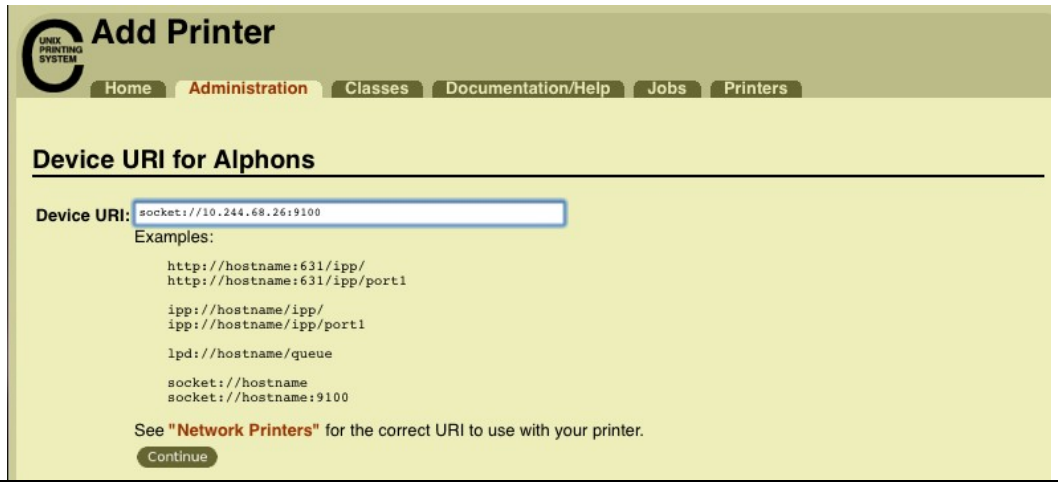
cancel *job_id* ***ENTER***
lprm *job_id* ***ENTER***

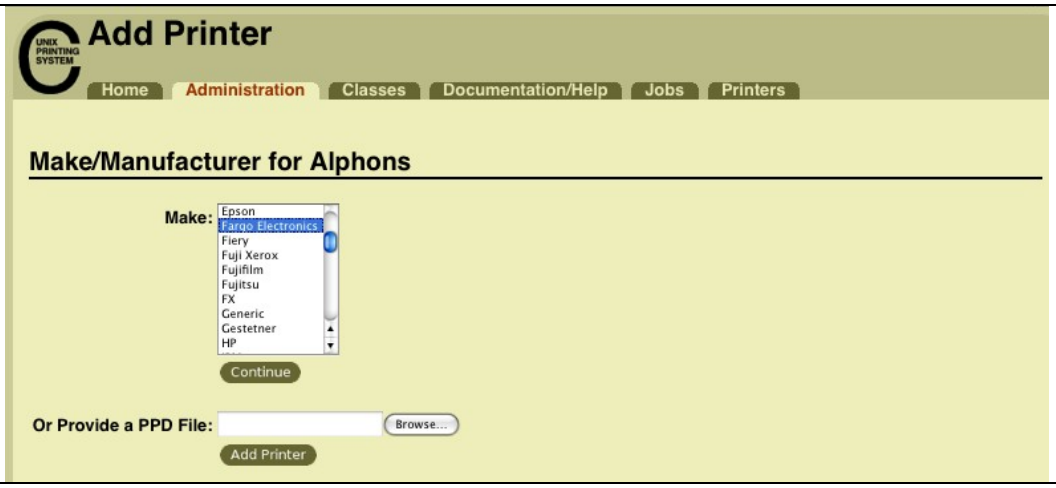
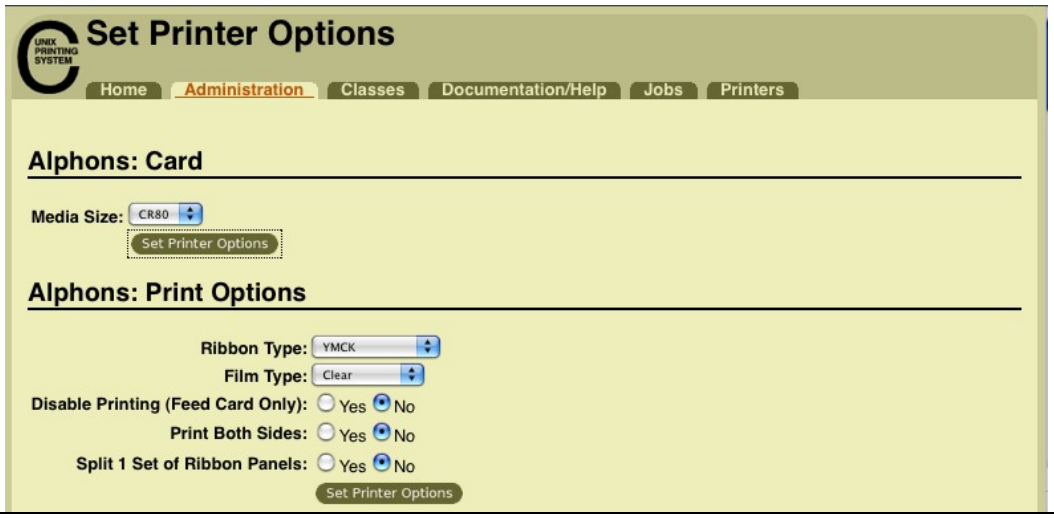
General Printing Options for CUPS

- brightness Sets the overall brightness of the output
- gamma Sets the overall gamma correction of the output
- job-sheets Chooses the banner pages to use for the job
- landscape Prints in landscape orientation
- media Sets the media size, source and /or type
- number-up Sets the number of document pages to print on each sheet of paper
- page-ranges Prints the selected pages in the document
- page-set Prints all, even, or odd pages in the document
- sides Prints single- or double-sided

Ethernet Installation Procedure for the CUPS Driver

Step	Procedure
1	On the home page click the add printer button. 
2	On the Add Printer page ▪ Enter a name for the printer. The name cannot contain any spaces. ▪ Enter a description of the printer's location. ▪ Enter a description of the printer. 
3	On the Device for (printer name) page, select "Internet Printing Protocol (ipp)"

	 
4	On the Device URI for (printer name) page enter the IP address of the printer in the format of **socket://aaa.bbb.ccc.ddd:9100** where aaa.bbb.ccc.ddd is the IP address shown on the printer LCD display 
5	On the Make/Manufacturer page, select Fargo Electronics from the **Make:** list

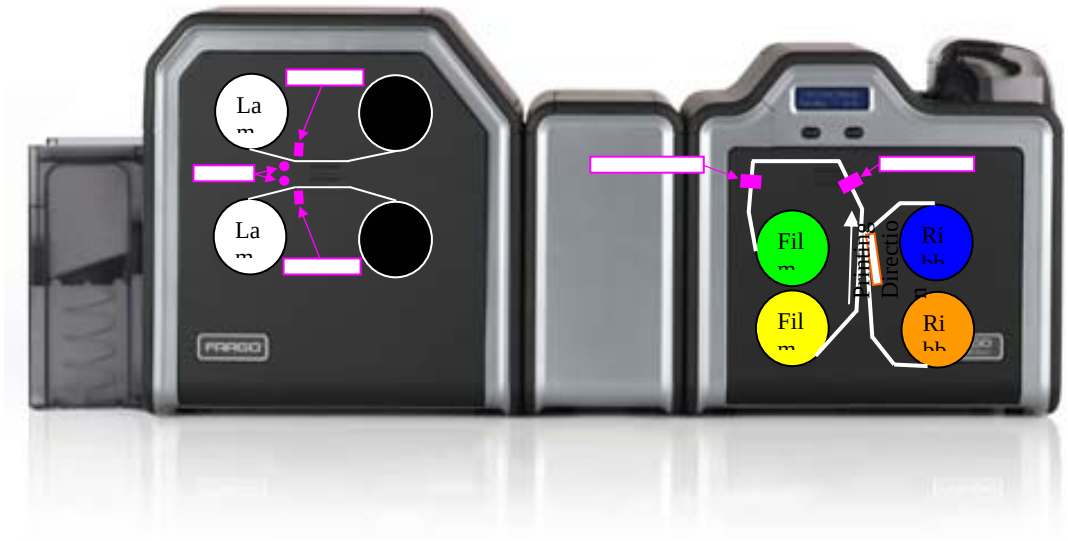
	
6	On the Model/Driver page select HDP5000 from the **Model:** list and click the **Add Printer** button 
7	Refer to the users guide to set up the print options. When you have completed setting up the options click on the Set Printer Options to save your changes. 

8	Click the Print Test Page button to confirm printer operation. 

Printer Maintenance Options for Linux and Mac

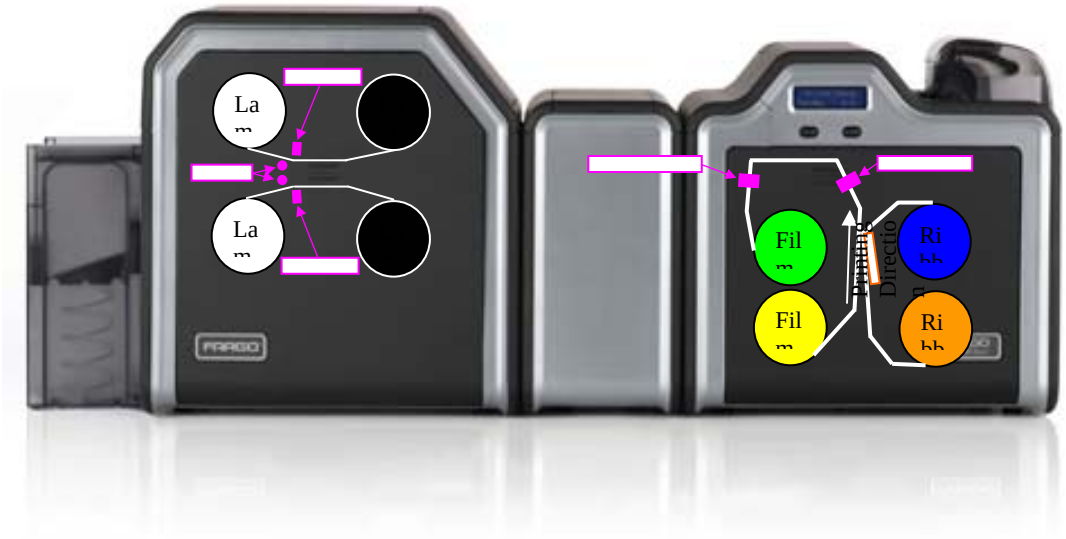
Performing a Ribbon Sensor Calibration

Step	Description
1	Ensure that the ribbon cartridge is removed.
2	Ensure the Printer's cover is closed.
3	From a terminal window enter: fargo-sendprn "/usr/share/fargo/HDP5000/RibbonCalibration.prn"
4	The Printer's LCD will display CALIBRATE PASSED. Click on the OK button on the LCD display to complete the procedure.



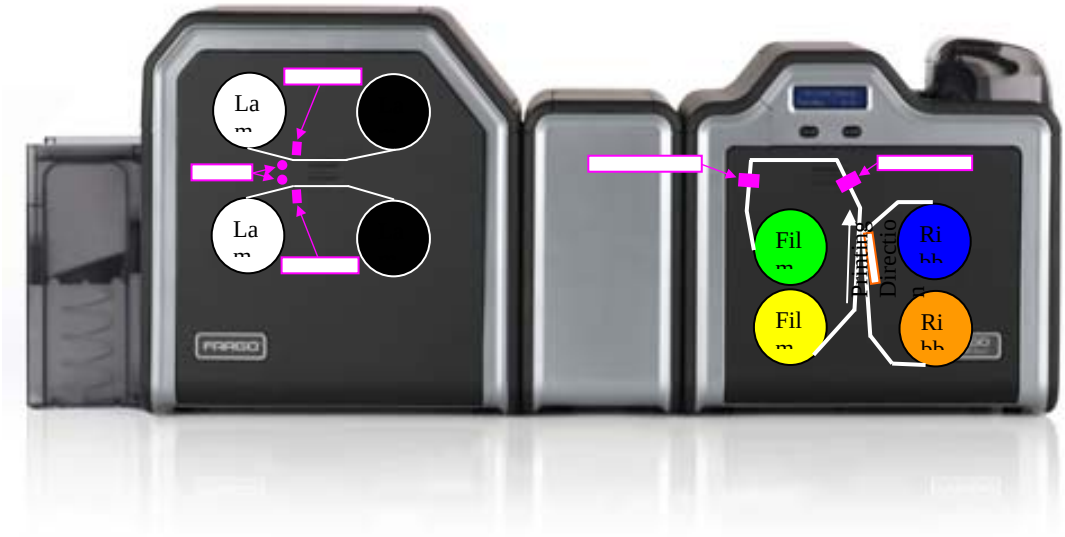
Performing a Film Sensor Calibration

Step	Description
1	Ensure the film cartridge is installed.
2	Ensure the printer cover is closed.
3	From a terminal window enter: fargo-sendprn “/usr/share/fargo/HDP5000/FilmCalibration.prn”
4	The Printer’s LCD will display CALIBRATE PASSED. Click on the OK button on the LCD display to complete the procedure.



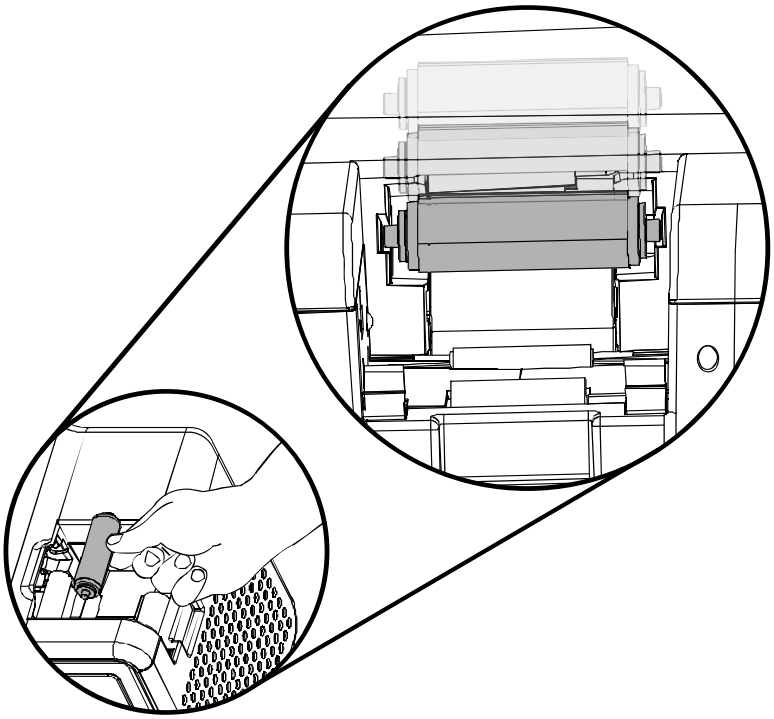
Performing a Lamination Sensor Calibration

Step	Description
1	Ensure that the cartridges are out of the Laminator.
2	Ensure the Laminator cover is closed.
3	From a terminal window enter: fargo-sendprn “/usr/share/fargo/HDP5000/LaminatorCalibration.prn”
4	The Printer’s LCD will display CALIBRATE PASSED. Click on the OK button on the LCD display to complete the procedure. Please note that the laminator will only complete the calibration sequence when it has reached operating temperature.



Cleaning the Printer

Step	Description
1	Remove Card, Film and Laminate cartridges and close the covers.
2	Remove the paper backing from both sides of the Cleaning Card. *Note: (DO NOT remove left liner if a magnetic encoding module is installed in your printer)
3	Insert the Cleaning Card into the Card Hopper's infeed rollers.
4	From a terminal window enter: fargo-sendprn "/usr/share/fargo/HDP5000/CleanPrinter.prn"
5	Guide the Cleaning Card into the printer if necessary.
6	When the Cleaning routine is complete, the Cleaning Card will exit the Printer.
7	Reinstall the Card, Film and Laminate cartridges.
	Note: The Cleaning routine will begin after all current print jobs have completed.



Printing a Test Card

Step	Description
1	Ensure that the cards are in the hopper.
2	Ensure that YMCK ribbon is installed in the printer.
3	From a terminal window enter: lpr -l “/usr/share/fargo/HDP5000/HDP5000Tst.prn”
4	The test card should print.