

**Hybrid Printer**  
***HSP7000***

***Software Manual***  
***Linux***



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# Introduction

This manual explains how to operate the CUPS printer driver using Fedora 9 as an example.

Images provided are different for other versions of Fedora or other distributions, but the same procedures can be used.

The printer's IP address must be set in advance to use a printer that supports LAN using this driver. If your LAN environment does not allow acquisition of an IP address from a DHCP server, set the IP address to the printer in advance. See 3. Guidelines for Using an Ethernet Environment for details on how to set the IP address for the printer.

## 1. Installation/Uninstallation Procedures

### 1.1 Installing Printer Driver

To install the driver, proceed as follows.

**Caution** : Before installing the driver, connect the interface cable to the printer and turn on the power. See the hardware manual for details on how to connect the interface cable.

When using the HSP7000 USB interface model with a Linux, set DIP switch 1-5 to OFF. For details on the DIP switches, refer to the separate Hardware Manual.

The new version sometimes cannot be installed if an older version remains installed on your system. In such cases, see section 1.3 to uninstall the old version before installing a new version.

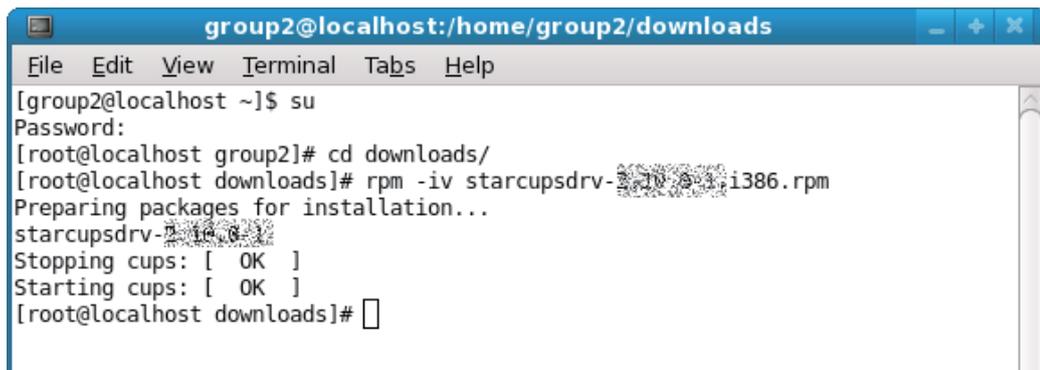
1. Startup the terminal.
2. Use the "su" command to enable root account privileges.  
\$ su
3. Expand the starcupsdrv-x.xx.x\_linux\_yyyymmdd.tar.gz file.
4. Navigate to the directory where the rpm file "starcupsdrv-x.x.x-x.i386.rpm" is located.

Note: The x.x.x-x is module version.

The yyyymmdd is the 8 digit date on which the package was release.

5. Run the rpm command using the 'i' and 'v' switches and the name of the RPM file.  
rpm -iv starcupsdrv-x.x.x-x.i386.rpm

The RPM has been installed.



**Note: Debian GNU/Linux, ubuntu installation procedures**

It is necessary to install from the source code.

Necessary package

- "gcc"
- "libcupsys2-dev"
- "libcupsimage2-dev"

After making sure that your PC is connected to the internet, perform the following operation to install the three packages above.

```
$ su -
```

(Use the "su" command to enable root account privileges.)

```
# apt-get update  
# apt-get install gcc  
# apt-get install libcupsys2-dev  
# apt-get install libcupsimage2-dev
```

It is not possible to attain administrator rights using su on ubuntu, so instead enter the sudo command at the top of the command.

Ex.)

```
$ sudo apt-get install gcc
```

Copy the starcupsdrv-x.xx.x\_linux\_yyyymmdd.tar.gz file to your PC and perform the following operation.

```
# tar xzvf starcupsdrv-x.xx.x_linux_yyyymmdd.tar.gz  
# cd starcupsdrv-x.xx.x_linux  
# cd SourceCode  
# tar xzvf starcupsdrv-src-x.xx.x.tar.gz  
# cd starcupsdrv  
# make  
# make install
```

Note: The x.x.x-x is module version.

The yyyymmdd is the 8 digit date on which the package was release.

Next, enter the CUPS management screen (<http://localhost:631/admin>).

(Refer to section 1.2. Registering the Printer for details.)

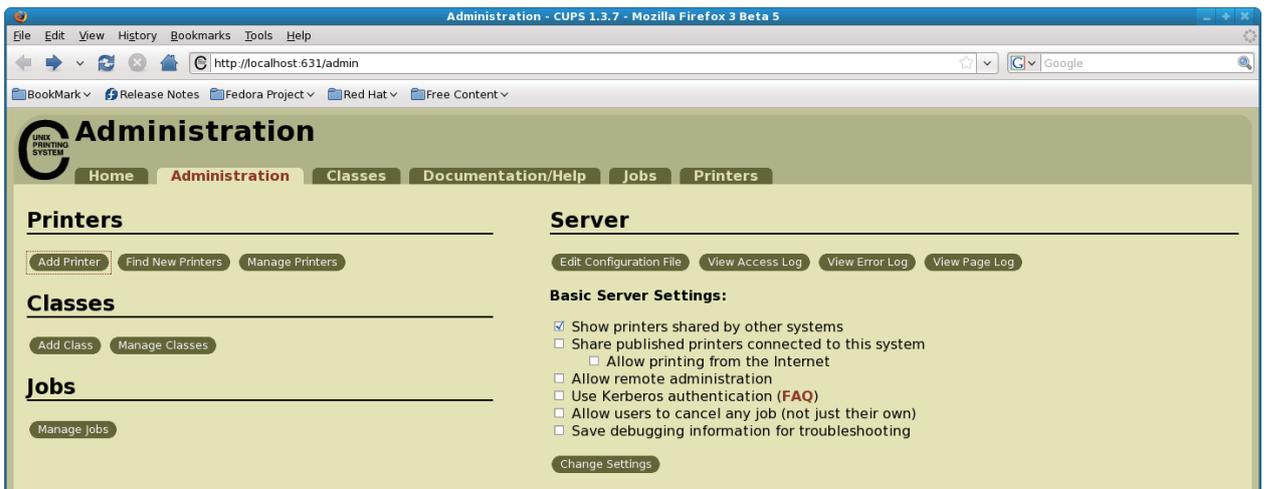
## 1.2 Registering the Printer

Procedures for registering the printer differ according to the type of interface you use. See the page relating to your environment.

### 1.2.1 When Using an Interface other than Ethernet

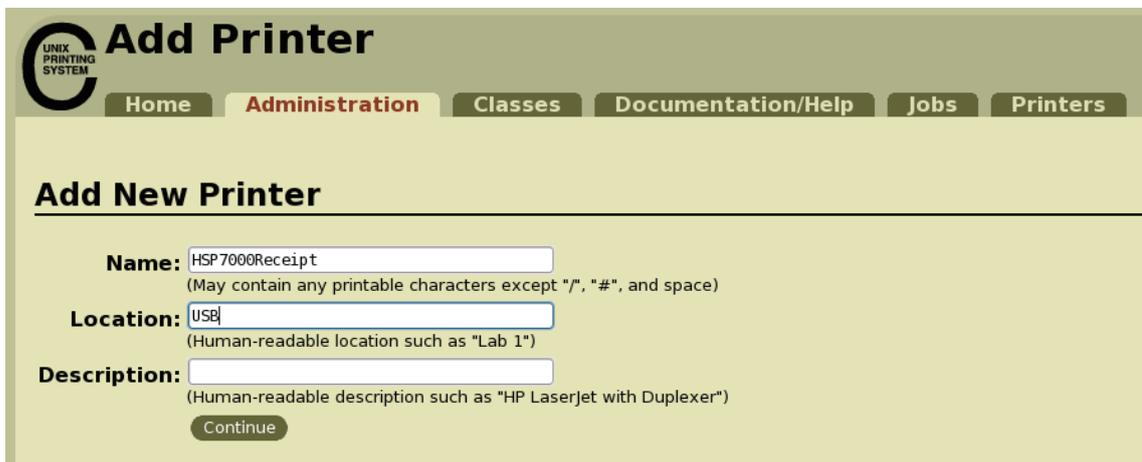
**Caution** : When using the HSP7000 USB interface model with a Linux, set DIP switch 1-5 and 1-8 to OFF. For details on the DIP switches, refer to the separate Hardware Manual.

1. Open your favorite web browser and navigate to "http://localhost:631/admin".

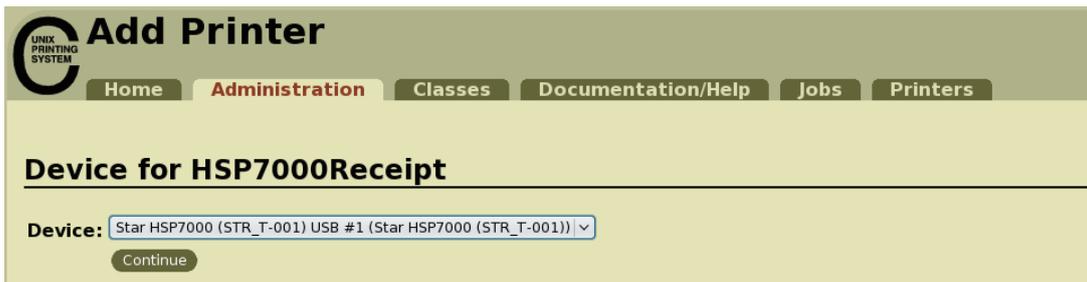


2. Click on the "Add Printer" button.  
Note: When a dialog box is displayed requesting certification, enter the root password and press [Yes].
3. In the Add Printer screen, enter the printer name, location and description. Then click on the "Continue" button.  
Location, and Description can be left blank.

**Caution** :It is possible to register three types of drivers (receipt, slip and validation), but when registering multiple drivers, use different printer names.



4. Select the device(interface) to which the printer is connected. Then click on the “Continue” button.

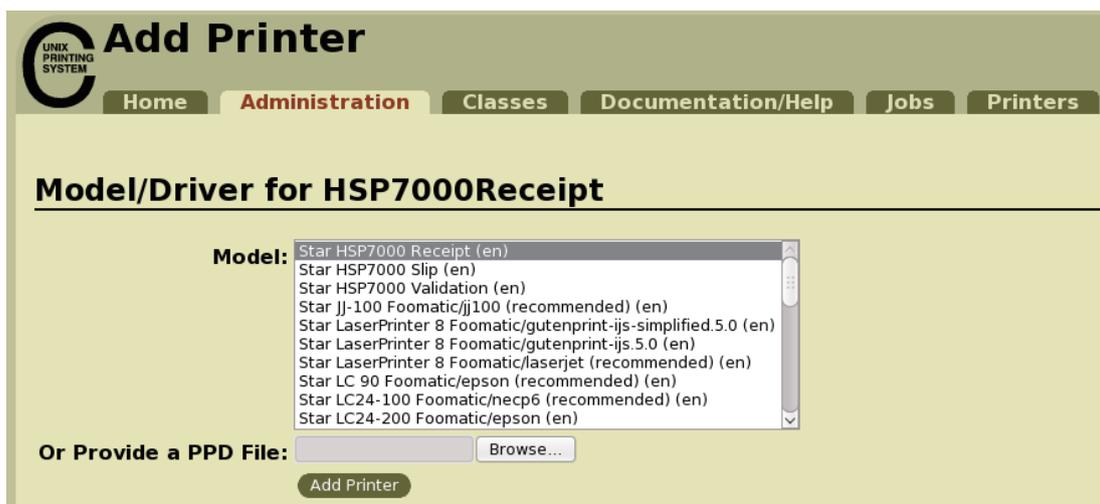


**Caution :** In the case of parallel interface, Star Model Name is not displayed in the Device pull-down menu.

In such cases, perform the following.

- 1) Select the "LPT #1 (Unknown)" as the Device, then click on the “Continue” button.
- 2) Click on the “Add Printer” on the Model/Driver screen.
- 3) Select "STAR" as the Make, then click on the “Continue” button.

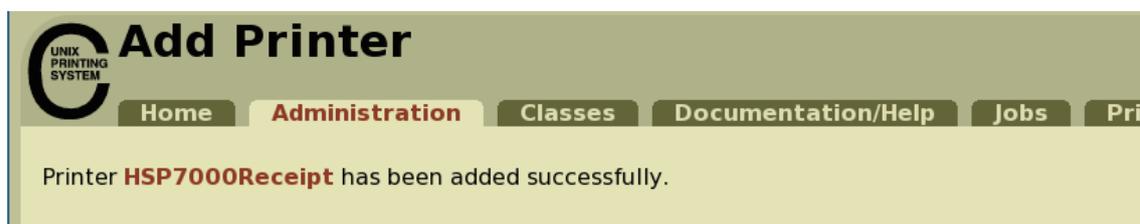
5. Select the printer model/driver. Then click on the “Add Printer” button.



**Caution :** In some versions of CUPS, HSP7000 is not displayed in the model/driver pull-down menu. In such cases, after performing the following, return to the previous page and reregister the printer.

```
$ su
# cp -fr /usr/share/cups/model/star /usr/share/ppd/star
```

This completes printer installation and registration.



## 1.2.2 When using a Ethernet Interface

1. Open your favorite web browser and navigate to "http://localhost:631/admin".



2. Click on the "Add Printer" button.

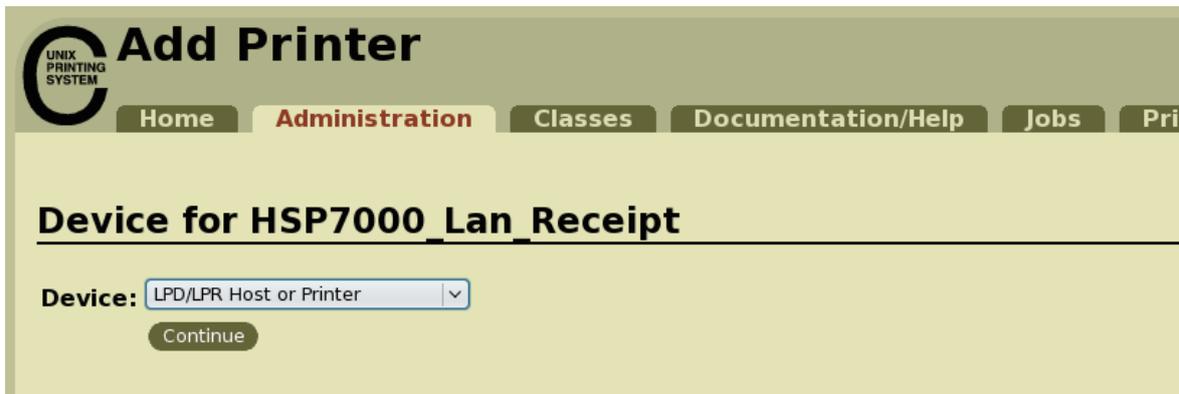
Note: When a dialog box is displayed requesting certification, enter the root password and press [Yes].

3. In the Add Printer screen, enter the printer name, location and description. Then click on the "Continue" button.

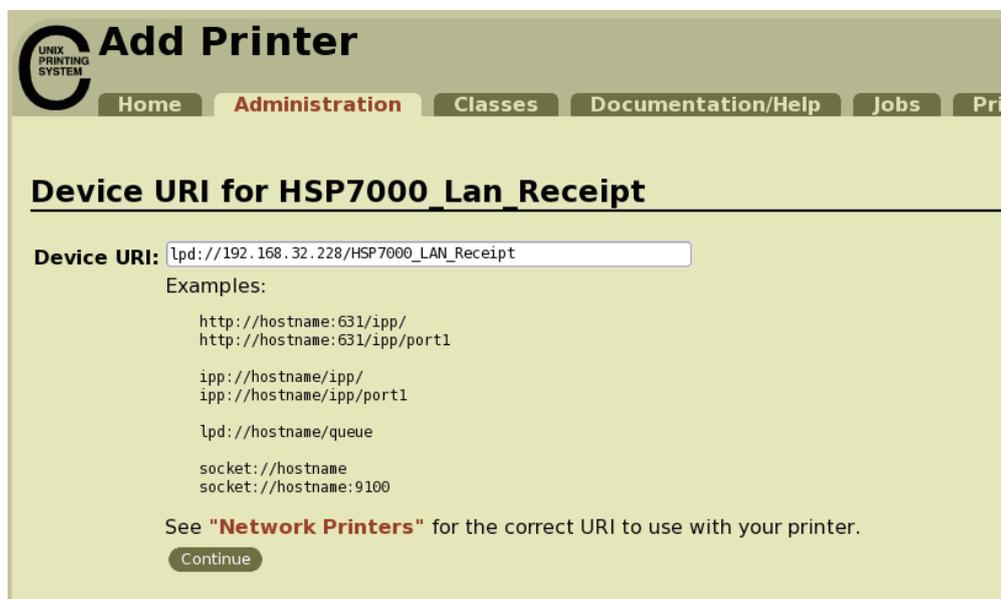
Location, and Description can be left blank.

**Caution:** It is possible to register three types of drivers (receipt, slip and validation), but when registering multiple drivers, use different printer names.

4. Select the device (LPD/LPR HOST or Printer) to which the printer is connected. Then click on the "Continue" button.



5. Specify the printer device on the URI.  
 Specify the following URI for LPD protocols.  
 lpd://<host name>/<queue-name>  
 Host name is the IP address of the printer to set. (Check using self-print.)  
 After entering, click on the "Add Printer" button.



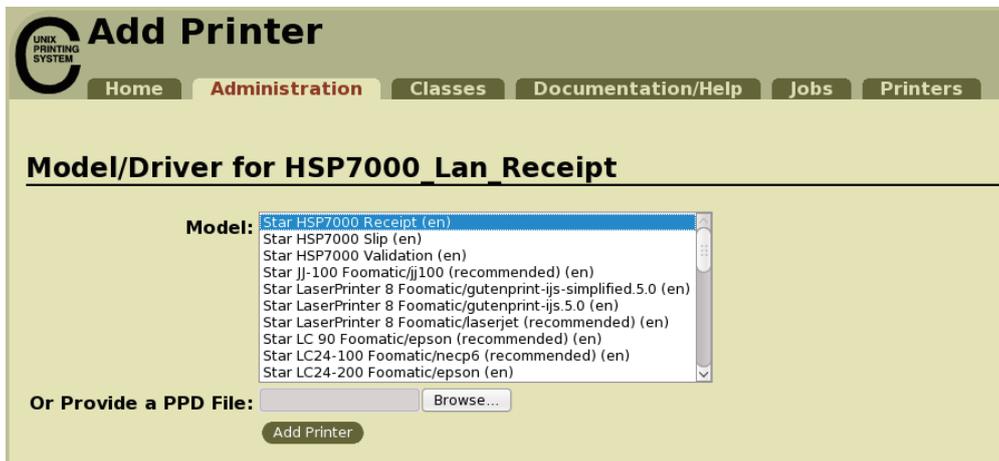
**Note** When using port 9100, set the following.

Device: AppSocket/HP Jet Direct  
 Device URI: [ IP address of printer being set ] : 9100  
 For example: socket://192.168.32.228 : 9100

6. Select "STAR" as the Make. Then click on the "Continue" button.



7. Select the printer model/driver. Then click on the "Add Printer" button.



**Caution:** In some versions of CUPS, HSP7000 is not displayed in the model/driver pull-down menu. In such cases, after performing the following, return to the previous page and reregister the printer.

```
$ su
# cp -fr /usr/share/cups/model/star /usr/share/ppd/star
```

This completes printer installation and registration.



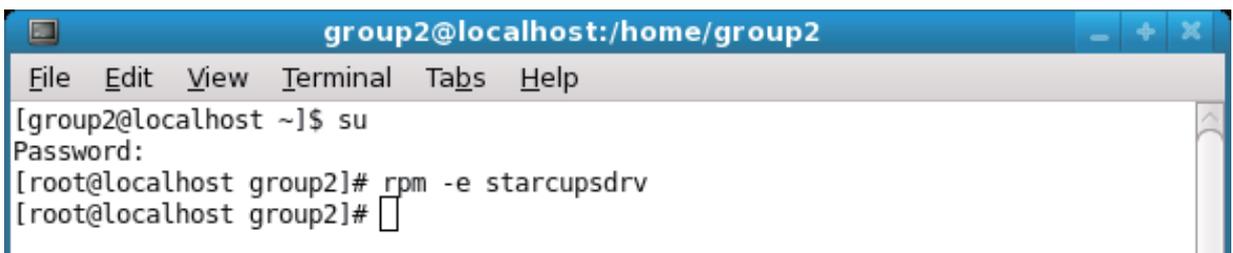
### 1.3. Uninstallation Procedures

To uninstall the driver, proceed as follows.

1. Open your favorite web browser and navigate to "http://localhost:631/printers". Click on the "Delete Printer" button to delete the registered printers.



2. Startup the terminal.
3. Use the "su" command to enable root account privileges.  
\$ su
4. Run the rpm command using the "e" switches.  
rpm -e starcupsdrv



**Note:** Debian GNU/Linux, ubuntu uninstalling procedures

```
$ cd "Source code highest level directory path"
$ su -
# make remove
```

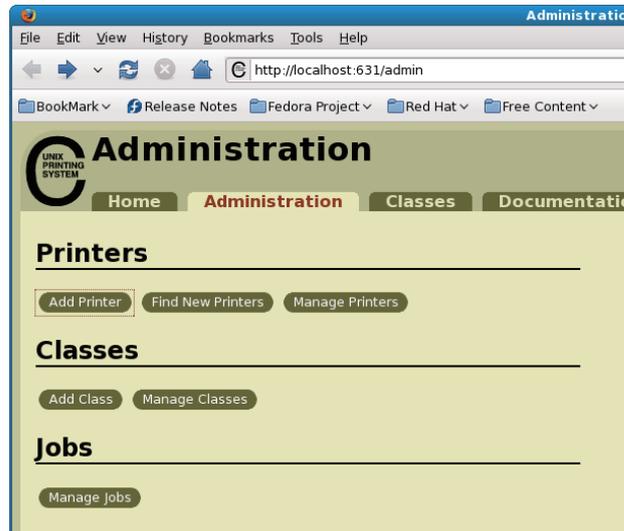
Enter the following if work in the notes on page 4 or 7 was performed.

```
# rm -fr /usr/share/ppd/star
```

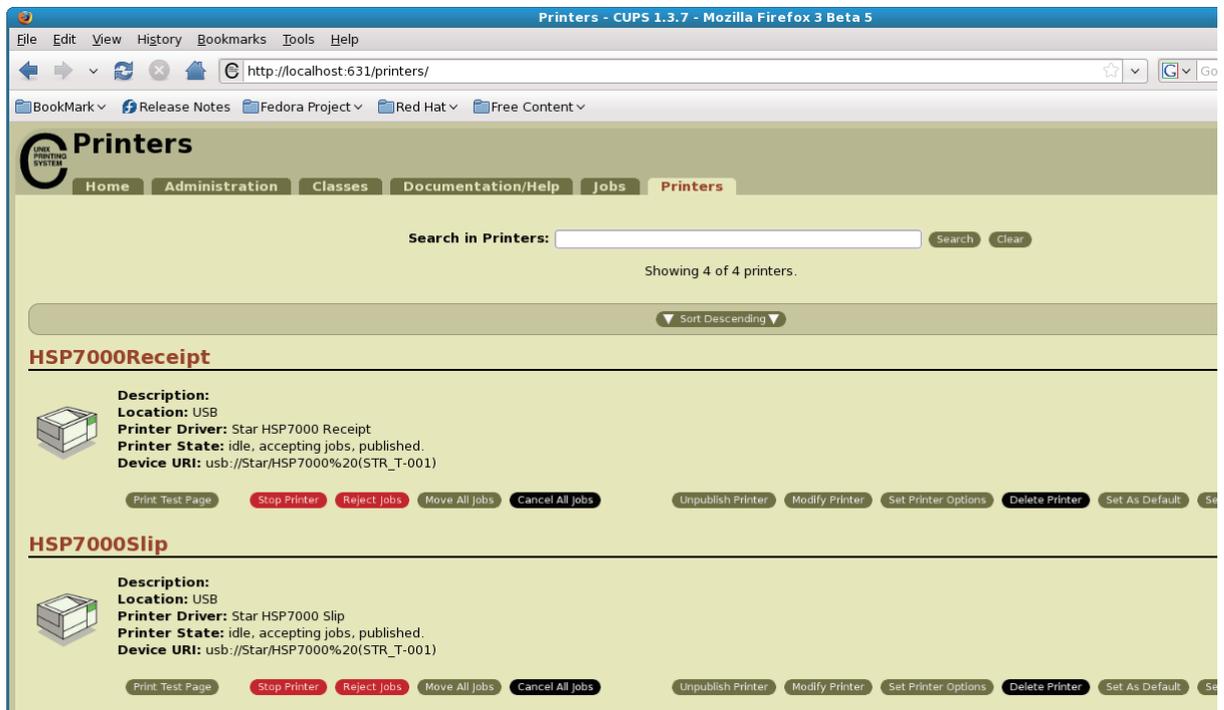
## 2. Setting the Printer Functions

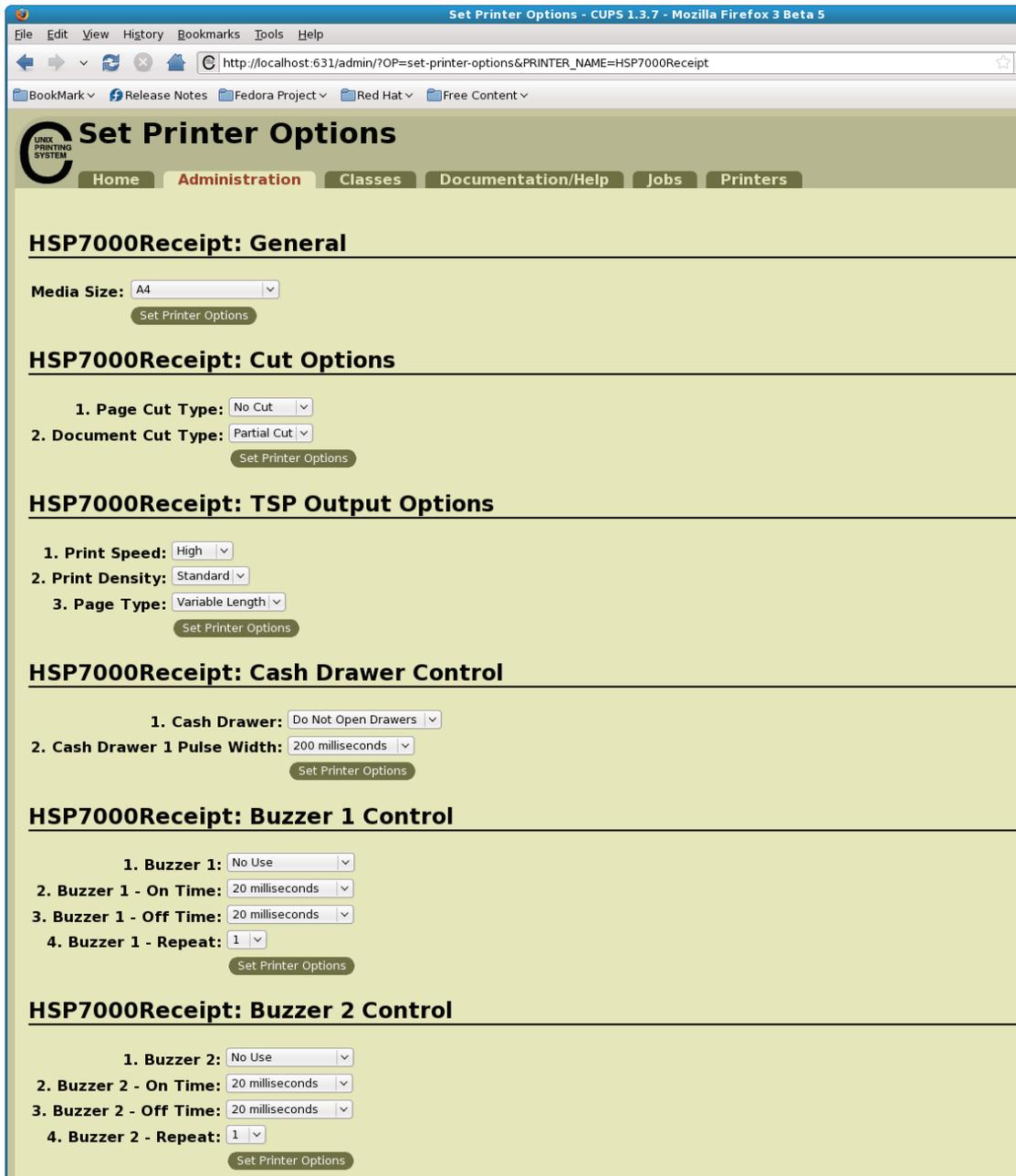
Setting the printer functions is done on the Web browser CUPS management screen.

1. Access the CUPS management screen (<http://localhost:631/admin>) using the web browser. Click on the "Manage Printers" button.



2. An earlier printer driver is registered, so to change the setting, click on the "Set Printer Options" button.





## 2.1 Function List

Drivers supporting each function are different.

For drivers supporting each function, see Receipt / Slip / Validation displayed beside the function name

### General

Receipt
Slip
Validation

1. Media Size: (paper size)

The next page shows the paper sizes.

**Note**

When a paper size is selected that exceeds the maximum printing width, the print is shrunk to fit the maximum printing width.

The following paper sizes are available and can be set.

Paper Size	Supported Drivers		
	Receipt	Slip	Validation
50.8 * 30mm	<input type="radio"/>		
50.8 * 40mm	<input type="radio"/>		
50.8 * 50mm	<input type="radio"/>		
50.8 * 60mm	<input type="radio"/>		
50.8 * 70mm	<input type="radio"/>		
50.8 * 80mm	<input type="radio"/>		
50.8 * 90mm	<input type="radio"/>		
50.8 * 100mm	<input type="radio"/>		
50.8 * 110mm	<input type="radio"/>		
50.8 * 120mm	<input type="radio"/>		
50.8 * 130mm	<input type="radio"/>		
50.8 * 140mm	<input type="radio"/>		
50.8 * 150mm	<input type="radio"/>		
50.8 * 160mm	<input type="radio"/>		
50.8 * 170mm	<input type="radio"/>		
50.8 * 180mm	<input type="radio"/>		
50.8 * 190mm	<input type="radio"/>		
50.8 * 200mm	<input type="radio"/>		
50.8 * 2000mm	<input type="radio"/>		
68 * 30mm	<input type="radio"/>		
68 * 40mm	<input type="radio"/>		
68 * 50mm	<input type="radio"/>		
68 * 60mm	<input type="radio"/>		
68 * 70mm	<input type="radio"/>		
68 * 80mm	<input type="radio"/>		
68 * 90mm	<input type="radio"/>		
68 * 100mm	<input type="radio"/>		
68 * 110mm	<input type="radio"/>		
68 * 120mm	<input type="radio"/>		
68 * 130mm	<input type="radio"/>		
68 * 140mm	<input type="radio"/>		
68 * 150mm	<input type="radio"/>		
68 * 160mm	<input type="radio"/>		
68 * 170mm	<input type="radio"/>		
68 * 180mm	<input type="radio"/>		
68 * 190mm	<input type="radio"/>		
68 * 200mm	<input type="radio"/>		
68 * 2000mm	<input type="radio"/>		

Paper Size	Supported Drivers		
	Receipt	Slip	Validation
72 * 30mm	<input type="radio"/>		
72 * 40mm	<input type="radio"/>		
72 * 50mm	<input type="radio"/>		
72 * 60mm	<input type="radio"/>		
72 * 70mm	<input type="radio"/>		
72 * 80mm	<input type="radio"/>		
72 * 90mm	<input type="radio"/>		
72 * 100mm	<input type="radio"/>		
72 * 110mm	<input type="radio"/>		
72 * 120mm	<input type="radio"/>		
72 * 130mm	<input type="radio"/>		
72 * 140mm	<input type="radio"/>		
72 * 150mm	<input type="radio"/>		
72 * 160mm	<input type="radio"/>		
72 * 170mm	<input type="radio"/>		
72 * 180mm	<input type="radio"/>		
72 * 190mm	<input type="radio"/>		
72 * 200mm	<input checked="" type="radio"/>		
72 * 2000mm	<input type="radio"/>		
85 * 254mm		<input checked="" type="radio"/>	
80 * 254mm		<input type="radio"/>	
75 * 254mm		<input type="radio"/>	
70 * 254mm		<input type="radio"/>	
65 * 254mm		<input type="radio"/>	
60 * 254mm		<input type="radio"/>	
55 * 254mm		<input type="radio"/>	
50 * 254mm		<input type="radio"/>	
45 * 254mm		<input type="radio"/>	
40 * 254mm		<input type="radio"/>	
85 * 33mm			<input checked="" type="radio"/>
80 * 33mm			<input type="radio"/>
75 * 33mm			<input type="radio"/>
70 * 33mm			<input type="radio"/>
65 * 33mm			<input type="radio"/>
60 * 33mm			<input type="radio"/>
55 * 33mm			<input type="radio"/>
50 * 33mm			<input type="radio"/>
45 * 33mm			<input type="radio"/>
40 * 33mm			<input type="radio"/>
A4	<input type="radio"/>		
Letter	<input type="radio"/>		
Legal	<input type="radio"/>		

\* ● is the default setting value.

In some cases, they won't function depending on the application being used.

## Cut Option

Receipt

### 1. Page Cut Type:

This sets the cutting method for the end of all pages, excluding the last page.

Setting Value	Default Value	Details
No Cut	○	Does not perform a cut and page feed.
Partial Cut		Feeds paper to cutting position, then cuts the paper, leaving one uncut point in center of paper.

### 2. Document Cut Type:

This sets the cutting method for the last page.

Setting Value	Default Value	Details
No Cut		Does not perform a cut and page feed.
Partial Cut	○	Feeds paper to cutting position, then cuts the paper, leaving one uncut point in center of paper.

## Output Options

Receipt

### 1. Print Speed:

This sets the printing speed. Note that setting also affects the print quality.

Setting Value	Default Value	Details
High	○	Print quality has priority over speed.
Middle		Print quality and speed are in the middle.
Low		Best quality, but slow print speed.

### 2. Print Density:

This sets the printing Density.

Setting Value	Default Value	Details
-3 to -1		Larger value with -(minus) makes print density lighter.
Standard	○	Prints with normal density.
+1 to +3		Larger value with +(plus) makes print density darker.

### 3. Page Type:

This sets the page type.

Setting Value	Default Value	Details
Variable Length	○	Does not output blank data until the bottom of the page. Receipt ends after final data is printed.
Fixed Length		Outputs blank data as a blank until the bottom of the page. Receipt ends after printing the length specified by paper size.

**Output Option**

Slip

Validation

1. Bidirectional Printing:

Use this feature to select either unidirectional or bidirectional printing. Note that the setting affects both the print speed and the print quality. Available settings are as follows.

Setting Value	Default Value	Details
Budirectional	○	Printer prints in both directions.
Unidirectional		Printer prints in one direction only.

2. Resolution:

This sets the print quality (resolution).

Setting Value	Default Value	Details
160 x 72 DPI	○	Print width is 160 dpi; print height is 72 dpi.
80 x 72 DPI		Print width is 80 dpi; print height is 72 dpi.

**Cash Drawer Control**

Receipt Slip Validation

**1. Cash Drawer:**

This sets the operations of the cash drawer.

Setting Value	Default Value	Details
Do Not Open Drawers	○	No cash drawer drive.
Open Drawer 1		Drives cash drawer 1 immediately after printing.
Open Drawer 2		Drives cash drawer 2 immediately after printing.
Open Drawer 1 and 2		Drives cash drawers 1 and 2 immediately after printing.

**2. Cash Drawer 1 Pulse Width:**

This sets the cash drawer pulse width.

Setting Value	Default Value	Details
10 milliseconds		Sets the pulse width to 0.01 seconds.
100 milliseconds		Sets the pulse width to 0.1 seconds.
200 milliseconds	○	Sets the pulse width to 0.2 seconds.
300 milliseconds		Sets the pulse width to 0.3 seconds.
400 milliseconds		Sets the pulse width to 0.4 seconds.
500 milliseconds		Sets the pulse width to 0.5 seconds.
600 milliseconds		Sets the pulse width to 0.6 seconds.
700 milliseconds		Sets the pulse width to 0.7 seconds.
800 milliseconds		Sets the pulse width to 0.8 seconds.
900 milliseconds		Sets the pulse width to 0.9 seconds.
1000 milliseconds		Sets the pulse width to 1.0 seconds.
1100 milliseconds		Sets the pulse width to 1.1 seconds.
1200 milliseconds		Sets the pulse width to 1.2 seconds.

**Note :** 1) Do not enable the cash drawer and buzzer at the same time.  
2) The pulse width for cash drawer 2 is fixed at 200 milliseconds.

## Buzzer 1 Control and Buzzer 2 Control

Receipt

Slip

Validation

### 1. Buzzer 1 ( or Buzzer 2 ):

This sets the drive of either buzzer 1 or buzzer 2.

Setting Value	Default Value	Details
No Use	○	Buzzer 1 or buzzer 2 is not used.
Document Top		Executes buzzer 1 (or 2) at the top of the document.
Document Bottom		Executes buzzer 1 (or 2) at the bottom of the document.

**Cautions :** When a device other than a buzzer, such as a cash drawer, is connected, select the 'No Use'. There is the possibility that the connected device and the circuit can be damaged by using the buzzer control command..

### 2. Buzzer 1 ( Buzzer 2 ) - On Time:

This sets the time to ring buzzer 1 or buzzer 2.

Setting Value	Default Value	Details
20 milliseconds	○	Sets to 0.02 seconds.
40 milliseconds		Sets to 0.04 seconds.
100 milliseconds		Sets to 0.1 seconds.
200 milliseconds		Sets to 0.2 seconds.
500 milliseconds		Sets to 0.5 seconds.
1000 milliseconds		Sets to 1.0 seconds.
2000 milliseconds		Sets to 2.0 seconds.
5000 milliseconds		Sets to 5.0 seconds.

### 3. Buzzer 1 ( Buzzer 2 ) - Off Time:

This sets buzzer 1 or buzzer 2 off time.

Setting Value	Default Value	Details
20 milliseconds	○	Sets to 0.02 seconds.
40 milliseconds		Sets to 0.04 seconds.
100 milliseconds		Sets to 0.1 seconds.
200 milliseconds		Sets to 0.2 seconds.
500 milliseconds		Sets to 0.5 seconds.
1000 milliseconds		Sets to 1.0 seconds.
2000 milliseconds		Sets to 2.0 seconds.
5000 milliseconds		Sets to 5.0 seconds.

### 4. Buzzer 1 ( Buzzer 2 ) - Repeat:

This sets the number of times to ring buzzer 1 (or buzzer 2) driven by the timing set at 1:Buzzer 1 (or Buzzer 2). The buzzer will stop regardless of the number of times set to ring by pressing the "FEED".

Setting Value	Default Value	Details
1	○	Rings buzzer 1 (or buzzer 2) Once.
2		Rings buzzer 1 (or buzzer 2) twice.
3		Rings buzzer 1 (or buzzer 2) three times.
5		Rings buzzer 1 (or buzzer 2) five times.
10		Rings buzzer 1 (or buzzer 2) ten times.
15		Rings buzzer 1 (or buzzer 2) fifteen times.
20		Rings buzzer 1 (or buzzer 2) twenty times.

**Caution :** 1) Do not enable the cash drawer and buzzer at the same time.  
2) The buzzer ringing time and off time should not exceed 90 seconds in total.

### 3. Guidelines for Using an Ethernet Environment

The printer's IP address must be set in advance to use a printer that supports LAN using this driver. If your LAN environment does not allow acquisition of an IP address from a DHCP server, set the IP address to the printer in advance.

#### 3.1 Setting a Temporary IP Address

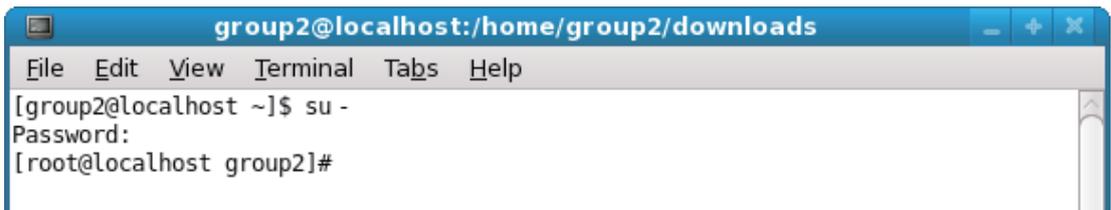
Use the following procedures to set a temporary IP address to the printer. By setting a temporary IP address, it is possible to connect to a printer that has not been set with an IP address.

**Caution :** Printer settings should be done by a user with administrator rights.

**Note**

A MAC address of the printer to be set is necessary for the temporary IP address. Confirm the MAC address in a self-print from the printer. See the Hardware Manual for details on running a self-print.

1. Startup the terminal.
2. Use the "su" command to enable root account privileges.



3. Execute the following command in the terminal to set a temporary IP address to the printer.

1. arp -d [Printer temporary IP address]
2. arp -s [Printer temporary IP address] [Printer MAC address]
3. ping -c 4 [Printer temporary IP address]
4. arp -d [Printer temporary IP address]

```
Example of temporary IP address (192.168.32.228)
arp -d 192.168.32.228
arp -s 192.168.32.228 00:11:62:04:83:98
ping -c 4 192.168.32.228
arp -d 192.168.32.228
```

**Note:** When you use Ubuntu, do not input "su -" command and input "sudo arp" command instead of "arp" command.  
The temporary IP address set here is erased when the printer power is turned off.  
Continue by setting the IP address.

Use "exit" command to exit super user status.

## 3.2 Setting the IP Address (TELNET Utility)

The Telnet command connects directly to the printer to make settings.

1. Startup the terminal.
2. Use the Telnet command to connect to the printer to set.

Ex. >telnet 192.168.32.228 (The IP address of the printer to be set.)

**Note:** You cannot connect to a printer that does not have an IP address. See section 3.1 Setting a Temporary IP Address for details on setting such an address on the printer in advance.

3. Log-in to the printer to be set as a "root" user.  
The default password is "public."  
To change the password, input the changed password.



```
group2@localhost:/home/group2/downloads
File Edit View Terminal Tabs Help
[group2@localhost ~]$ telnet 192.168.32.228
Trying 192.168.32.228...
Connected to 192.168.32.228.
Escape character is '^]'.

Welcome to IFBD-HE05/06 TELNET Utility.
Copyright(C) 2005 Star Micronics co., Ltd.

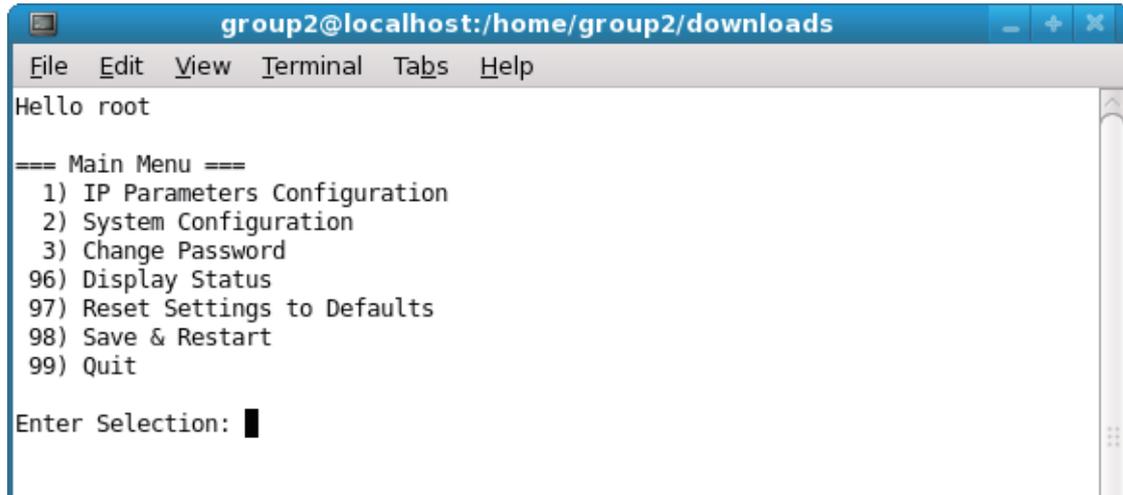
<< Connected Device >>
Device Model: HSP7000 (STR_T-001)
NIC Product : IFBD-HE05/06
MAC Address : 00:11:62:04:83:98

login: root
Password: *****
```

4. The following menu is displayed.

- 1) IP Parameters Configuration
  - 2) System Configuration
  - 3) Change Password
  - 96) Display Status
  - 97) Reset Settings to Defaults
  - 98) Save and Restart
  - 99) Quit
- Enter Selection

Input the number that corresponds to your selection.



```
group2@localhost:/home/group2/downloads
File Edit View Terminal Tabs Help
Hello root

=== Main Menu ===
 1) IP Parameters Configuration
 2) System Configuration
 3) Change Password
96) Display Status
97) Reset Settings to Defaults
98) Save & Restart
99) Quit

Enter Selection: █
```

5. When all settings are completed, save the changes using "98( Save and Restart)" - "1(Save & Restart device & Configuration printing)", or "2 (Save & Restart device)". The settings of the printer will be saved. Reset the printer.

## 4. Guidelines for Using the lpr Command

When printing using the lpr command from the command line, you can specify options with the following format.

```
$lpr -o [option]=[value] -o [option]=[value] ... [Filename]
```

In [option] and [value], specify the name shown in the command "specify name" in section 4.1 List of Supported Functions".

Also for options not specified, print using the default driver settings.

**Point!** Use the printer name confirmed using the "lpstat -p" command, when specifying the printer name using the option "-P".

### Use Example 1

Printer Name : HSP7000  
File Name : sample1.txt  
Paper Size \* : 50.8 \* 200mm  
Margin(top) \* : 0mm  
Margin(bottom) \* : 0mm  
Margin(left) \* : 0mm  
Margin(right) \* : 0mm

\* This option is not a printer driver option, but an OS standard option.

```
$ lpr -P HSP7000 -o media="X50D8MMY200MM"  
-o page-top=0 -o page-bottom=0 -o page-left=0  
-o page-right=0 sample1.txt
```

### Use Example 2

File Name : sample2.txt  
Print Speed : Low

```
$ lpr -o PrintSpeed=2Low sample2.txt
```

### Use Example 3

File Name : sample3.txt  
Document Cut Type : No Cut

```
$ lpr -o DocCutType=0NoCutDoc sample3.txt
```

## 4.1 Function List

See section 2.1 Function List for the details on the functions.

	Option Name		Command		Supported Driver		
	option	value	[ option ]	[ value ]	Receipt	Slip	Validation
Output Option	Print Speed	High	PrintSpeed	0High	●		
		Middle		1Middle	○		
		Low		2Low	○		
	Print Density	-3	PrintDensity	0Minus3	○		
		-2		1Minus2	○		
		-1		2Minus1	○		
		Standard		3ZERO	●		
		+1		4Plus1	○		
		+2		5Plus2	○		
		+3		6Plus3	○		
	Page Type	Variable Length	PageType	0Variable	●		
		Fixed Length		1Fixed	○		
	Bidirectional Printing	Bidirectional	BidiPrinting	0Bidirectional		●	●
		Unidirectional		1Unidirectional		○	○
Resolution	160 x 72 DPI	Resolution	160x72dpi		●	●	
	80 x 72 DPI		80x72dpi		○	○	
Cut Options	Page Cut Type	No Cut	PageCutType	0NoCutPage	●		
		Partial Cut		1PartialCutPage	○		
	Document Cut Type	No Cut	DocCutType	0NoCutDoc	○		
		Partial Cut		1PartialCutDoc	●		
Cash Drawer Control	Cash Drawer	Do Not Open Drawers	CashDrawerSetting	0DoNotOpenDrawers	●	●	●
		Open Drawer 1		1OpenDrawer1	○	○	○
		Open Drawer 2		2OpenDrawer2	○	○	○
		Open Drawer 1 and 2		3OpenDrawer3	○	○	○
	Cash Drawer 1 Pulsh Width	10 milliseconds	CashDrawer1PulseWidth	0Millis10	○	○	○
		100 milliseconds		1Millis100	○	○	○
		200 milliseconds		2Millis200	●	●	●
		300 milliseconds		3Millis300	○	○	○
		400 milliseconds		4Millis400	○	○	○
		500 milliseconds		5Millis500	○	○	○
		600 milliseconds		6Millis600	○	○	○
		700 milliseconds		7Millis700	○	○	○
		800 milliseconds		8Millis800	○	○	○
		900 milliseconds		9Millis900	○	○	○
		1000 milliseconds		10Millis1000	○	○	○
1100 milliseconds	11Millis1100	○	○	○			
1200 milliseconds	12Millis1200	○	○	○			

	Option Name		Command		Supported Driver		
	option	value	[ option ]	[ value ]	Receipt	Slip	Validation
Buzzer1 Control / Buzzer2 Control	Buzzer1 /	No Use	Buzzer1Setting /	0NoUse	●	●	●
	Buzzer2	Document Top	Buzzer2Setting	1DocumentTop	○	○	○
		Document Bottom		2DocumentBtm	○	○	○
	Buzzer1 - On Time / Buzzer2 - On Time	20 milliseconds	Buzzer1OnTime /	0Millis20	●	●	●
		40 milliseconds	Buzzer2OnTime	1Millis40	○	○	○
		100 milliseconds		2Millis100	○	○	○
		200 milliseconds		3Millis200	○	○	○
		500 milliseconds		4Millis500	○	○	○
		1000 milliseconds		5Millis1000	○	○	○
		2000 milliseconds		6Millis2000	○	○	○
		5000 milliseconds		7Millis5000	○	○	○
	Buzzer1 - Off Time / Buzzer2 - Off Time	20 milliseconds	Buzzer1OffTime /	0Millis20	●	●	●
		40 milliseconds	Buzzer2OffTime	1Millis40	○	○	○
		100 milliseconds		2Millis100	○	○	○
		200 milliseconds		3Millis200	○	○	○
		500 milliseconds		4Millis500	○	○	○
		1000 milliseconds		5Millis1000	○	○	○
		2000 milliseconds		6Millis2000	○	○	○
		5000 milliseconds		7Millis5000	○	○	○
	Buzzer1 - Repeat / Buzzer2 - Repeat	1	Buzzer1Repeat /	0Repeat1	●	●	●
		2	Buzzer2Repeat	1Repeat2	○	○	○
		3		2Repeat3	○	○	○
		5		3Repeat5	○	○	○
		10		4Repeat10	○	○	○
		15		5Repeat15	○	○	○
		20		6Repeat20	○	○	○

\* ● is the default setting value.  
In some cases, they won't function depending on the application being used.

## 5. Confirmed Operating Environments

Distribution	Version
Red Hat Enterprise Linux	5.5
CentOS	5.5
openSUSE	11.3
Fedora	13
ubuntu	10.04





URL: <http://www.starmicronics.com/support/>