

Thermal Label Printer

TSP828L

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.

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.

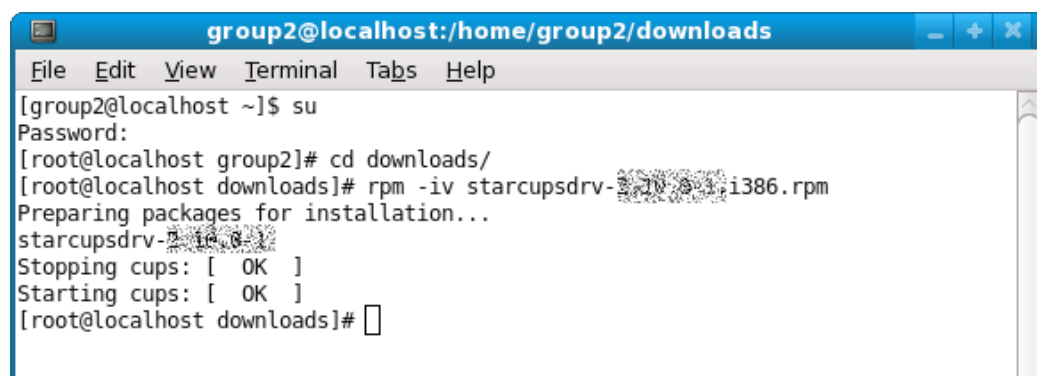
1. Startup the terminal.
2. Use the "su" command to enable root account privileges.
\$ su
3. Expand the starcupsdrv-x.xx.x_linux_yyyymmdd.tar.gz file downloaded via the website or included in the Linux/Cups folder of the attached CD-ROM.
4. Navigate to the directory where the rpm file "starcupsdrv-x.x.x-x.i386.rpm" 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.



```
group2@localhost:/home/group2/downloads
File Edit View Terminal Tabs Help
[group2@localhost ~]$ su
Password:
[root@localhost group2]# cd downloads/
[root@localhost downloads]# rpm -iv starcupsdrv-2.10.0-1.i386.rpm
Preparing packages for installation...
starcupsdrv-2.10.0-1
Stopping cups: [ OK ]
Starting cups: [ OK ]
[root@localhost downloads]#
```

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
```

After downloading the starcupsdrv-x.xx.x_linux_yyyymmdd.tar.gz file via the website, copy the 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>).

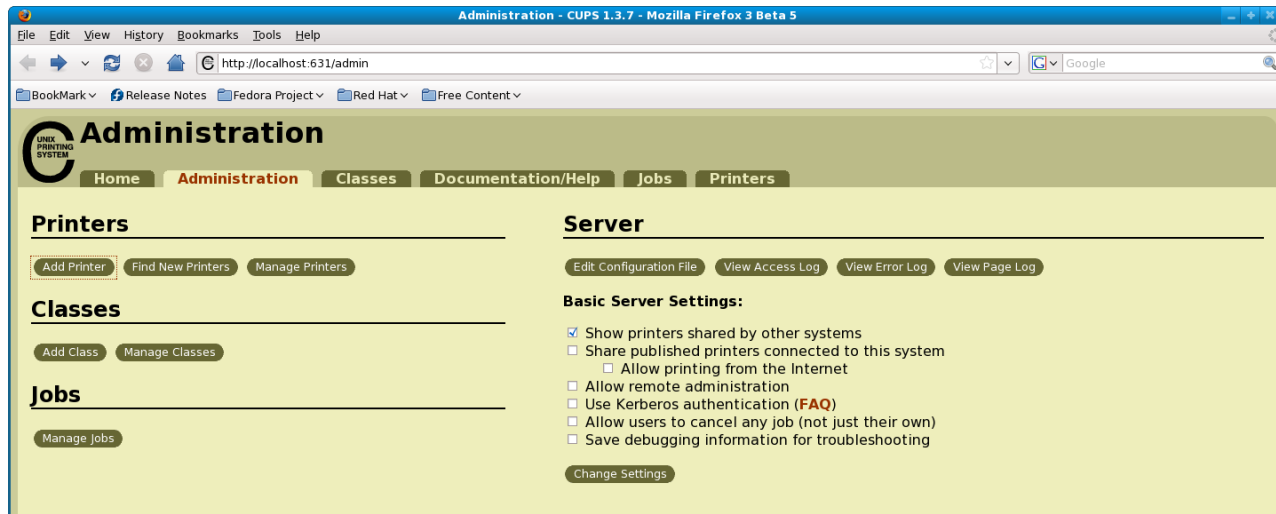
(Refer to section 1.2. Registering the Printer for details.)

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.

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



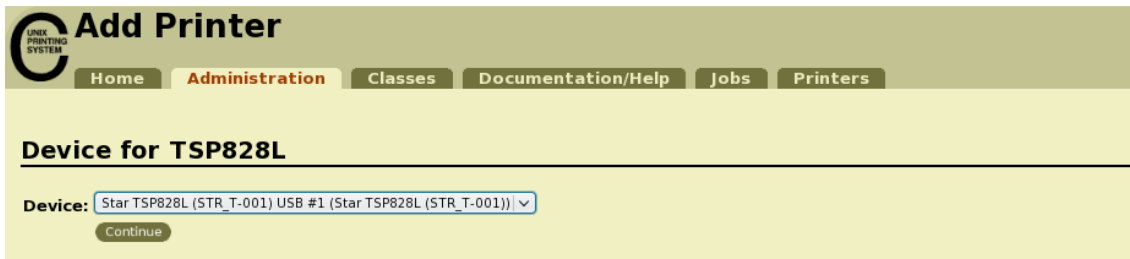
2. Click on the "Add Printer" button.

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.

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

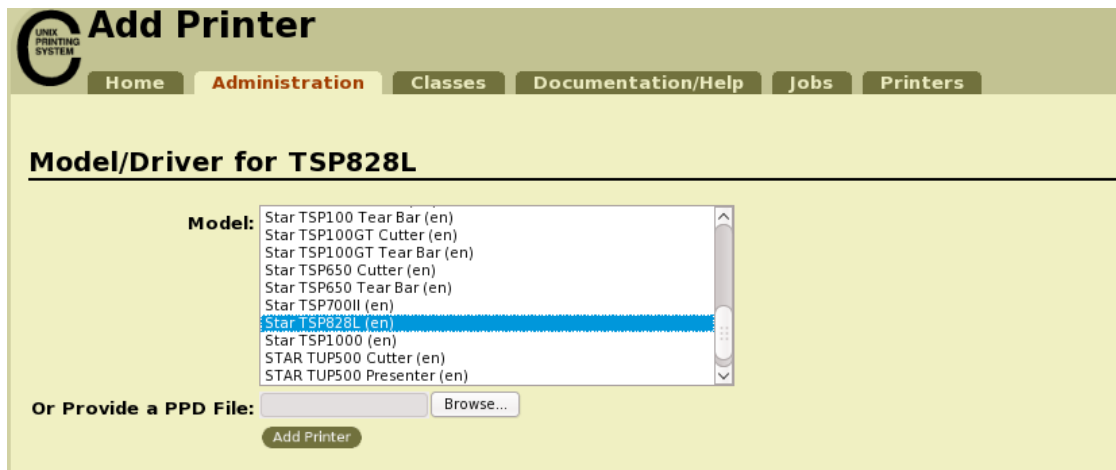


Caution : In the case of parallel interface, Star Model Name is not displayed in the Device pull-down menu.

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.

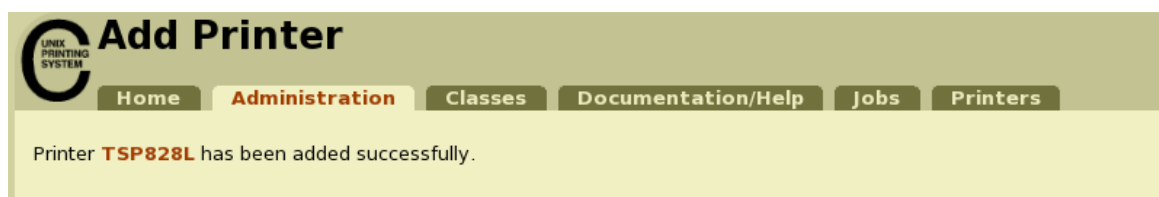


Caution : In some versions of CUPS, Star model name is not displayed in the model/driver pull-down menu.

In such cases, after performing the following, return to the previous page and reregister the printer.

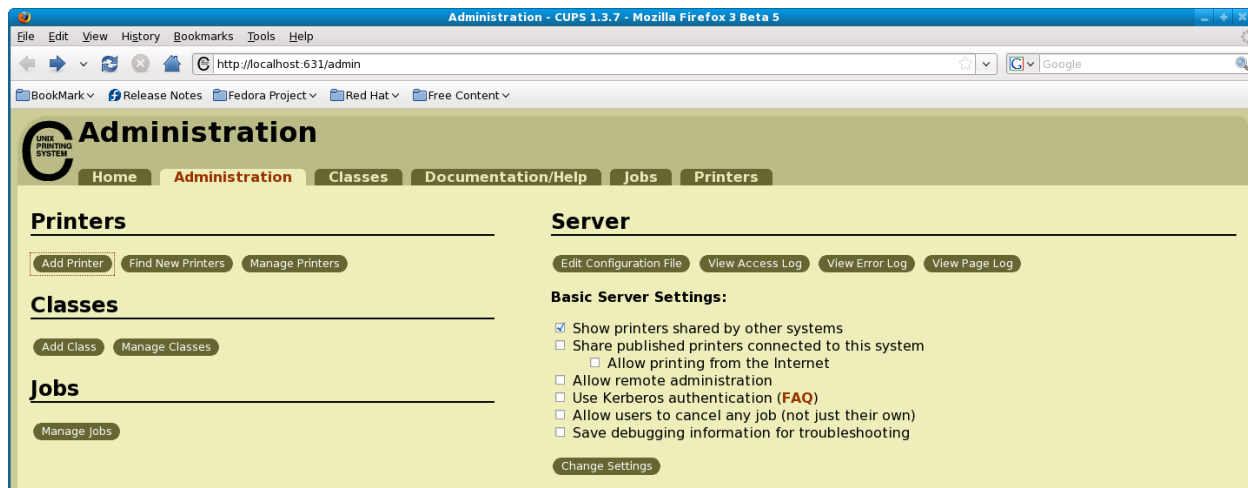
```
$ su
# cp -fr /usr/share/cups/model/star /usr/share/ppd/star
```

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".



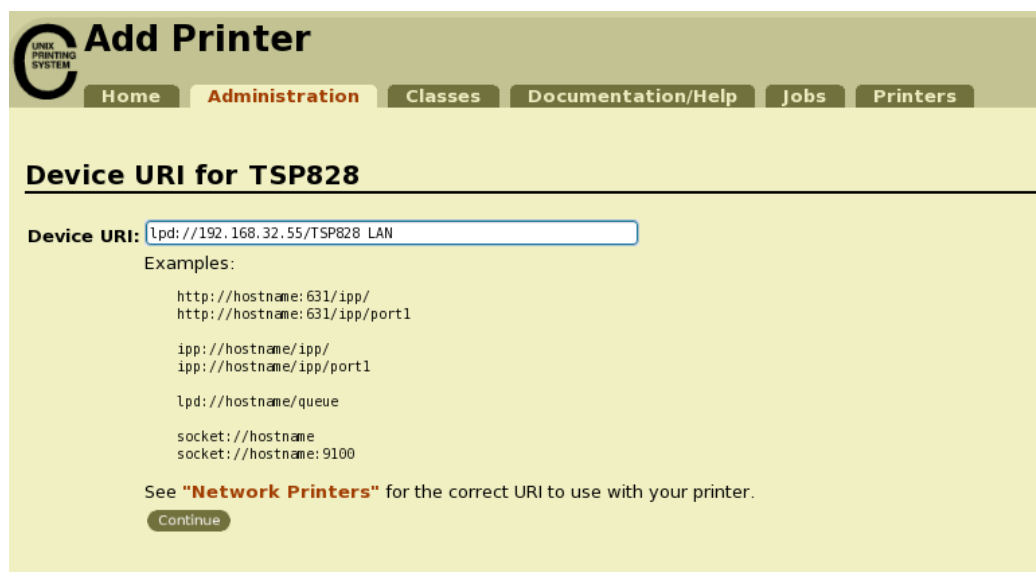
2. Click on the "Add Printer" button.
Note: When a dialog box is displayed requesting certification, enter the root password and press [Yes].
3. In the Add Printer screen, enter the printer name, location and description. Then click on the "Continue" button.
Location, and Description can be left blank.

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



The screenshot shows the 'Add Printer' web interface. At the top, there is a navigation bar with links: Home, Administration (highlighted), Classes, Documentation/Help, Jobs, and Printers. Below the navigation bar, the title 'Device for TSP828' is displayed. Underneath, there is a 'Device:' label followed by a dropdown menu currently showing 'LPD/LPR Host or Printer'. A 'Continue' button is located below the dropdown menu.

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.



The screenshot shows the 'Add Printer' web interface at the 'Device URI for TSP828' step. The 'Device URI' field contains the text 'lpd://192.168.32.55/TSP828 LAN'. Below this field, there is a section titled 'Examples:' which lists several URI formats: `http://hostname:631/ipp/`, `http://hostname:631/ipp/port1`, `ipp://hostname/ipp/`, `ipp://hostname/ipp/port1`, `lpd://hostname/queue`, `socket://hostname`, and `socket://hostname:9100`. A note states: 'See "Network Printers" for the correct URI to use with your printer.' A 'Continue' button is located at the bottom of the form.

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.

Add Printer

Home Administration Classes Documentation/Help Jobs Printers

Make/Manufacturer for TSP828

Make: Seiko
Sharp
SiPix
Sony
STAR
Tally
Tektronix
Toshiba
TOSHIBA TEC Corp.
Xerox

Continue

Or Provide a PPD File: Browse...

Add Printer

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

Add Printer

Home Administration Classes Documentation/Help Jobs Printers

Model/Driver for TSP828

Model: Star TSP100 Cutter (en)
Star TSP100 Tear Bar (en)
Star TSP100GT Cutter (en)
Star TSP100GT Tear Bar (en)
Star TSP650 Cutter (en)
Star TSP650 Tear Bar (en)
Star TSP700II (en)
Star TSP828L (en)
Star TSP1000 (en)
STAR TUP500 Cutter (en)

Continue

Or Provide a PPD File: Browse...

Add Printer

Caution : In some versions of CUPS, Star model name 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.

Add Printer

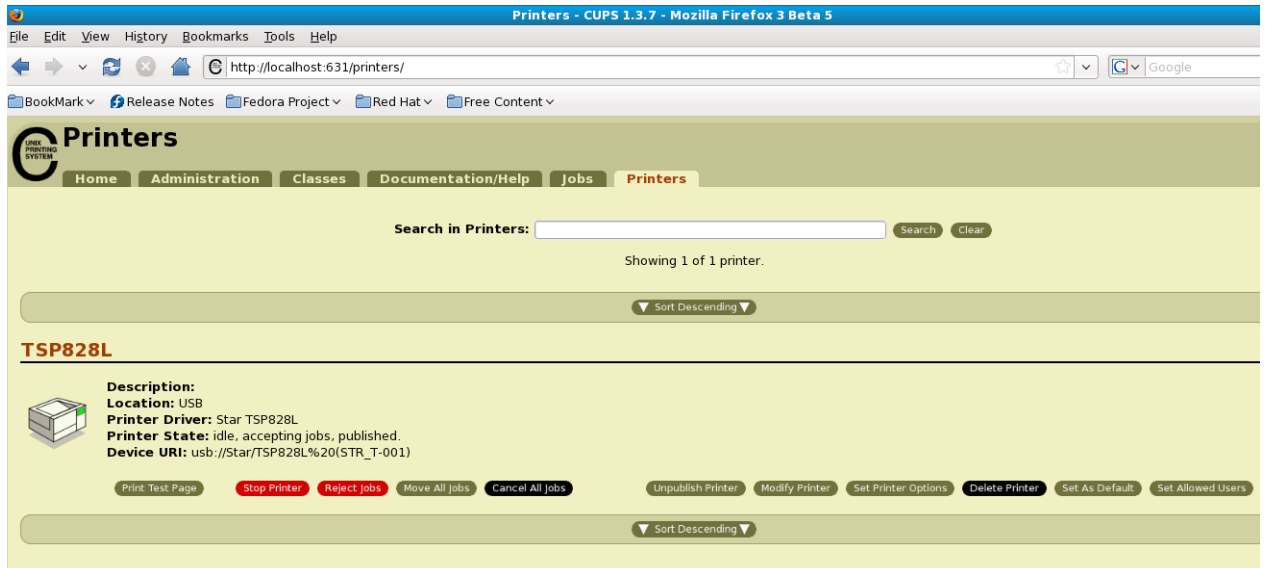
Home Administration Classes Documentation/Help Jobs Printers

Printer **TSP100LAN** has been added successfully.

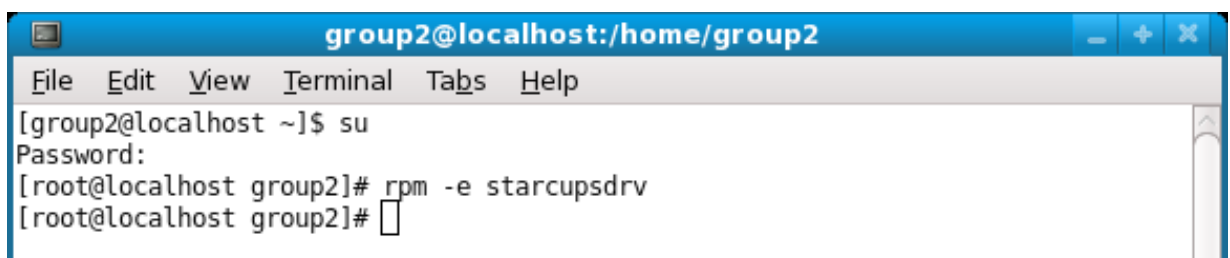
1.3. Uninstallation Procedures

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
```

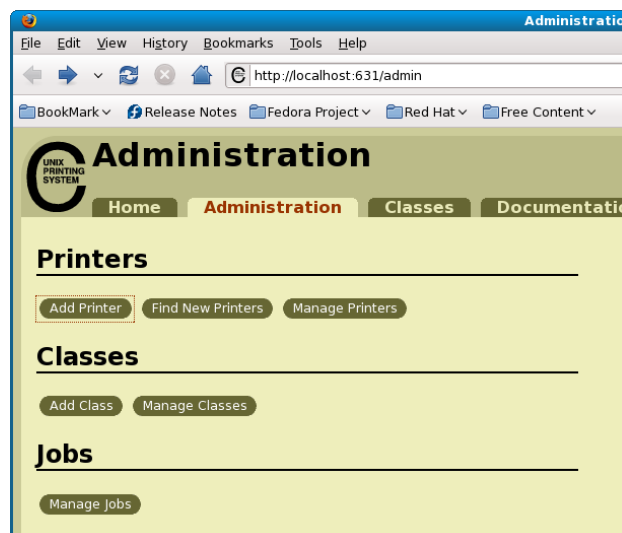
Enter the following if work in the notes on page 4 was performed.

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

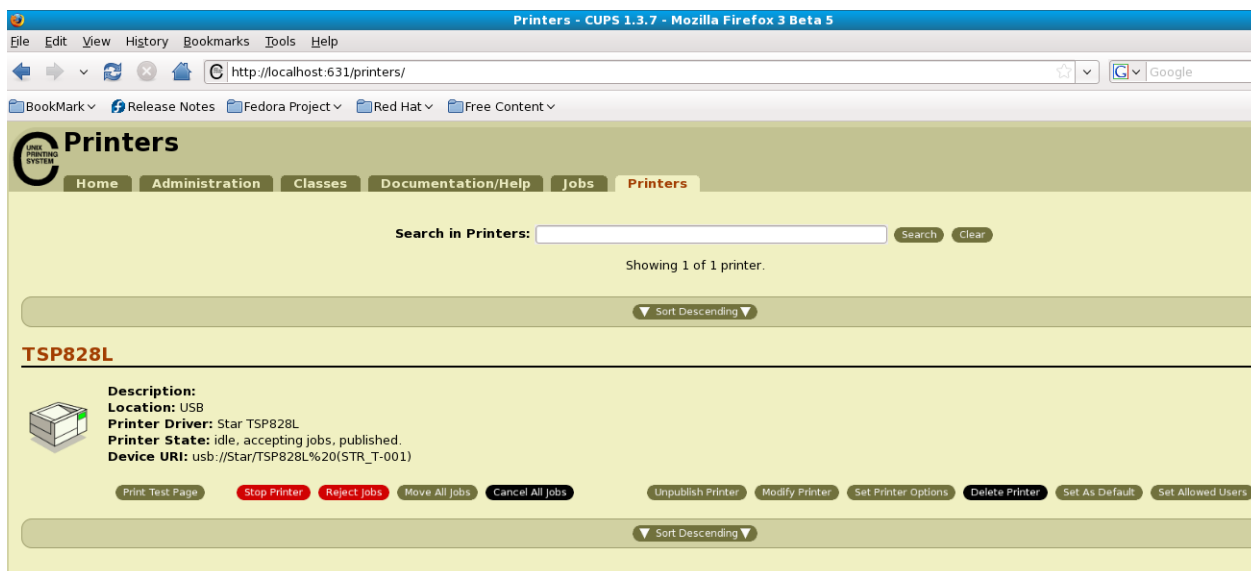
2. Setting the Printer Functions

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.



Set Printer Options

UNIX PRINTING SYSTEM

Home Administration Classes Documentation/Help Jobs Printers

TSP828L: General

Media Size: A4

Set Printer Options

TSP828L: Output Options

1. Print Speed: High

2. Page Type: Variable Length

Set Printer Options

TSP828L: Output Options (extended)

1. Media Type: Label Paper

2. Label Detect at Power On: Disable

3. Print Density: Standard

Set Printer Options

TSP828L: Feed Options

1. Page Feed Type: Peeler(Tear Bar)

2. Document Feed Type: Peeler(Tear Bar)

Set Printer Options

2.1 Function List

Depending on the printer that you select, the functions that are displayed may differ, and only the ones displayed can be set.

General

- 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	Default setting value (●)
104 * 30mm	<input type="radio"/>
104 * 40mm	<input type="radio"/>
104 * 50mm	<input type="radio"/>
104 * 60mm	<input type="radio"/>
104 * 70mm	<input type="radio"/>
104 * 75mm	<input type="radio"/>
104 * 80mm	<input type="radio"/>
104 * 90mm	<input type="radio"/>
104 * 100mm	<input type="radio"/>
104 * 110mm	<input type="radio"/>
104 * 120mm	<input type="radio"/>
104 * 130mm	<input type="radio"/>
104 * 140mm	<input type="radio"/>
104 * 150mm	<input type="radio"/>
104 * 160mm	<input type="radio"/>
104 * 170mm	<input type="radio"/>
104 * 180mm	<input type="radio"/>
104 * 190mm	<input type="radio"/>
104 * 200mm	<input checked="" type="radio"/>
104 * 2000mm	<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.

■ Output Options

• Print Speed:

Sets the print speed. Note that the setting also affects the print quality.

Setting	Default	Details
High	<input type="radio"/>	Print quality has priority over speed.
Middle		Print quality and speed are in the middle.
Low		Best quality, but slow print speed.

• Page Type:

This sets the page type.

Setting	Default	Details
Variable Length	<input type="radio"/>	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 Options (Extended)

• Media Type:

This sets the Media type.

Setting	Default	Details
Normal Paper		If you don't use Label paper or Black marked paper, this option should be selected.
Label Paper	<input type="radio"/>	If you use any Label paper or Black marked paper, this option should be selected.

• Label Detect at Power On:

If the printer's DIP switches 1-8 are set to OFF (normal mode), the Media Type is set to Label Paper, and this feature is set to Enable, the first time you print after you turn on the power or after you set the Media Type to Label Paper, the printer will feed the paper to the top position of the label on the next page if the paper in the printer is in the middle of a label.

This action is only available when Media Type is set to Label Paper.

Setting	Default	Details
Disable	<input type="radio"/>	Do not search labels and form feed at power on.
Enable		Search labels and form feed at power on.

Point!

If you set the printer's DIP switches 1-8 to ON (Label mode; the factory default setting), the printer always detects the label position.
For information about the printer's DIP switches, refer to the Product Specifications Manual (issued separately).

• **Print Density:**

This sets the printing Density.

Setting	Default	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.

■ Feed Options

Page Feed Type:

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

When the printer is set to use the Peel Mode, paper is fed regardless of the Page Feed Type settings.

Setting	Default	Details
No Feed		The paper feed operation is not performed.
Peeler(Tear Bar)	○	Paper is fed to the tear bar (cutting position).

Document Feed Type:

This sets the paper feed method for the last page.

When the printer is set to use the Peel Mode, paper is fed regardless of the Document Feed Type settings.

Setting	Default	Details
No Feed		The paper feed operation is not performed.
Peeler(Tear Bar)	○	Paper is fed to the tear bar (cutting position).

Point! Refer to the separate Hardware Manual for the setting of the peel mode.

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

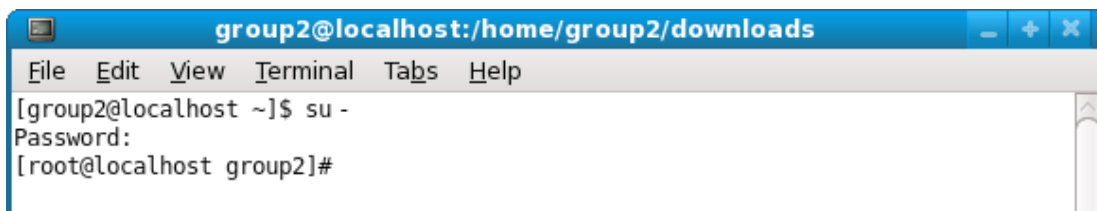
Use the following procedures to set a temporary IP address to the printer. By setting a temporary IP address, it is possible to connect to a printer that has not been set with an IP address.

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)

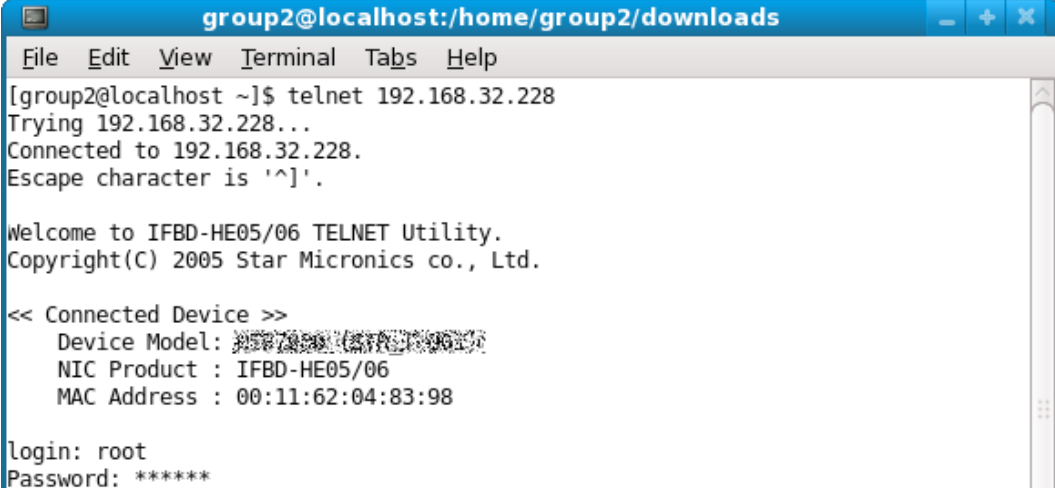
The Telnet command connects directly to the printer to make settings.

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.

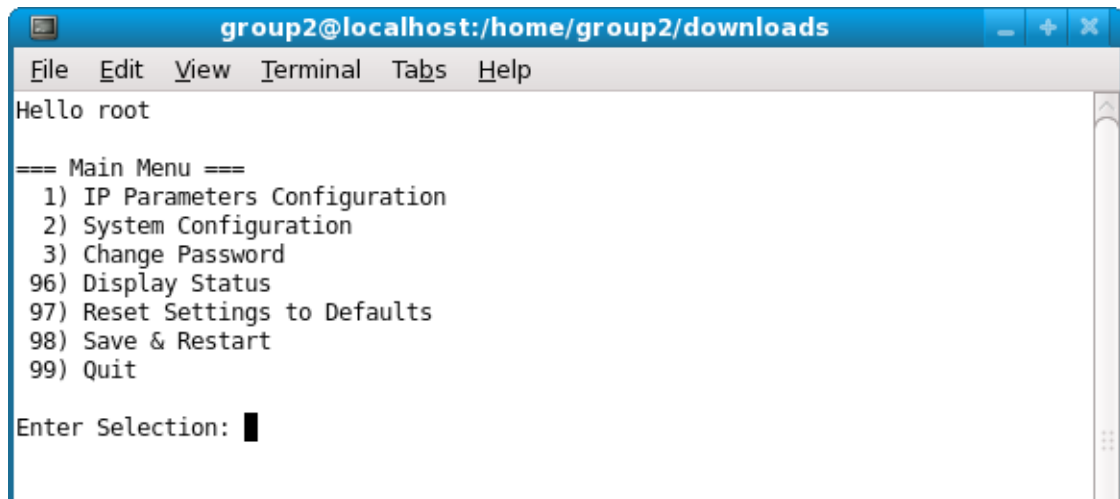
<< Connected Device >>
  Device Model: TSP828L (AT&T-1001)
  NIC Product : IFBD-HE05/06
  MAC Address : 00:11:62:04:83:98

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.



The screenshot shows a terminal window titled "group2@localhost:/home/group2/downloads". The window has a menu bar with "File", "Edit", "View", "Terminal", "Tabs", and "Help". The terminal output is as follows:

```
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 : TSP828L
File Name : sample1.txt
Paper Size * : 104 * 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 TSP828L -o media="X104MMY200MM"
-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 Command Name List

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

	Option Name		Command Name		Default value (●)
	option	value	[option]	[value]	
Output Options	Print Speed	High	PrintSpeed	0High	●
		Middle		1Middle	○
		Low		2Low	○
	Page Type	Variable Length	PageType	0Variable	●
		Fixed Length		1Fixed	○
Output Options (extended)	Media Type	Normal Paper	MediaType	0Normal	○
		Label Paper		1Label	●
	Label Detect at Power On	Disable	LabelDetect	0Disable	●
		Enable		1Enable	○
	Print Density	-3	PrintDensity	0Minus3	○
		-2		1Minus2	○
		-1		2Minus1	○
		Standard		3ZERO	●
		1		4Plus1	○
		2		5Plus2	○
		3		6Plus3	○
	Page Feed Type	No Feed	PageCutType	0NoCutPage	○
		Peeler(Tear Bar)		3TearBarPage	●
Feed Options (Tear Bar)	Document Feed Type	No Feed	DocCutType	0NoCutDoc	○
		Peeler(Tear Bar)		3TearBarDoc	●

5. Confirmed Operating Environments

Distribution	Version
Red Hat Enterprise Linux	5.3
CentOS	5.2
openSUSE	10.3
Fedora	9
ubuntu	8.04

6. Revision History

[illegible]



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Please access the following URL

<http://www.star-m.jp/eng/dl/dl02.htm>

for the latest revision of the manual.

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