

# Chapter 5: Using the Printer and Scanner

While the holy grail of office computing may well be the paperless office, for many users, it is often desirable and indeed sometimes necessary to be able to put on hard copy the information available on the computer. The printer allows you to do that. The printer is essentially an output device with which you are able to output text and graphics onto paper from digital data stored on the computer. To complement this, the scanner is an input device with which you can transfer text and graphics from paper to the computer and stored in the form of digital data which can then be further manipulated by other software applications.

## THE PRINTER

### PRINTER SETUP AND CONFIGURATION

If you have a printer attached to your system you will need to configure and set it up before you can use it properly. To do this, click on the Print Manager icon on the Panel

#### Note:

To enable the system to detect your printer properly, you should turn on the printer before trying to configure it.

When you are prompted to run the printer configuration tool select OK. You will then need to enter the root password since you are now attempting to set and change some system parameters and configuration. At the printer configuration screen click on the New button to add and configure a new printer.

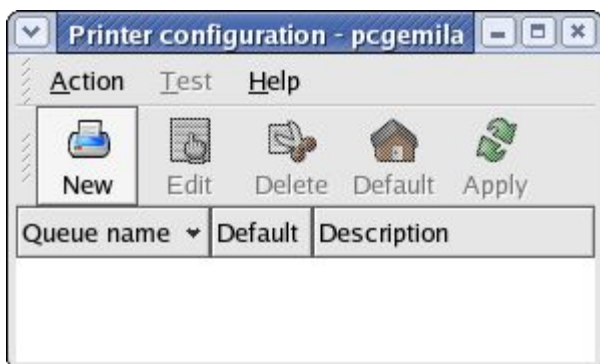


Fig. Printer Configuration

The Add new print queue screen will be displayed. Select Forward.

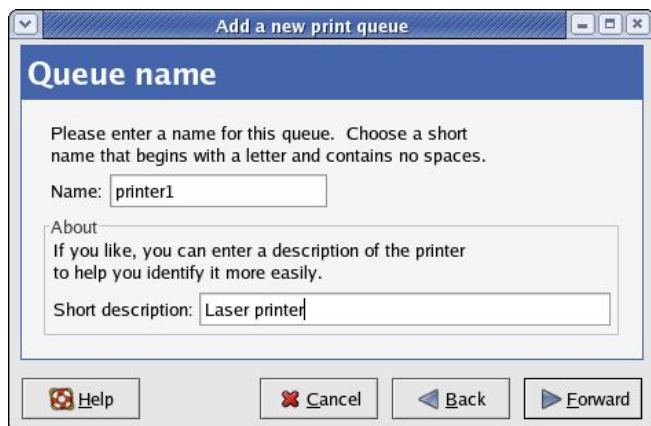


Fig. Print Queue

Fill in the details for the print queue. Enter a unique name for the printer in the Name field. This name must begin with a letter and cannot contain spaces. You may also want to enter a brief description of the printer. Enter Forward to go to the next screen.

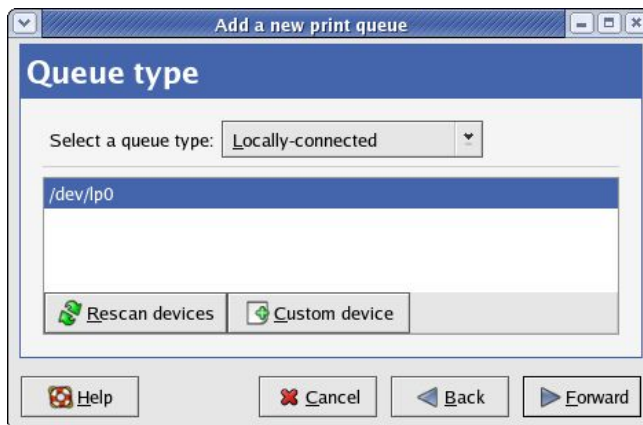


Fig. Queue Type

Select locally-connected for the queue type. Select the printer device by clicking on the device displayed on the screen. If no device is shown click on Rescan device button for the system to check for the availability of the printer device.

#### Note:

For a parallel printer the device name is usually /dev/lp0 and for a USB printer the name is usually /dev/usb/lp0.

Select Forward to go to the Printer model screen.

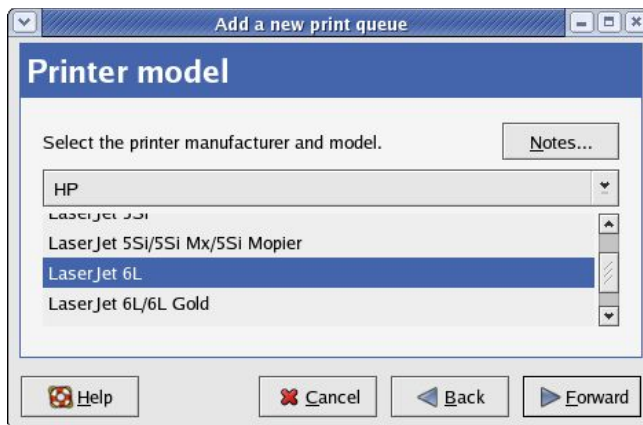


Fig. Printer Model Selection

The model of the printer should have been auto detected by the system. If it is not, click on the pull-down menu to select the manufacturer and the model of the printer. Click on Forward to go to the next screen.

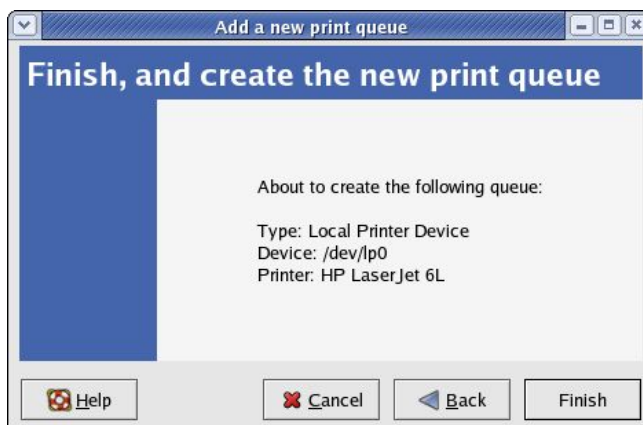


Fig. Finish and Create New Print Queue

Confirm that the printer information displayed on the screen is correct. If so click on the Finish button, otherwise click on the Back button to go back and make further changes.

After clicking Finish you will be asked whether you want to print a test page. Ensure that the printer is connected and online and answer yes to it. Check to see if the test page is printed properly. If it is, click on the Apply button in the Printer configuration screen to add this printer to the system.

After setting up the printer you can delete it or edit its properties anytime by clicking on the Print Manager icon on the Panel. The Print Manager screen will be displayed.



**Fig. Print Manager**

Right click on the printer in question and select Properties. Select the print queue in question and click on the Edit button to make changes or the Delete button to remove it from the system.

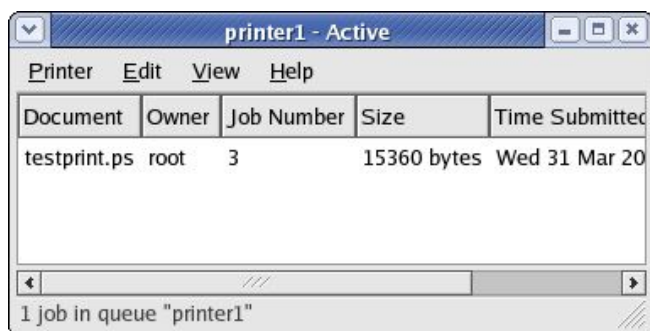
*Note:*

*If you delete all the print queues associated with a printer, the printer itself will be deleted from the system too and you will have to set up a new printer again in order to print.*

## MANAGING PRINT JOBS

When you send something for printing from your application, the data to be printed is stored in the print spooler area and a print job is added to the print spooler queue. In this way many printing jobs can be carried out without waiting for the printer to finish printing a job first before accepting another printing job. The Print Manager is used for managing the print jobs associated with a given printer.

The Print Manager can be utilised to check on the status of the printing jobs that you have submitted to the printer and to cancel jobs still in the queue if you need to. To do this, launch the Print Manager and then double-click on the icon of the printer that you want to monitor. A list of current print jobs in the queue is displayed. To cancel a print job, highlight the job in question and then click on the Edit button on the menu bar on top and select Cancel Documents from the pull down menu.



**Fig: Status of Print Jobs in the Queue**

## USING THE PRINTER

Normal usage of the printer from an application is straightforward. Select the printing function from your application and a print job is then automatically submitted to the printer queue.

## EXERCISES

1. Edit the printer properties to change it to another printer

## THE SCANNER

The scanner is a device which allows you to convert analog graphics e.g. a photograph or a printed page into digital format where it can be stored on the computer and further manipulated by appropriate software. Flat-bed scanners for personal use are quite common nowadays.

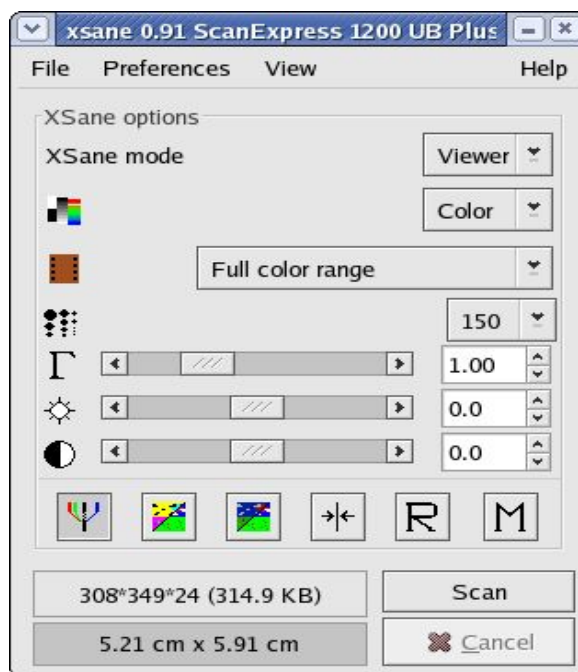
Most scanners connect to the computer using the USB, SCSI or parallel ports. To use the scanner, suitable software to control and drive it is required. The SANE backend drivers may be used to drive the scanner hardware while the XSane GUI front-end acts as the end-user interface. To check whether the scanner you have can be used, the SANE website at <http://www.sane-project.org> should be consulted.

## USING THE SCANNER

You can start the scanning software on the Desktop, from the Main Menu,

Main Menu --> Graphics --> Scanning

This will invoke the XSane program and by default two windows will be displayed, the Main Xsane window and the Preview window.




**Fig XSane Main Window**


There are 5 modes of viewing for this Main window – viewer, save, copy, fax, mail:


- viewer mode - an image is scanned and displayed in the viewer
- save mode - an image is scanned and saved to a file
- copy mode - an image is scanned and sent directly to a printer


- fax mode - the scanned image can be sent to a back-end fax software
- mail mode - an image is scanned and sent via email to intended recipients.

The above modes can be selected in the Main window. In addition, the following selections are also available :

 **Scanmode:**  
Selects the mode of scanning choices including colour, grayscale, lineart.

 **Scansource:**  
Selects the source of scanning, e.g.: Flatbed, Transparency, Automatic Document Feeder. This is only displayed if there is more than one possible source of input for scanning.

 **Scanmedium:**  
Selects the scan medium, e.g.: slide, standard negative or full colour range.

 **Scan resolution:**  
Selects the resolution that is to be used for scanning.

### Preview

Before the actual scanning of an image takes place, the preview operation is usually carried out to preview the scanned image. To perform the preview, place the image to be scanned into the scanner and click on the "Acquire preview" button in the Preview window.



**Fig Preview Window**

As the scanner will scan its entire scanner bed by default, if you are scanning an image which occupies only a part of the bed you will want to select only the area which holds the image to be scanned. This can be done from the Preview window in several ways. One way is to manually select the scan area frame by pressing and holding the left mouse button to define one edge, moving the mouse so that the area to scan is completely inside the frame (which is marked by a dashed white line) and then releasing the mouse button. Another way is to select the Autoraise button and then clicking on the image to be scanned. A frame is created to mark the scan area. The mouse may be used to adjust the scan area if it is not fully correct.

### Scan

After the appropriate scan area has been chosen in the Preview window, the image can be adjusted and/or

enhanced for colour correction, contrast, and brightness. The gamma value, brightness and contrast can be adjusted manually in the scan window before performing the scan. In addition, the Autoenhancement button may be used to automatically enhance and sharpen the scanned image for brightness and contrast.

After a satisfactory image is seen in the preview window, perform the actual scan by clicking on the scan button in the main Scan window. The scan will be performed and the scanned image displayed in the Viewer window.

### Save

The scanned image that is displayed in the Viewer window can be saved to a file by selecting the operation, File --> Save image. The file name and image format to be saved in can be chosen from the drop down menu selection.

Another way of saving is to select the Save mode, select the filename and format to save the image in and then perform the scan.

### Help

More detailed information on how to use the scanner software as well as changing the default configuration can be obtained from the Help menu selection. It also contains useful general information about scanner and scanned image technologies.

### EXERCISES

1. Perform a scan of an entire photograph containing several people or objects.
2. Using the same photograph as for the previous exercise, this time perform the scan for only the image of one person or object.