# Quick Startup Guide

## Mandrake Linux 9.0


(http://www.MandrakeSoft.com)

**Quick Startup Guide: Mandrake Linux 9.0**
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by Camille Bégnis, Christian Roy, Fabian Mandelbaum, Joël Pomerleau, Vincent Danen, Roberto Rosselli del Turco, Stefan Siegel, Marco De Vitis, Alice Lafox, Kevin Lecouvey, Christian Georges, John Rye, Robert Kulagowski, Pascal Rigaux, Frédéric Crozat, Laurent Montel, Damien Chaumette, Till Kamppeter, Guillaume Cottenceau, Jonathan Gotti, Christian Belisle, Sylvestre Taburet, Thierry Vignaud, Juan Quintela, Pascal Lo Re, Kadjo N'Doua, Mark Walker, Roberto Patriarca, Patricia Pichardo Bégnis, Alexis Gilliot, Arnaud Desmons, Wolfgang Bornath, Alessandro Baretta, and Aurélien Lemaire

## Legal Notice



## Tools Used in The Making of This Manual

This manual was written in XML *DocBook*. Borges (`http://linux-mandrake.com/en/doc/project/Borges/`) was used to manage the set of files involved. The XML source files were processed by `openjade` and `jadetex` using Norman Walsh's custom stylesheets. Screen-shots were taken using `xwd` or *GIMP* and converted with `convert` (from the *ImageMagick* package). All this software is available on your **Mandrake Linux** distribution, and all parts of it are free software.

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# Preface

## 1. About Mandrake Linux

**Mandrake Linux** is a *GNU/Linux* distribution supported by **MandrakeSoft** S.A. **MandrakeSoft** was born in the Internet in 1998 with the main goal to provide an easy-to-use and friendly *GNU/Linux* system. The two pillars of **MandrakeSoft** are open-source and collaborative work.

### 1.1. Contact Mandrake Community

Following are various Internet links pointing you to various **Mandrake Linux** related sources. If you wish to know more about the **MandrakeSoft** company, connect to its web site (`http://www.mandrakesoft.com/`). There is also the **Mandrake Linux** distribution (`http://www.mandrakelinux.com/`) web site and all its derivatives.

First of all, **MandrakeSoft** is proud to present its new open help platform. MandrakeExpert (`http://www.mandrakeexpert.com/`) isn't just another web site where people help others with their computer problems in exchange for up-front fees, payable regardless of the quality of the service received. It offers a new experience based on trust and the pleasure of rewarding others for their contributions.

In addition, MandrakeCampus (`http://mandrakecampus.com/`) provides the *GNU/Linux* community with open education and training courses on all open-software-related technologies and issues. It also gives teachers, tutors and learners a place where they can share knowledge.

There is a site for the "mandrakeholic" called Mandrake Forum (`http://www.mandrakeforum.com/`): a primary site for **Mandrake Linux** related tips, tricks, rumors, pre-announcements, semi-official news, and more. This is also the only interactive web site hosted by **MandrakeSoft**, so if you have something to tell us, or something you want to share with other users, search no longer: this is a place to do it!

In the philosophy of open source, **MandrakeSoft** is offering many means of support (`http://www.mandrakelinux.com/en/ffreesup.php3`) for the **Mandrake Linux** distributions. You are invited in particular to participate in the various Mailing lists (`http://www.mandrakelinux.com/en/flists.php3`), where the **Mandrake Linux** community demonstrates its vivacity and keenness.

Finally, do not forget to connect to MandrakeSecure (`http://www.mandrakesecure.net/`). This site gathers all security related material about **Mandrake Linux** distributions. You'll notably find there security and bug advisories, as well as security and privacy-related articles. A must for any server administrator or user concerned about security.

### 1.2. Support Mandrake

By popular request, **MandrakeSoft** proposes that its happy customers make a donation (`http://www.mandrakelinux.com/donations/`) to support the forth-coming developments of the **Mandrake Linux** system. Your contribution will help **MandrakeSoft** provide its users with an ever better distribution, ever safer, easier, up-to-date, and with more supported languages.

For the many talented, your skills will be very useful for one of the many tasks required in the making of a **Mandrake Linux** system:

- Packaging: a *GNU/Linux* system is mainly made of programs picked up on the Internet. These programs have to be packaged so that they will hopefully work together.
- Programming: there are many many projects directly supported by **MandrakeSoft**: find the one that most appeals to you, and offer your help to the main developer.
- Internationalization: translation of the web pages, programs and their respective documentation.
- Documentation: last but not least, the book you are currently reading requires a lot of effort to stay up-to-date with the rapid evolution of the system.

Consult the contributors page (`http://www.mandrakesoft.com/labs/`) to learn more about the way you can contribute to the evolution of **Mandrake Linux**.

On August 3rd 2001, after having established itself as one of the world leaders in Open Source and *GNU/Linux* software, **MandrakeSoft** became the first *Linux* company listed on a European stock market. Whether you're

already a **MandrakeSoft** shareholder or wish to become one, our Investor pages (`http://www.mandrakesoft.com/company/investors`) provide the best financial information related to the company.

### 1.3. Purchasing Mandrake Products

For **Mandrake Linux** fans wishing to benefit from the ease of on-line purchasing, **MandrakeSoft** now sells its products worldwide from its MandrakeStore (`http://www.mandrakestore.com/`) e-commerce web site. You will find not only **Mandrake Linux** software — operating systems and network tools (Single Network Firewall), but also special subscription offers, support, third party software and licenses, training documentation, *GNU/Linux* related books, as well as other goodies related to **MandrakeSoft**.

## 2. About this Quick Startup Guide

Welcome, and thank you for choosing **Mandrake Linux**! This *Quick Startup Guide* will guide you through the basics of installing a *GNU/Linux* distribution, give you pointers as to what you need to do before actually installing the **Mandrake Linux** OS, as well as initiate you to the *GNU/Linux* environment.

The "*Installation Guide Warning*", page 1 will inform you about technical procedures you should do (this is not mandatory, but let's just say we very highly recommend you follow the instructions in this chapter). We speak about data back-up, `scandisk`, and the like.

In the "*Before Installation*", page 3, we cover topics such as BIOS configuration, boot disks and supported hardware.

Then comes the most important chapter: "*Installation with DrakX*", page 7. It covers the installation process in "recommended" mode. If this is your first *GNU/Linux* installation, we suggest you follow this procedure instead of the "expert" one. However, you can find documentation about the expert mode in the *Starter Guide* included in the **Mandrake Linux** PowerPack.

# Chapter 1. Installation Guide Warning

This quick-start guide only covers the installation in Recommended mode. If you wish to use the Expert mode, please refer to the *Installation Guide*. If you plan on using *Windows* as well as *GNU/Linux* in dual-boot (meaning being able to access both OSes on the same computer), please note that it is easier to install *Windows* **before** *GNU/Linux*. If *Windows* is already set up on your system, and you have never installed *GNU/Linux* before, *DrakX*, **Mandrake Linux**'s installation program, will have to resize your *Windows* partition. This operation can be harmful to your data. Therefore, you **must** perform the following steps before proceeding:

- you must run `scandisk` on your *Windows* computer. The resizing program can detect some obvious errors, but `scandisk` is better suited for this task;
- for maximum data security, you should also run `defrag` on your partition. This further reduces the risk of data loss. This is not mandatory, but it is highly recommended and doing so will make resizing much faster and easier;
- the ultimate insurance against problems is to always **back up your data**! Of course, back up your data on **another** computer, upload your back-ups on the web, on a friend's computer, etc. **Do not** back it up on the computer on which you want to install *GNU/Linux*.

If neither `scandisk` nor `defrag` are installed within *Windows*, please refer to the *Windows* documentation for instructions on installing them.

**NTFS Partitions.** *Windows 2000*, *NT* or *XP* users should be very careful **not** to resize NTFS partitions with *GNU/Linux*. This will damage your data. In this case, use an appropriate disk-resizing application such as `Partition Magic`.

# Chapter 2. Before Installation

This chapter covers issues to be addressed **before** you start your new **Mandrake Linux** installation. Make sure you read it completely, as it will save you a lot pain. Also, back up your data (on another disk than the installation target) and turn on and plug in all your devices (printer, mouse, scanner, etc.).

## 2.1. Configuring your BIOS

The *BIOS* (*Basic Input/Output System*) is used to boot up a computer. Specifically, it is used to find the device on which the operating system is located and start it up. It is also used for the initial hardware configuration.

The appearance of *plug'n'play* and its widespread use means that all modern *BIOS* can initialize these devices. If your *Windows 9x* OS is initializing these devices instead of the *BIOS*, this will need to be changed for use under *GNU/Linux*.

If your devices are not recognized properly, it could help to turn off the *plug'n'play* features in the *BIOS*. Changing your *BIOS* settings is usually performed by holding down the DEL key just after the computer is switched on. Unfortunately, there are many types of *BIOS*, therefore you will have to look for the appropriate option for yourself. The option to look for is often called PNP OS installed (or Plug'n'Play OS installed). Set this option to No and the *BIOS* will then initialize any *plug'n'play* devices. That can help *GNU/Linux* recognize some devices in your machine, which it would not be able to initialize otherwise.

All recent systems can boot from a CD-ROM. Look for Boot sequence in the *BIOS* features setup. Set it to CD-ROM. If you cannot boot from CD-ROM, you will have to use a floppy.

If you want to use a printer locally connected to your machine, make sure that the parallel port mode is set to ECP+EPP (or at least one of them) and not to SPP. If it's not set this way, you will still be able to print, but your printer will not be detected automatically so you will have to configure it by hand. Also make sure the printer is powered on and properly connected to your machine beforehand.

## 2.2. Creating a Boot Disk

If you cannot boot from the CD-ROM, and if *Windows* is not installed on your computer, you will need to create a **boot disk**.

The CD-ROM contains all of the image files and utility programs needed. You will also need to create a boot disk if you wish to use a bootloader other than *LILO* or *grub*. If *Windows* is installed on your computer, you will not need a boot disk, so you may skip this step and go on to "*Installation with DrakX*", page 7.

The boot images are in the CD-ROM's `images` directory. For this method of installation, the significant file is named `cdrom.img`.

The `cdrom.img` image is used to install the distribution from a CD-ROM. However, many other images are available to perform installs:

- `cdrom.img`: to install from a local IDE or SCSI CD-ROM drive. This has to be used in cases where you cannot boot your computer directly from the CD-ROM, by changing *BIOS* settings.
- `network.img`: to install from a NFS, FTP, HTTP repository, your local LAN or via a PPPoE (DSL lines) network connection. The network configuration of the machine to be installed may be manual or automatic.
- `pcmcia.img`: if the installation media is reached through a PCMCIA card (network, CD-ROM, etc.).

Some PCMCIA devices now use common network drivers. In case the PCMCIA device does not work, try the network.img.

- `hd.img`: use this image if you are not able to perform the installation from a CD-ROM. You just need to copy the content of the CD onto the hard drive (either on a FAT ext2FS or ReiserFS partition), and boot with the floppy containing that image.

- `usb.img`: this image allows you to perform an installation through a USB device, such as an external CD-ROM.
- `other.img`: this installation image provides less common drivers such as NET and SCSI drivers. Try this image if the others fail.
- `images/alternatives/*`: this directory provides more or less the same boot images, but with a different (older) kernel. Actually, it provides a 2.2 kernel (**Mandrake Linux** 9.0 uses kernel 2.4), which might help you to get started on older systems.

### 2.2.1. Creating a Boot Disk with Windows

You need to use the `rawwrite` program. You can find it in the CD-ROM's `dosutils` directory.

You may have noticed that there is a *DOS* version of the same program called `rawrite`. It is, in fact, the original version of the program. `rawwrite` is a graphical front-end to it.

Start the program, as shown in figure 2-1.

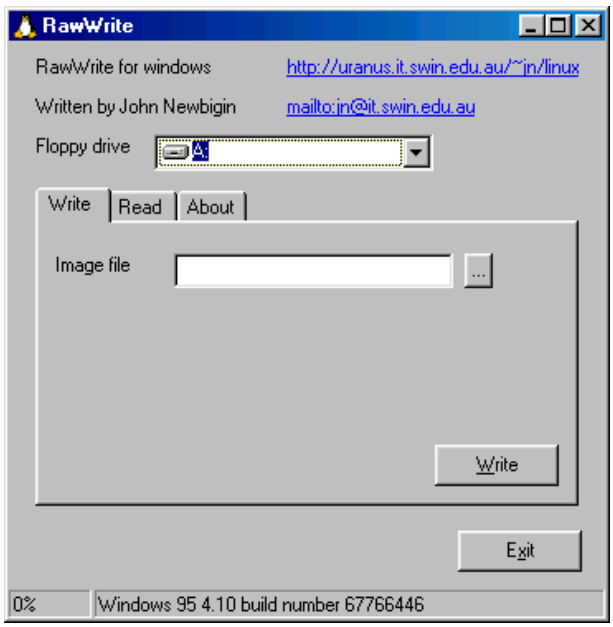


**Figure 2-1. The Rawrite Program**

Select the boot image to copy and the target device. In almost all cases, the target device is the A: drive (that is, the first floppy disk drive).

Then, if you haven't already done so, insert an empty disk into your chosen floppy drive and click on Write. When completed, click on Exit: now you have a boot disk to install your **Mandrake Linux** distribution.

### 2.2.2. Creating a Boot Disk with GNU/Linux

If you already have *GNU/Linux* installed (another version, or on another machine, a friend's computer who lent you his **Mandrake Linux** CD), then carry out the following steps:

1. mount the CD-ROM. Let us suppose that the mount point is `/mnt/cdrom`;
2. log in as `root`;
3. insert an empty disk into the drive and type:

```
$ dd if=/mnt/cdrom/images/cdrom.img of=/dev/fd0
```

Replace `/dev/fd0` by `/dev/fd1` if you are using the second floppy drive and, of course, the name of the image with the one you want. When this operation is completed, your boot disk will be ready to use on your floppy disk.

## 2.3. Supported Hardware

**Mandrake Linux** can handle a large number of hardware devices, and the list is far too long to be quoted in its entirety here. Nevertheless, some of the steps described in this chapter will help you to find out if your hardware is compatible and configure some of the problematic devices.

You may consult an up-to-date list of supported hardware on our web site (`http://www.mandrakelinux.com/en/hardware.php3`).

USB devices: support for USB is now extensive. Most peripherals are fully supported. You can get the list of supported hardware on the Linux-USB Device (`http://www.qbik.ch/usb/devices/`) site.

**Legal disclaimer**: the **Mandrake Linux** *Supported Hardware List* contains information about hardware devices that have been tested and/or have been reported to function properly with **Mandrake Linux**. Due to the wide variety of system configurations, **MandrakeSoft** cannot guarantee that a specific device will work properly on your system.

### 2.3.1. What's Not Supported

Some types of hardware cannot presently be handled by *GNU/Linux*, either because the support is still in an experimental stage, because nobody has written a driver for the devices in question, or because it has been decided for valid reasons that they cannot be supported. For example:

- *winmodems*, also called controller-less modems or software modems. Support for these peripherals is currently very sparse. Drivers do exist, but are binary only and for a limited range of kernel versions. The difference between a "hardware" modem and a *winmodem* is that the latter cannot function without a special driver which emulates a large number of a hardware modem's functions. You can communicate with a hardware modem by sending it a series of commands: this cannot be done with a *winmodem* without special drivers (this also explains why *GNU/Linux* does not need drivers for external modems: it only gives access to the serial port, with an external program sending the commands).

  If you have a PCI modem, look at the output of `cat /proc/pci` as the `root` user. This will tell you the I/O port and the IRQ of the device. Then, use the `setserial` command (for our example, the I/O address is `0xb400` and the IRQ is `10`) as follows:

  ```
  setserial /dev/ttyS3 port 0xb400 irq 10 UART 16550A
  ```

  Then see if you can query your modem using `minicom` or *kppp*. If it doesn't work, you may have a software modem. If it does work, create the file `/etc/rc.d/rc.setserial` and place the appropriate setserial command line in it.

  A recent project is trying to make software modems work under *GNU/Linux*. If you happen to have this type of hardware in your machine, you may have a look at linmodems (`http://linmodems.org/`) and modems and winmodems (`http://www.idir.net/~gromitkc/winmodem.html`).

# Chapter 3. Installation with DrakX

## 3.1. Introduction to the Mandrake Linux Installer

*DrakX* is **Mandrake Linux**'s installation program. Its ease of use has been enhanced with a graphical user interface, allowing you to move forwards and backwards through the installation and prompting you when required. With *DrakX*, it doesn't matter whether you're a new user to **Mandrake Linux** or an old pro – *DrakX*'s job is to give you a smooth installation and an easy transition into **Mandrake Linux**.

*DrakX* will work best if all of your hardware is connected to the PC and powered up during the installation. Printers, modems, scanners and joysticks are just a few examples of peripherals that *DrakX* will automatically detect and configure for you as **Mandrake Linux** is being installed.


**Figure 3-1. Very First Installation Welcome Screen**

When you begin, the first screen that comes up will present some information and give you installation options. (figure 3-1). Doing nothing will simply begin the installation in normal or "linux" mode. The next few paragraphs will go over some options and parameters that you can pass to the install program if you run into problems.

Now that we've gone over what **might** go wrong, let's move on to the actual installation process. When the installer starts, you'll see a nice graphical interface ( figure 3-2 ). On the left will be the various installation steps. Depending on the installation's progress level, some stages may or may not be available. If a particular stage is available it will be highlighted when you move the mouse pointer over it.

The colors of the buttons on the left side of the screen let you quickly see what's going on with the installation:

- red: this installation phase has not yet been carried out
- orange: the installation stage that is currently being processed
- green: this installation stage has already been configured. However, nothing stops you from going back to a stage that has already been completed if you need to reconfigure something.

The bottom frame holds the help for the current step. You can access it at any time by pressing the **F1** key.

This guide assumes that you are performing a standard, step-by-step installation, as described below.

## 3.2. Choosing Your Language

The first step is to choose your preferred language.

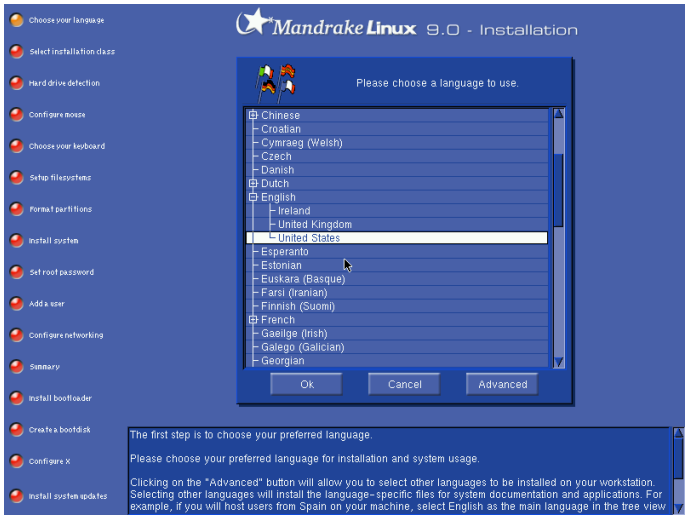


**Figure 3-2. Choosing the Default Language**

Your choice of preferred language will affect the language of the documentation, the installer and the system in general.

Clicking on the Advanced button will allow you to select other languages to be installed on your workstation, thereby installing the language-specific files for system documentation and applications. For example, if you will host users from Spain on your machine, select English as the default language in the tree view and Spanish|Spain in the Advanced section.

Note that you're not limited to choosing a single additional language. Once you have selected additional locales, click the OK button to continue.

To switch between the various languages installed on the system, you can launch the `/usr/sbin/localedrake` command as `root` to change the language used by the entire system. Running the command as a regular user will only change the language settings for that particular user.

## 3.3. License Terms of the Distribution

Before continuing, you should carefully read the terms of the license. It covers the entire **Mandrake Linux** distribution, and if you do not agree with all the terms in it you should click on the Refuse button. This will immediately terminate the installation. Clicking on the Accept button will continue the installation.

## 3.4. Installation Class

*DrakX* now needs to know if you want to perform a default (Recommended) installation or if you want to have greater control over the install (Expert ). Performing an Expert install means that more of the installation will be under manual control, so it is not really recommended unless you have some familiarity with **Mandrake**

**Linux**. The other choice you need to make at this time is whether you are performing a new install or an upgrade of an existing **Mandrake Linux** system:

- Install: For the most part, this completely wipes out the old system. If you wish to change how your hard drives are partitioned, or change the file system, you should use this option. However, depending on your partitioning scheme, you can prevent some of your existing data from being over- written.
- Upgrade: this installation class allows you to update the packages currently installed on your **Mandrake Linux** system. Your current partitioning scheme and user data is not altered. All other configuration steps remain available, similar to a standard installation.
- Upgrade Packages Only: this type of installation allows you to upgrade an existing **Mandrake Linux** workstation without modifying the system configuration. If you wish, you can also use this type of installation to add new packages to the current system.

Using either of the two "Upgrade" options should work fine on **Mandrake Linux** systems running version 8.1 or later. Performing an Upgrade on versions prior to **Mandrake Linux** version 8.1 is not recommended.

The next step depends on your familiarity and comfort with *GNU/Linux*. You have two choices:

- Recommended: choose this if you have never installed a *GNU/Linux* operating system. The installation will be very easy because the install program will make certain assumptions for you. You will not be asked to answer too many questions about your system, and the questions it does have are fairly simple.
- Expert: if you have a good understanding of *GNU/Linux* you may wish to perform a highly customized installation. Some of the decisions you will have to make may be difficult if you do not have good knowledge of *GNU/Linux*, so for most people this is not the recommended type of installation.

## 3.5. Selecting the Mount Points

At this point, you need to decide where you want to install the **Mandrake Linux** operating system on your hard drive. If your hard drive is empty or if an existing operating system is using all the available space you will have to partition the drive. Basically, partitioning a hard drive consists of logically dividing it to create the space needed to install your new **Mandrake Linux** system.

Because the process of partitioning a hard drive is usually irreversible and can lead to lost data if there is an existing operating system already installed on the drive, partitioning can be intimidating and stressful if you are an inexperienced user. Fortunately, *DrakX* includes a wizard which simplifies this process. Before continuing with this step, read through the rest of this section and above all, take your time.

If your hard drive has already been partitioned, either from a previous installation of *GNU/Linux* or by another partitioning tool, select the appropriate partitions that you want to install your Linux system into.

If partitions haven't been configured, you will need to create them using the wizard. Depending on your hard drive configuration, several options are available:

- Use free space: this option will perform an automatic partitioning of your blank drive(s). If you use this option there will be no further prompts.
- Use existing partition: the wizard has detected one or more existing Linux partitions on your hard drive. If you want to use them, choose this option. You will then be asked to choose the mount points associated with each of the partitions. The legacy mount points are selected by default, and for the most part it's a good idea to keep them.
- Use the free space on the Windows partition: if **Microsoft** *Windows* is installed on your hard drive and takes all the space available on it, you have to create free space for Linux data. To do so, you can delete your **Microsoft** *Windows* partition and data (see " Erase entire disk" or "Expert mode" solutions) or resize your **Microsoft** *Windows* FAT partition. Resizing can be performed without the loss of any data, **provided you previously defragment the** Windows **partition and that it uses the FAT format. Backing up your data is**

**strongly recommended.**. Using this option is recommended if you want to use both **Mandrake Linux** and **Microsoft** *Windows* on the same computer.

Before choosing this option, please understand that after this procedure, the size of your **Microsoft** *Windows* partition will be smaller then when you started. You will have less free space under **Microsoft** *Windows* to store your data or to install new software.

- Erase entire disk: if you want to delete all data and all partitions present on your hard drive and replace them with your new **Mandrake Linux** system, choose this option. Be careful, because you will not be able to undo your choice after you confirm.

If you choose this option, **all** data on your disk will be deleted.

- Remove Windows: this will simply erase everything on the drive and begin fresh, partitioning everything from scratch. **All** data on your disk will be lost.

If you choose this option, **all** data on your disk will be lost.

- Expert mode: choose this option if you want to manually partition your hard drive. Be careful — it is a powerful but dangerous choice and you can very easily lose all your data. That's why this option is really only recommended if you have done something like this before and have some experience. For more instructions on how to use the *DiskDrake* utility, refer to the *Managing Your Partitions* section in the *Starter Guide*.

## 3.6. Choose Packages to Install

### 3.6.1. Choose Package Groups to Install

It is now time to specify which programs you wish to install on your system. There are thousands of packages available for **Mandrake Linux**, and to make it simpler to manage the packages have been placed into groups of similar applications.

Packages are sorted into groups corresponding to a particular use of your machine. **Mandrake Linux** has four predefined installations available. You can think of these installation classes as containers for various packages. You can mix and match applications from the various containers, so a "Workstation" installation can still have applications from the "Development" container installed.

1. Workstation: if you plan to use your machine as a workstation, select one or more of the applications that are in the workstation container.
2. Development: if plan on using your machine for programming, choose the appropriate packages from the container.
3. Server: if your machine is intended to be a server, select which of the more common services you wish to install on your machine.
4. Graphical Environment: this is where you will choose your preferred graphical environment. At least one must be selected if you want to have a graphical interface available.

Moving the mouse cursor over a group name will display a short explanatory text about that group. If you unselect all groups when performing a regular installation (as opposed to an upgrade), a dialog will pop up proposing different options for a minimal installation:

- With X: install the minimum number of packages possible to have a working graphical desktop.
- With basic documentation: installs the base system plus basic utilities and their documentation. This installation is suitable for setting up a server.
- Truly minimal install: will install the absolute minimum number of packages necessary to get a working Linux system. With this installation you will only have a command line interface. The total size of this installation is 65 megabytes.

You can check the Individual package selection box, which is useful if you are familiar with the packages being offered or if you want to have total control over what will be installed.

If you started the installation in Upgrade mode, you can unselect all groups to avoid installing any new package. This is useful for repairing or updating an existing system.

### 3.6.2. Choose Individual Packages to Install

If you told the installer that you wanted to individually select packages, it will present a tree containing all packages classified by groups and subgroups. While browsing the tree, you can select entire groups, subgroups, or individual packages.

Whenever you select a package on the tree, a description appears on the right to let you know the purpose of the package.

If a server package has been selected, either because you specifically chose the individual package or because it was part of a group of packages, you will be asked to confirm that you really want those servers to be installed. By default **Mandrake Linux** will automatically start any installed services at boot time. Even if they are safe and have no known issues at the time the distribution was shipped, it is entirely possible that that security holes are discovered after this version of **Mandrake Linux** was finalized. If you do not know what a particular service is supposed to do or why it is being installed, then click No. Clicking Yes will install the listed services and they will be started automatically by default during boot.

The Automatic dependencies option is used to disable the warning dialog which appears whenever the installer automatically selects a package to resolve a dependency issue. Some packages have relationships between each other such that installation of a package requires that some other program is already installed. The installer can determine which packages are required to satisfy a dependency to successfully complete the installation.

The tiny floppy disk icon at the bottom of the list allows you to load a package list created during a previous installation. This is useful if you have a number of machines that you wish to configure identically. Clicking on this icon will ask you to insert a floppy disk previously created at the end of another installation. See the second tip of last step on how to create such a floppy.

## 3.7. Multiple CD-ROM Installation

The **Mandrake Linux** installation is distributed on several CD-ROMs. *DrakX* knows if a selected package is located on another CD-ROM so it will eject the current CD and ask you to insert the correct CD as required.

## 3.8. Root Password

This is the most crucial decision point for the security of your *GNU/Linux* system: you have to enter the `root` password. `Root` is the system administrator and is the only one authorized to make updates, add users, change the overall system configuration, and so on. In short, `root` can do everything! That is why you must choose a password that is difficult to guess – *DrakX* will tell you if the password that you chose too easy. As you can see, you are not forced to enter a password, but we strongly advise you against. *GNU/Linux* is as prone to operator error as any other operating system. Since `root` can overcome all limitations and unintentionally erase all data on partitions by carelessly accessing the partitions themselves, it is important that it be difficult to become `root`.

The password should be a mixture of alphanumeric characters and at least 8 characters long. Never write down the `root` password — it makes it too easy to compromise a system.

One caveat — do not make the password too long or complicated because you must be able to remember it!

The password will not be displayed on screen as you type it in. To reduce the chance of a blind typing error you will need to enter the password twice. If you do happen to make the same typing error twice, this "incorrect" password will have to be used the first time you connect.

In Expert mode, you will be asked if you will be connecting to an authentication server.

If your network uses either LDAP, NIS, or PDC Windows Domain authentication services, select the appropriate one as authentication. If you do not know which to use, ask your network administrator.

If your computer is not connected to a centralized authentication network, or if you don't wish to participate in it, you will want to choose Local files as your authentication option.

## 3.9. Adding a User

*GNU/Linux* is a multi-user system, meaning each user can have their own preferences, their own files and so on. You can read the *User Guide* to learn more about multi-user systems. But unlike `root`, which is the system administrator, the users you add at this point will not be authorized to change anything except their own files and their own configuration, protecting the system from unintentional or malicious changes that impact the system as a whole. You will have to create at least one regular user for yourself — this is the account which you should use for routine, day-to-day use. Although it is very easy to log in as `root` to do anything and everything, it may also be very dangerous! A mistake could mean that your system would not work any more. If you make a serious mistake as a regular user, the worst that will happen is that you will lose some information, but not affect the entire system.

The first field asks you for a real name. Of course, this is not mandatory — you can actually enter whatever you like. *DrakX* will use the first word you typed in and copy it to the User name field, which is the name this user will enter to log onto the system. If you like, you may override the default and change the username. The next step is to enter a password. From a security point of view, a non-privileged (regular) user password is not as crucial as the `root` password, but that is no reason to neglect it by making it blank or too simple: after all, **your** files could be the ones at risk.

Once you click on Accept user, you can add additional users. Add a user for each one of your friends: your father or your sister, for example. Select Done when you have finished adding users.

Clicking the Advanced button allows you to change the default `shell` for that user (*bash* by default).

When you are finished adding all users, you will be asked to choose a user that can automatically log into the system when the computer boots up. If you are interested in that feature (and do not care much about local security), choose the desired user and window manager, then click Yes. If you are not interested in this feature, click No.

## 3.10. Check Miscellaneous Parameters

### 3.10.1. Summary

As a review, *DrakX* will present a summary of various information it has about your system. Depending on your installed hardware, you may have none, some or all of the following entries:

- Mouse: check the current mouse configuration and click on the button to change it if necessary.
- Keyboard: check the current keyboard map configuration and click on the button to change that if necessary.
- Timezone: By default, *DrakX* deduces your time zone based on the primary language you have chosen. But here, just as in your choice of a keyboard, you may not be in the country for which the chosen language should correspond. You may need to click on the Timezone button to configure the clock for the correct timezone.
- Printer: clicking on the No Printer button will open the printer configuration wizard. Consult the corresponding chapter of the *Starter Guide* for more information on how to setup a new printer. The interface presented there is similar to the one used during installation.
- Sound card: if a sound card is detected on your system, it is displayed here. Please note that no modification possible at installation time, so if the sound card is incorrect you will need to correct the error after installation.
- TV card: if a TV card is detected on your system, it is displayed here. If you have a TV card and it is not detected, click on the button to try to configure it manually.
- ISDN card: if an ISDN card is detected on your system, it will be displayed here. You can click on the button to change the parameters associated with the card.

### 3.10.2. Time Zone Options

*GNU/Linux* manages time in GMT (Greenwich Mean Time) and translates it to local time according to the time zone you selected. If the clock on your motherboard is set to local time, you may deactivate this by unselecting Hardware clock set to GMT , which will let *GNU/Linux* know that the system clock and the hardware clock are in the same timezone. This is useful when the machine also hosts another operating system like *Windows*.

The Automatic time synchronization option will automatically regulate the clock by connecting to a remote time server on the Internet. For this feature to work, you must have a working Internet connection. It is best to choose a time server located near you. This option actually installs a time server that can used by other machines on your local network.

## 3.11. Configuring X, the Graphical Server

*X* (for X Window System) is the heart of the *GNU/Linux* graphical interface on which all the graphical environments (*KDE*, *GNOME*, *AfterStep*, *WindowMaker*, etc.) bundled with **Mandrake Linux** rely upon. In this step, *DrakX* will try to automatically configure *X*.

You will be presented the list of available resolutions and color depth available for your hardware. Choose the one that best suit your needs (you will be able to change that after installation though). When you are satisfied with the sample shown in the monitor, click OK. A window will then appear and ask if you can see what's being displayed.

If you are performing an Expert installation, you will enter the X configuration wizard. See the corresponding section of the manual for more information about this wizard.

If you can see the message during the test and answer Yes, then *DrakX* will proceed to the next step. If you cannot see the message, it means that some part of the autodetected configuration was incorrect and the test will automatically end after 10 seconds, bringing you back to the Wizard. Refer to the Video configuration section of the user guide for more information on how to configure your display.

## 3.12. Installing Updates from the Internet

At the time you are installing **Mandrake Linux**, it is likely that some packages have been updated since the initial release. Bugs may have been fixed, security issues resolved. To allow you to benefit from these updates, you are now able to download them from the Internet. Choose Yes if you have a working Internet connection, or No if you prefer to install updated packages later.

Choosing Yes displays a list of places from which updates can be retrieved. Choose the one nearest you. A package-selection tree will appear: review the selection, and press Install to retrieve and install the selected package( s), or Cancel to abort.

## 3.13. It's Finished!

There you are. Installation is now complete and your *GNU/Linux* system is ready to use. Just click OK to reboot the system. The first thing you should see after your computer has finished doing its hardware tests is the bootloader menu, giving you the choice of which operating system to start.

## 3.14. How to Uninstall Linux

Well, that is not recommended, as you may regret it soon, but, that's your right **:-)**

The uninstallation process consists of two steps:

1. Delete all partitions on your hard drive and replace them by a single FAT partition with *DiskDrake*.
2. Uninstall the bootloader (generally *grub*) from the Master Boot Record (MBR). To do so, boot under *DOS* and run the `fdisk /mbr` command.

   If you have another OS, please consult its documentation to determine how to perform the same step.

Goodbye, and thank you for using **Mandrake Linux**!