

Discovering Mandriva Linux

Mandriva Linux 2006



<http://www.mandriva.com>

Discovering Mandriva Linux: Mandriva Linux 2006

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About the Making of this Manual

This manual is written and maintained by NeoDoc (<http://www.neodoc.biz>). Translations are ensured by NeoDoc, Mandriva and other translators.

This document was written in DocBook XML. The set of files involved were managed using the Borges Collaborative Content Creation System (C3S) (<http://sourceforge.net/projects/borges-dms>). The XML source files were processed by `xsltproc`, and `jadetex` (for the electronic version) using a customized version of Norman Walsh’s stylesheets. Screen shots were taken using `xwd` or `GIMP` and converted with `convert` (from the ImageMagick package). All these programs are free software and all of them are available in your Mandriva Linux distribution.

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Preface

1. About Mandriva Linux

Mandriva Linux is a GNU/Linux distribution supported by Mandriva S.A. which was born on the Internet in 1998. Its main goal was and still is to provide an easy-to-use and friendly GNU/Linux system. Mandriva's two pillars are open source and collaborative work.



On April 7th 2005 the Mandrakesoft company changed its name to Mandriva to reflect its merger with Brazil-based Conectiva. Its core product, Mandrakelinux, became Mandriva Linux.

1.1. Contacting the Mandriva Linux Community

The following are various Internet links pointing you to the most important Mandriva Linux-related sources. If you wish to know more about the Mandriva company, connect to our web site (<http://www.mandriva.com/>). You can also check out the Mandriva Linux distribution web site (<http://www.mandrivalinux.com/>) and all its derivatives.

Mandriva Expert (<http://www.mandrivaexpert.com/>) is Mandriva's support platform. It offers a new experience based on trust and the pleasure of rewarding others for their contributions.

We also invite you to subscribe to the various mailing lists (<http://www.mandriva.com/community/resources/newsgroups>) where the Mandriva Linux community demonstrates its vivacity and keenness.

Please also remember to connect to our security page (<http://www.mandriva.com/security>). It gathers all security-related material about Mandriva Linux distributions. You will find security and bug advisories, as well as kernel update procedures, the different security-oriented mailing lists which you can join, and Mandriva Online (<https://online.mandriva.com/>). This page is a must for any server administrator or user concerned about security.

1.2. Join the Club!

Mandriva offers a wide range of advantages through its Mandriva Club (<http://club.mandriva.com>):

- download commercial software normally only available in retail packs, such as special hardware drivers, commercial applications, freeware, and demo versions;
- vote for and propose new software through a volunteer-run RPM voting system;
- access more than 50,000 RPM packages for all Mandriva Linux distributions;
- obtain discounts for products and services on Mandriva Store (<http://store.mandriva.com>);
- access a better mirror list, exclusive to Club members;
- read multilingual forums and articles.
- access Mandriva's Knowledge Base (<http://club.mandriva.com/xwiki/bin/view/KB/>), a wiki-based site which holds documentation on many subjects such as administration, connectivity, troubleshooting, and more;
- chat with the Mandriva Linux developers on the Club Chat (<https://www.mandrivaclub.com/user.php?op=clubchat>);
- enhance your GNU/Linux knowledge through Mandriva's e-training lessons (<http://etraining.mandriva.com/>).

By financing Mandriva through the Mandriva Club you will directly enhance the Mandriva Linux distribution and help us provide the best possible GNU/Linux desktop to our users.

1.3. Subscribing to Mandriva Online

Mandriva offers a very convenient way to keep your system automatically up-to-date, keeping away bugs and fixing security holes. Visit the Mandriva Online Web site (<https://online.mandriva.com/>) to learn more about this service.

1.4. Purchasing Mandriva Products

Mandriva Linux users may purchase products on-line through the Mandriva Store (<http://store.mandriva.com/>). You will not only find Mandriva Linux software, operating systems and “live” boot CDs (such as Move), but also special subscription offers, support, third-party software and licenses, documentation, GNU/Linux-related books, as well as other Mandriva goodies.

1.5. Contributing to Mandriva Linux

The skills of the many talented folks who use Mandriva Linux can be very useful in the making of the Mandriva Linux system:

- **Packaging.** A GNU/Linux system is mainly made of programs picked up on the Internet. They have to be packaged in order to work together.
- **Programming.** There are many, many projects directly supported by Mandriva: find the one which most appeals to you and offer your help to the main developer(s).
- **Internationalization.** You can help us translate web pages, programs and their respective documentation.

Consult the development projects (<http://qa.mandriva.com/>) page to learn more about how you can contribute to the evolution of Mandriva Linux.

2. About this Quick-Startup Guide

The goal of this *Quick-Startup Guide* is to help you understand the installation basics of a GNU/Linux distribution, give you pointers as to what you need to do before actually installing the Mandriva Linux operating system, as well as initiate you into the GNU/Linux environment.

First we discuss technical procedures you should follow (“*Installation Warning*”, page 3). We **highly recommend** you follow these instructions since we touch upon data backup, disk integrity checks, and the like.

We cover the topics of BIOS configuration and supported hardware in “*Before Installation*”, page 5. Then comes the installation chapter (“*Installation with DrakX*”, page 7).

To get you started with your new system we discuss the KDE graphical environment (“*Your New Graphical Environment*”, page 23). You will learn how to configure your background and your panel as well as further understand how to customize your environment’s look and feel, how to manage files, and more.

The following chapter discusses network applications such as the KMail mail client (*Writing E-mails and Reading News*, page 29), the Akregator news reader (*Akregator*, page 33), the Konqueror web browser (*Browsing the Web*, page 34), and the Kopete instant messaging and chat software (*Instant Messaging*, page 37).

Next we tackle multimedia applications (“*Audio, Movie and Video Applications*”, page 41). We cover audio applications (*Audio Applications*, page 41), data, audio and ISO image burning (*CD Burning*, page 43), movie viewers (*Movie Applications*, page 50), and videoconferencing (*Webcams and Video Conferencing*, page 52).

Last but not least we describe a few of the numerous games which you can play on Mandriva Linux (“*Playing Around*”, page 57). These range from board, card and strategy games to classic arcade-style roller-coaster rides.

Chapter 1. Installation Warning

This guide only covers the most common steps of the installation process. If you plan on using Windows® as well as GNU/Linux by dual-booting (meaning being able to access either system 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 — Mandriva 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:

- Run `chkdsk` on your Windows® computer (called `scandisk` on non-NT systems, such as Windows® 9x). The resizing program can detect some obvious errors, but `chkdsk` is better suited for this task. Refer to the `chkdsk` documentation for more information on the different options it has.



Before using `chkdsk` make sure your screen saver and any other program that might write to the hard disk is turned off. To obtain even better results, you should run `chkdsk` from Windows®'s "Safe Mode".

- For maximum data security, also run defrag on your partition if you use Windows® 9x¹. This further reduces the risk of data loss. This isn't mandatory, but it's **highly recommended**. Doing so will make the resizing process much faster and easier.
- The ultimate insurance against problems is to always **back up your data!** Of course, you should 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 onto the computer on which you want to install GNU/Linux.



NTFS Partitions. Windows® 2000, NT and XP users should remain careful: even though DiskDrake (through the `ntfsresize` application) is able to resize NTFS partitions, it's highly recommended that you back up your data before starting the installation. Please see the Linux-NTFS site (<http://linux-ntfs.sourceforge.net/info/ntfs.html#2.6>) as well as these NTFS Resize FAQ (<http://linux-ntfs.sourceforge.net/info/ntfsresize.html>) for more information on the subject.



Windows® users could be tempted to use Norton PartitionMagic™ to resize a NTFS partition. However many reports indicate that it fails and the end result could be a broken partition! Therefore we recommend you use Mandriva Linux's DiskDrake program. In doubt refer to the FAQ mentioned above.

1. On NT-based operating systems, defragmentation has little to no effect.

Chapter 2. Before Installation

This chapter covers issues which should be addressed **before** you start your new Mandriva Linux installation. Make sure you read it completely since it will save you a lot of time. Also back up your data (on a different disk to the one you will install the system into) and plug in and turn on all your external devices (keyboard, mouse, printer, scanner, etc.).

2.1. Configuring your BIOS

The BIOS (*Basic Input/Output System*) is used to find the device on which the operating system is located and starts it up. It's also used for the initial hardware configuration and low-level hardware access.

The appearance of plug'n'play devices and their widespread use means that all modern BIOSes can initialize these devices. In order for Linux to recognize plug'n'play devices, your BIOS must be configured to initialize them.

Changing your BIOS' settings is usually performed by holding down the **Del** key (some BIOSes use the **F1**, **F2**, **F10** or **Esc** keys instead) right after the computer is switched on. Unfortunately, there are many types of BIOSes. Therefore you will need to look for the appropriate option yourself. It's 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, which helps Linux to recognize them.

All recent systems can boot from a CD-ROM. Look for Boot sequence or First boot device in the BIOS' features setup, and set the CD-ROM as the first boot device. If your system can't boot from a CD-ROM you will need to use a floppy boot disk.



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

2.2. Supported Hardware

Mandriva Linux can handle a large number of hardware devices, and the list is far too long to be quoted exhaustively. Nevertheless some of the steps we describe will help you to find out if your hardware is compatible. It will also guide you in configuring some problematic devices.

You may also consult an up-to-date list of supported hardware on the Mandriva Linux Hardware Database (<http://www.mandriva.com/hardware>) web site.



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

USB devices: support for USB 1.x and USB 2.0 is now extensive. Most peripherals are fully supported. You can obtain the list of supported hardware on the Linux-USB device overview (<http://www.qbik.ch/usb/devices/>) site. Relevant information can also be found on the Linux USB (<http://www.linux-usb.org>) web site.

Chapter 3. Installation with DrakX

3.1. The Mandriva Linux Installer

With the DrakX installation program, it doesn't matter whether you're a newbie or a GNU/Linux guru. The job of DrakX is to provide you with a smooth installation and an easy transition to Mandriva Linux's latest version.



DrakX works best of all if your hardware is connected to your computer and powered on during the installation. Printers, modems, scanners and joysticks are just a few examples of peripherals which DrakX can automatically detect and configure as Mandriva Linux is being installed.



Figure 3-1. Very First Installation Welcome Screen

The first screen offers to run the installation with special options if the standard mode wasn't suited for your hardware. Let the installation start automatically with no options. If something goes wrong, see *Installation Options*, page 7.

3.1.1. The Installation Process

When the installer starts, you see a nice graphical interface (see figure 3-3). On the left are the various installation steps, the current one marked by a highlighted bullet. The installation occurs in two phases: installation, then configuration.

Each step may present various screens. You can surf between those screens through the Next and Previous buttons. Additionally an Advanced button may be available to show more advanced configuration options. Note that most of the latter should only be used by **expert** users. But there's no harm in looking at them!



The Help button displays explanations concerning the current installation step.

3.1.2. Installation Options

If something goes wrong during the first installation attempt, pressing **F1** at the welcome screen (see figure 3-1) opens a help window (see figure 3-2). Here are some useful options to choose from:

```

Welcome to Mandriva Linux install help

In most cases, the best way to get started is to simply press the <Enter> key.
If you experience problems with standard install, try one of the following
install types (type the highlighted text and press <Enter>):

o  vga10 for low resolution graphical installation.
o  text for text installation instead of the graphical one.
o  linux for standard graphical installation at normal resolution.

To repair an already installed system type rescue followed
by <Enter>.

You can also pass some <specific kernel options> to the Linux kernel.
For example, try linux noapic if your system has trouble operating
your network adapter correctly.
NOTE: You cannot pass options to modules (SCSI, ethernet card) or devices
such as CD-ROM drives in this way. If you need to do so, use noauto mode.

[F1-Help] [F2-Advanced Help] [F3-Main]
boot: _
```

Figure 3-2. Available Installation Options

- **vga10**: If you tried a default installation and didn't see the graphical interface (see figure 3-3), you can try to run the installation in low resolution mode. This happens with certain types of video cards. With Mandriva Linux you are given a number of options to work around problems related to older hardware. To try the installation in low resolution mode, enter **vga10** at the prompt.
- **text**: If your video card is very old and the graphical installation doesn't work at all, you can always choose to install in text mode. Since all video cards can display text, this is the "last resort" kind of installation. However don't worry: it's unlikely that you will need this option.
- **noauto**: In some rare cases, your PC may appear to freeze or lock up during the hardware detection phase. If that happens, adding the word **noauto** as a parameter tells the installation program to bypass hardware detection. Therefore you will need to manually specify hardware parameters later in the installation process. You can add the **noauto** parameter to the previous modes, so depending on your hardware you may have to specify **vga10 noauto** to perform a low-resolution graphical installation without DrakX performing a hardware scan.
- **kernel options**: Most machines don't require specific kernel options. Due to bugs in the design or in the BIOS, there have been a few cases of motherboards incorrectly reporting the amount of memory installed. If you need to manually specify the amount of RAM installed in your PC, use the **mem=xxxM** parameter. For example, to start the installation in normal mode with a computer containing 256 MB of memory, your command line would look like **linux mem=256M**

3.2. Choosing your Language

The first step is to choose your preferred language.

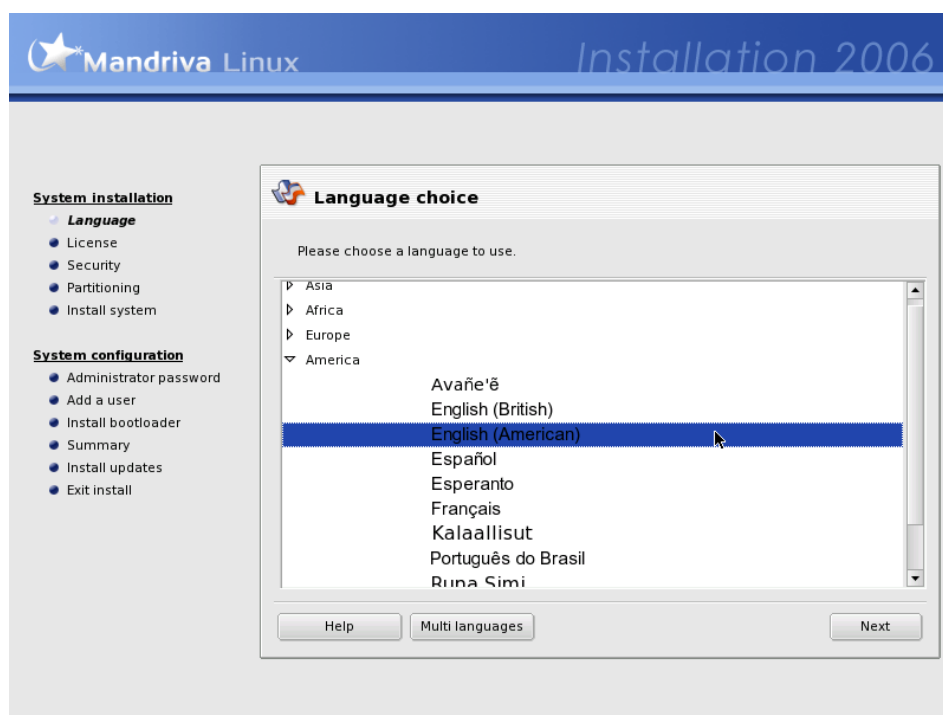


Figure 3-3. Choosing the Default Language

Open the tree relative to the continent you're located in, then choose your language. Your language choice will affect the installer, the documentation, and the system in general.

Use the list accessible through the Multi languages button to select other languages to be installed on your workstation, thereby installing the language-specific files for system documentation and applications. For example, if Spanish friends are to use your machine, select English as the default language in the tree view and Español in the list view.



About UTF-8 (unicode) support: Unicode is a character encoding intended to cover all existing languages. However full support for it in GNU/Linux is still under development. For that reason, Mandriva Linux's use of UTF-8 depends on your choice:

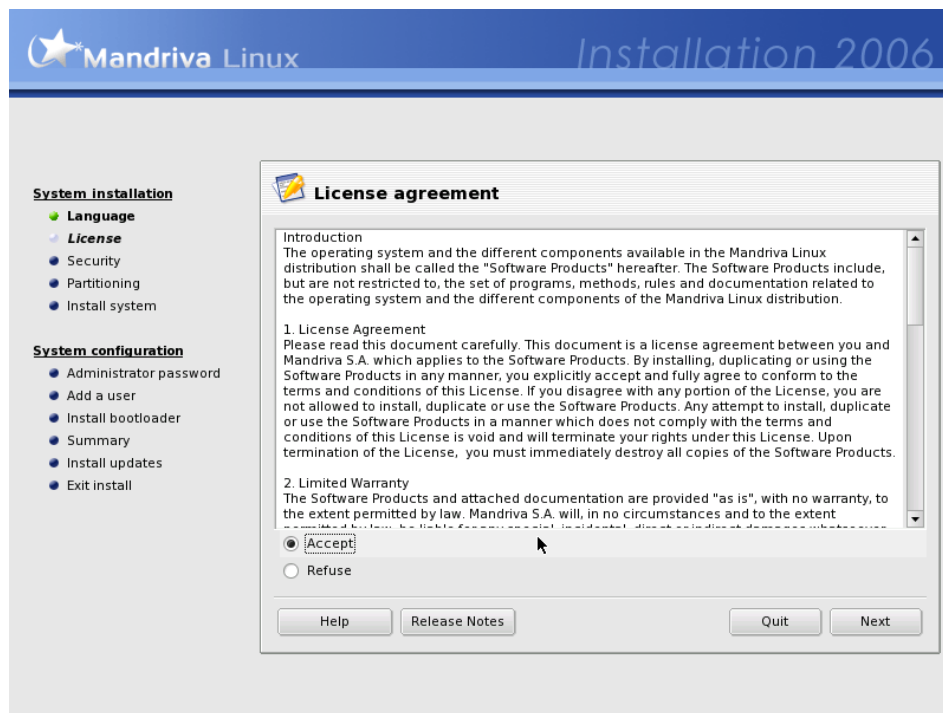
1. If you choose a language with a strong legacy encoding (latin1 languages, Russian, Japanese, Chinese, Korean, Thai, Greek, Turkish, and most iso-8859-2 languages), the legacy encoding will be used by default.
2. Other languages use Unicode by default.
3. If two or more languages are to be installed, and those languages don't use the same encoding, then Unicode is used for the whole system.
4. Finally, Unicode can also be forced for use throughout the system at a user's request by selecting the Use Unicode by default option independently of which languages have been chosen.

Note that you're not limited to choosing a single additional language. You may choose several, or even install them all by selecting the All languages option. Selecting support for a language means translations, fonts, spell checkers, etc. are also installed for that language. Make sure you select all languages which are likely to be useful on the machine now, it may be difficult to configure support for languages not chosen at install time at a later time.



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

3.3. License Terms of the Distribution



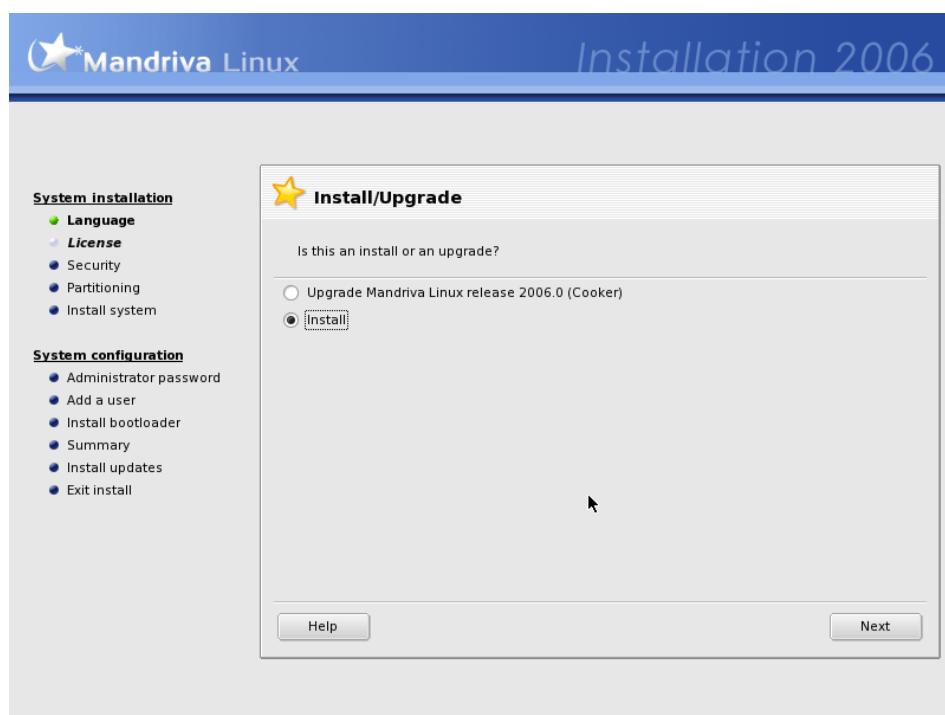
Before continuing, you should carefully read the terms of the license. It covers the entire Mandriva Linux distribution. If you agree with all the terms it contains, select Accept and click on Next. If not, clicking on Quit reboots your computer.



If you are curious about any technical changes which have occurred in the distribution since the last release, you can click on the Release Notes.

3.4. Installation Class

This step is shown only if an existing GNU/Linux partition is found on your machine.



DrakX now needs to know if you want to install from scratch or to upgrade your existing Mandriva Linux system:

Upgrade

This installation type simply updates the packages currently installed on your Mandriva Linux system. Your current partitioning scheme and user data won't be altered. Most of the other configuration steps remain available and are similar to a standard installation.

Install

For the most part, this completely wipes out the old system. However, depending on your partitioning scheme, you can prevent some of your existing data (particularly `/home` directories) from being overwritten.

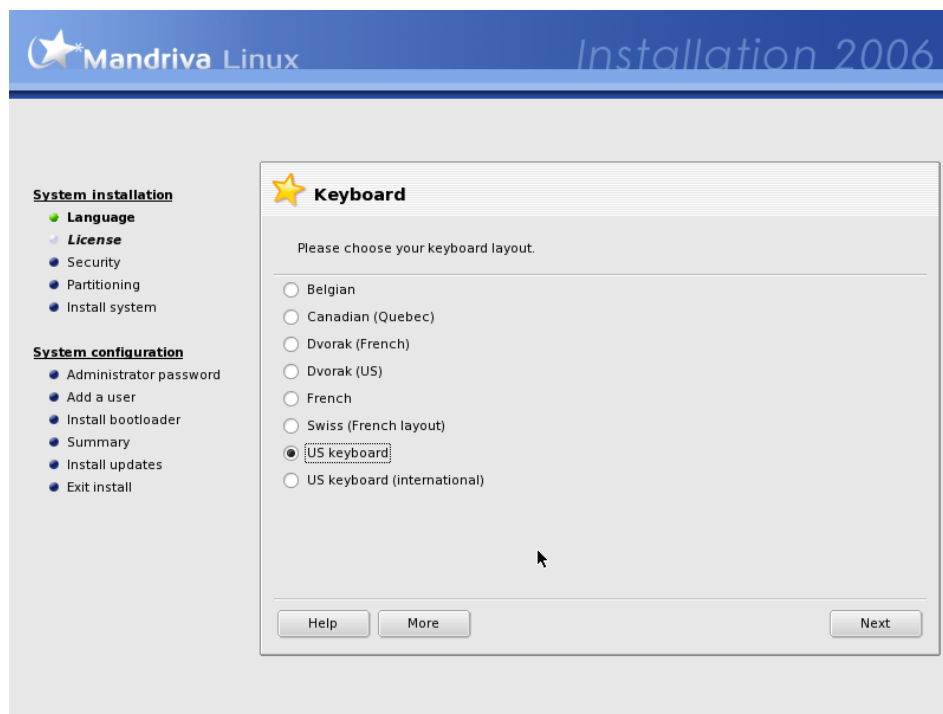


Using the "Upgrade" option should work fine on Mandriva Linux systems running version 10.1 or later. Performing an upgrade on prior versions is not recommended.

3.5. Configuring your Keyboard



This step only shows if your language settings don't match one single keyboard. Otherwise, your keyboard layout is automatically selected.



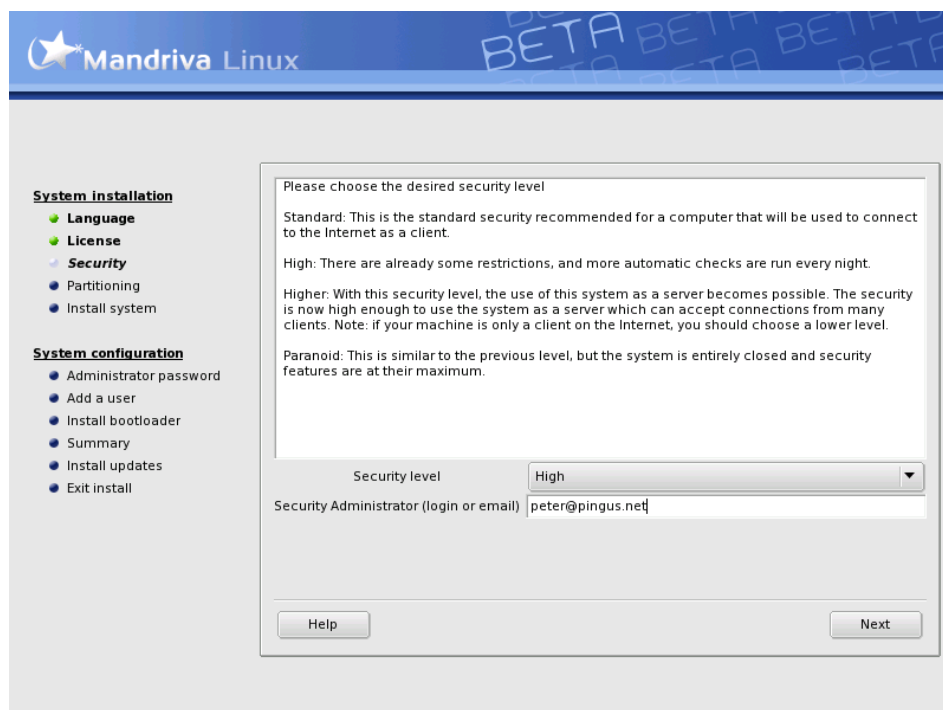
Depending on the language you choose (see *Choosing your Language*, page 8), DrakX automatically selects a particular type of keyboard configuration. Verify that the selection suits you or choose another keyboard layout.

Also, you may not have a keyboard which corresponds exactly to your language: for example, if you are an English-speaking Swiss native, you may have a Swiss keyboard. Or if you speak English and are located in Québec, you may find yourself in the same situation where your native language and country-set keyboard don't match. In either case, this installation step will allow you to select an appropriate keyboard.

Click on the More button and a list list of supported keyboards appears.

If you choose a keyboard layout based on a non-Latin alphabet, the next dialog allows you to choose the key binding which can switch the keyboard between the Latin and non-Latin layouts.

3.6. Security Level

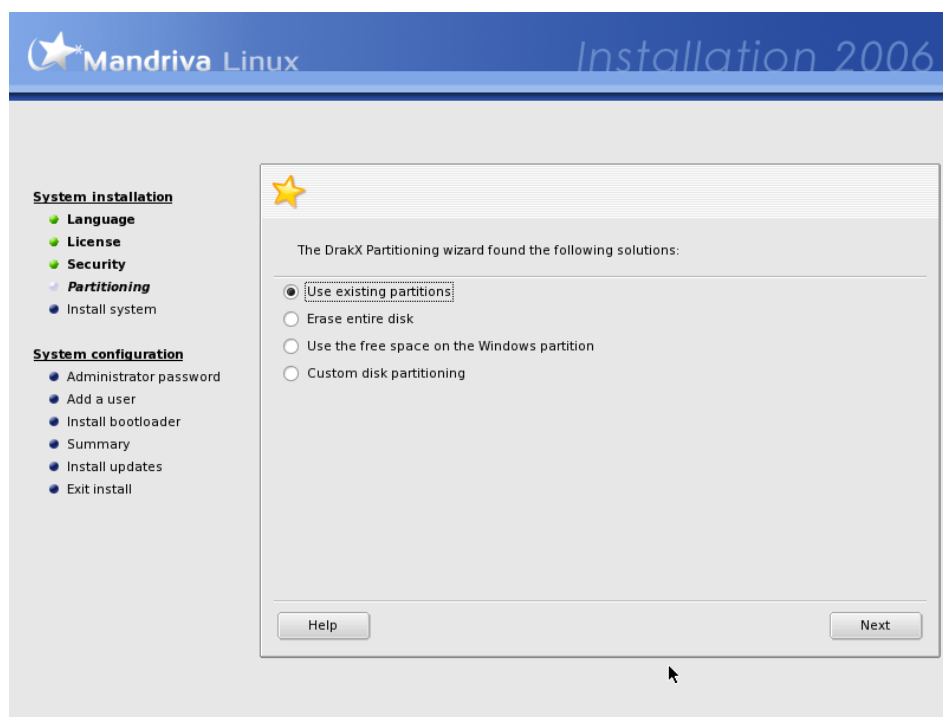


At this point, DrakX allows you to choose your machine's security level. As a rule of thumb, the security level should be set higher if the machine is to contain crucial data, or if it's to be directly exposed to the Internet. The trade-off is that a higher security level is generally obtained at the expense of ease of use.

If you don't know what to choose, keep the default option. You'll be able to change it later with the draksec tool in the Mandriva Linux Control Center.

Fill the Security Administrator field with the e-mail address of the person responsible for security. Security-related messages will be sent to that address.

3.7. Partitioning your Disk



You now have to decide where you want to install Mandriva Linux on your hard drive. Your hard drive needs to be partitioned which means it must be logically divided in order to create the required space for your new Mandriva Linux system.

Because the process of partitioning a hard drive is usually irreversible and can lead to data loss, it can be intimidating and stressful for the 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.

Depending on the configuration of your hard drive, several options are available:

Use free space

This option performs an automatic partitioning of your blank drive(s). If you use this option there will be no further prompts.

Use existing partitions

The wizard detected one or more existing Linux partitions on your hard drive. If you want to use them, choose this option. Then 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. Then choose the partitions to be formatted or preserved.

Use the free space on the Windows partition

If Windows® is installed on your hard drive, you might have to create free space for GNU/Linux. To do so, you can delete your Windows® partition and data (see the "Erase entire disk" solution below) or resize your FAT or NTFS partition. Resizing can be performed without the loss of any data, **provided you pre-**

viously defragmented the Windows® partition. Backing up your data is strongly recommended. Using this option is recommended if you want to use both Mandriva Linux and Windows® on the same computer.

Before choosing this option, please understand that after this procedure, the size of your Windows® partition will be smaller than when you started, which means you will have less free space to store your data or to install new software.

Erase entire disk

Choose this option to delete all data and partitions present on your hard drive. You won't be able to undo this operation after you confirm.



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

Remove Windows(TM)

This option appears when the hard drive is entirely taken by Windows®. Choosing this option simply erases the entire drive, partitioning everything from scratch.

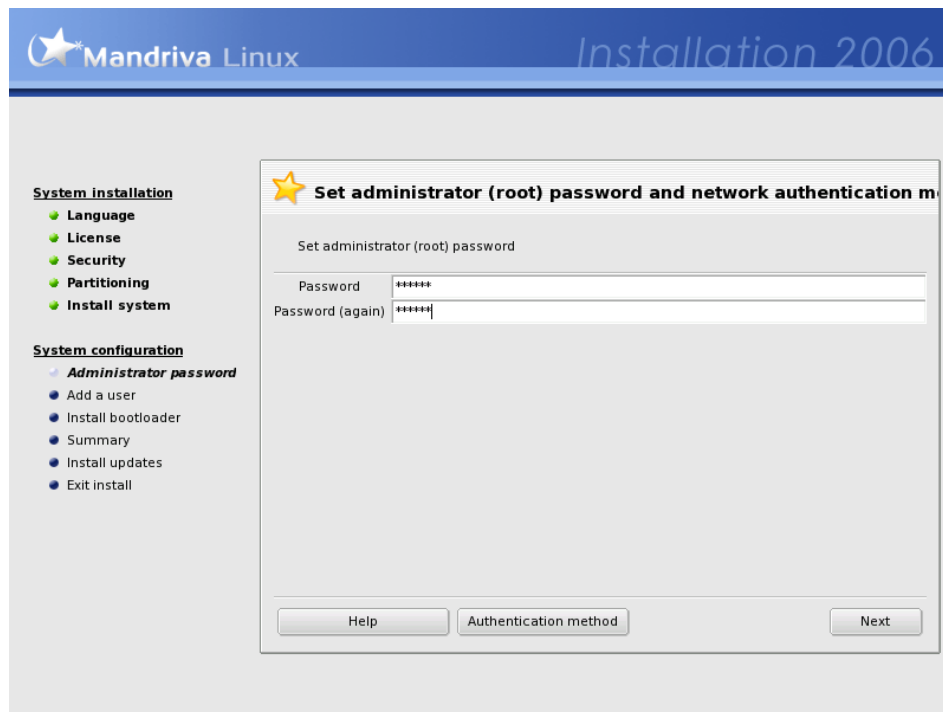


If you choose this option, **all** data on your disk will be lost.

Custom disk partitioning

Choose this option to manually partition your hard drive. Be careful: it's a powerful but dangerous choice and you can very easily lose all your data. This option is only recommended if you performed custom disk partitioning before, and have enough GNU/Linux experience. For more instructions on how to use the DiskDrake utility, refer to the *Managing Your Partitions* section in the *Starter Guide*.

3.8. Root Password



This is the most crucial decision point for the security of your GNU/Linux system: you must enter the `root` password. `root` is the system administrator and is the only user authorized to make updates, add users, change the overall system configuration, and so on. In short, `root` can do everything! That's why you must

choose a password which is difficult to guess: DrakX tells you if the password you choose is too simple. Depending on the security level you chose, you're not forced to enter a password, but we **strongly** encourage you to do so. GNU/Linux is just 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, becoming `root` **must** be difficult.

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

One caveat: don't make the password too long or too complicated because you must be able to remember it too!

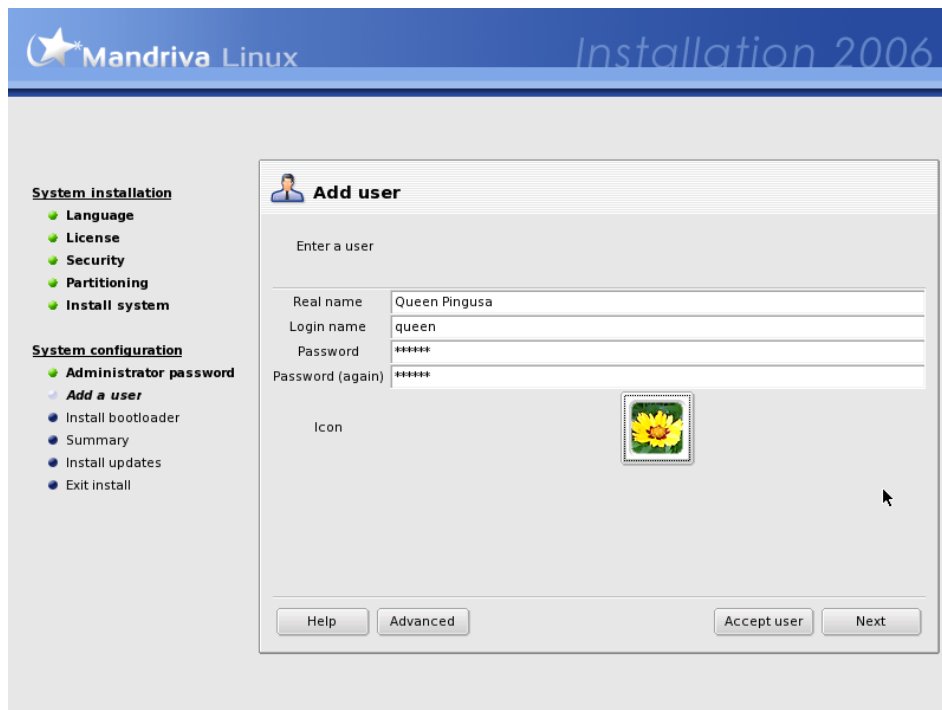
The password won't be displayed on screen as you type it. To reduce the chance of a blind typing error you have to enter the password twice.

You can change the way users are authenticated on your computer by clicking on the Authentication method button. The following authentication methods are available:

- Local file. Use a local file for all authentication and user information. This is the default method.
- LDAP. Use an LDAP server for some or all authentication needs. An LDAP directory consolidates certain types of information within your organization.
- NIS. Authenticates users against a NIS domain. This allows you to run a group of computers in the same NIS domain using a common password and group file.
- Windows Domain. Uses a Windows® domain controller to provide authentication services through Active Directory, Microsoft's implementation of LDAP.

If you select a method other than Local file, you are asked to provide some parameters which vary from one method to the other. If you don't know those parameters, you should ask your network administrator.

3.9. Adding a User



GNU/Linux is a multi-user system which means each user can have his own preferences, files and so on. But unlike the system administrator called `root`, the users you add at this point are not authorized to change anything except their own files and their own configurations, protecting the system from unintentional or malicious changes which could have a serious impact on it.

You must create at least one regular user for yourself — this is the account which you should use for routine, day-to-day usage. Although it's very easy to log in as `root` to do anything and everything, it may also be very dangerous! A very simple mistake could render your system unusable. If you make a serious mistake as

a regular user, the worst that can happen is that you'll lose some information, but you won't affect the entire system.

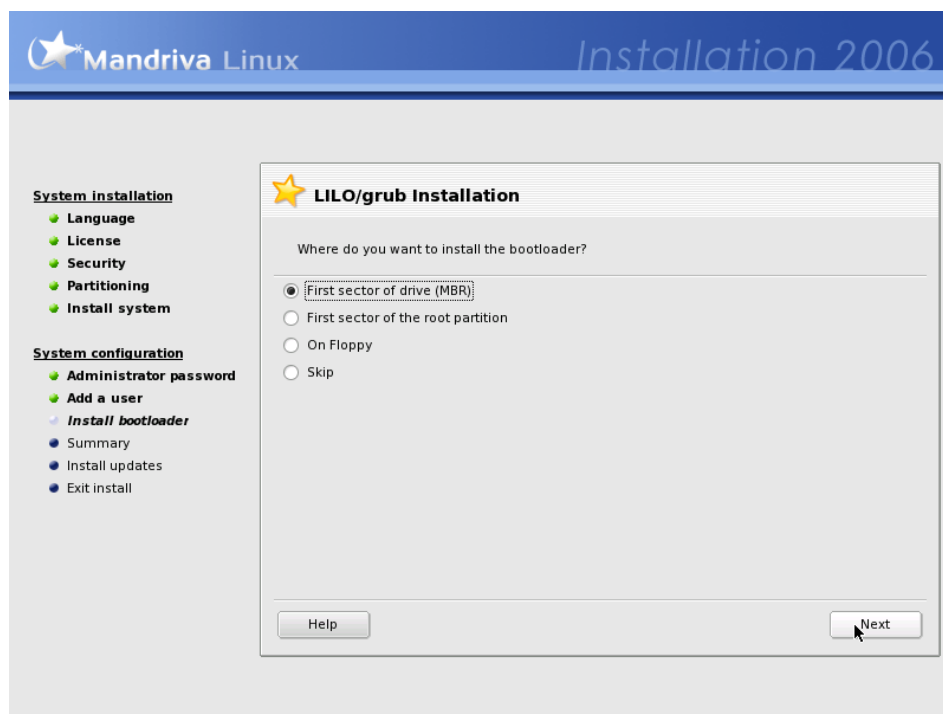
You are first asked for a real name. DrakX uses the first word you type in this field and copies it, all in lowercase, to the Login name field, which is the name this user must enter to log on to the system. Then enter a password, twice (for confirmation). From a security point of view, a non-privileged (regular) user's password isn't as crucial as the `root` password, but that's 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 other users. Add a user for each one of your friends, your father, your sister, etc. Click Next when you're finished adding users.



Clicking the Advanced button allows you to change the default `shell` for that user (`bash` by default), and to manually choose the user and group IDs for that user.

3.10. Installing a Bootloader



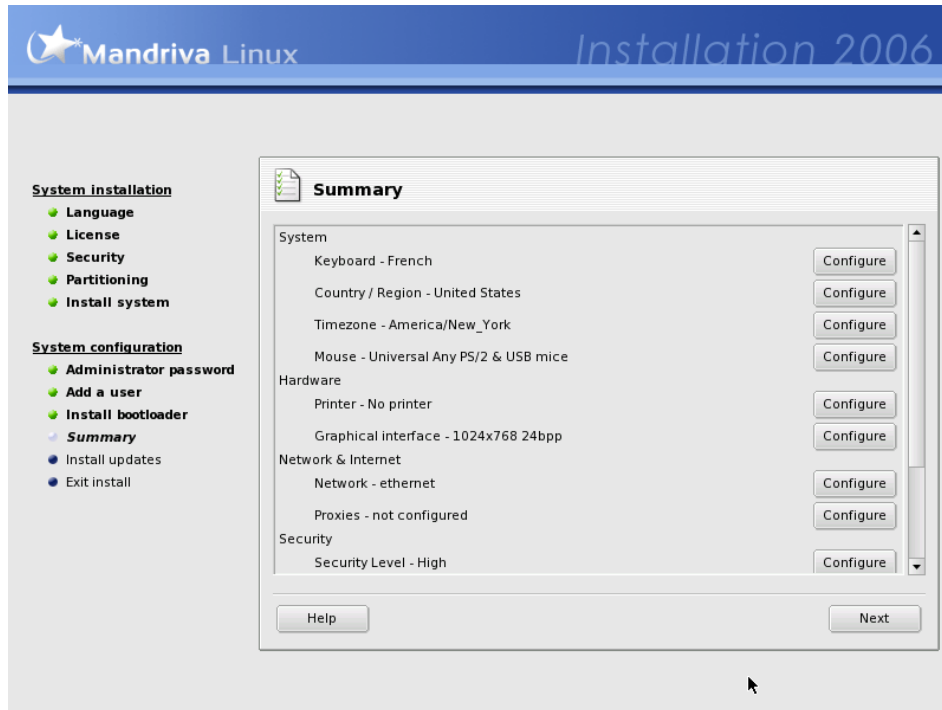
A bootloader is a small program which is started by the computer at boot time. It's responsible for starting up the whole system. Normally, the bootloader installation is totally automated. DrakX analyzes the disk boot sector and acts according to what it finds:

- If a Windows® boot sector is found, it is replaced by a GRUB/LILO boot sector. This way you are able to load either GNU/Linux or any other OS installed on your machine.
- In any other case it asks you where it should place the boot loader. Generally, the First sector of drive (MBR) is the safest place.

Choosing Skip won't install a bootloader. Use this option only if you know what you're doing.

3.11. Checking Miscellaneous Parameters

3.11.1. Summary



As a review, DrakX presents a summary of information it gathered about your system. Depending on the hardware installed on your machine, you may have some or all of the following entries. Each entry is made up of the hardware item to be configured, followed by a quick summary of the current configuration. Click on the corresponding Configure button to make any changes.

- Keyboard: check the current keyboard map configuration and change it if necessary.
- Country / Region: check the current country selection. If you're not in the country selected by DrakX, click on the Configure button and choose another. If your country isn't in the list shown, click on the Other Countries button to get a complete country list.
- Timezone: by default, DrakX deduces your time zone based on the country you have chosen. You can click on the Configure button here if this is not correct.
- Mouse: verify the current mouse configuration and change it if necessary.
- Printer: clicking on the Configure button will open the printer configuration wizard. Consult the corresponding chapter of the *Starter Guide* for more information on how to set up a new printer. The interface presented in our manual is similar to the one used during installation.
- Sound card: if a sound card is detected on your system, it will be displayed here. If you notice the sound card isn't the one actually present on your system, you can click on the button and choose a different driver.
- TV card: if you have a TV card, this is where information about its configuration will be displayed. If you want to try a different driver for your TV card, or its detection wasn't accurate you can click on Configure to try to configure it manually.
- Graphical Interface: by default, DrakX configures your graphical interface with a resolution that best matches your video card and monitor combination. If that doesn't suit you, or DrakX could not automatically configure it (not configured is displayed), click on Configure to reconfigure your graphical interface. You can click on Help from within the configuration wizard to benefit from full in-line help.
- Network: if you wish to configure your Internet or local network access, you can do so from here. Refer to the printed documentation or use the Mandriva Linux Control Center after the installation has finished to benefit from full in-line help.
- Proxies: allows you to configure HTTP and FTP proxy addresses if the machine you're installing on is to be located behind a proxy server.

- **Security Level:** this entry allows you to redefine the security level.
- **Firewall:** if you plan to connect your machine to the Internet, it's a good idea to protect yourself from intrusions by setting up a firewall. Consult the corresponding chapter of the *Starter Guide* for details about firewall settings.
- **Bootloader:** to change your bootloader configuration. This should be reserved to advanced users. Refer to the printed documentation or the in-line help about bootloader configuration in the Mandriva Linux Control Center.
- **Services:** with this entry you can fine tune which services will be run on your machine. If you plan to use this machine as a server it's a good idea to review this setup.

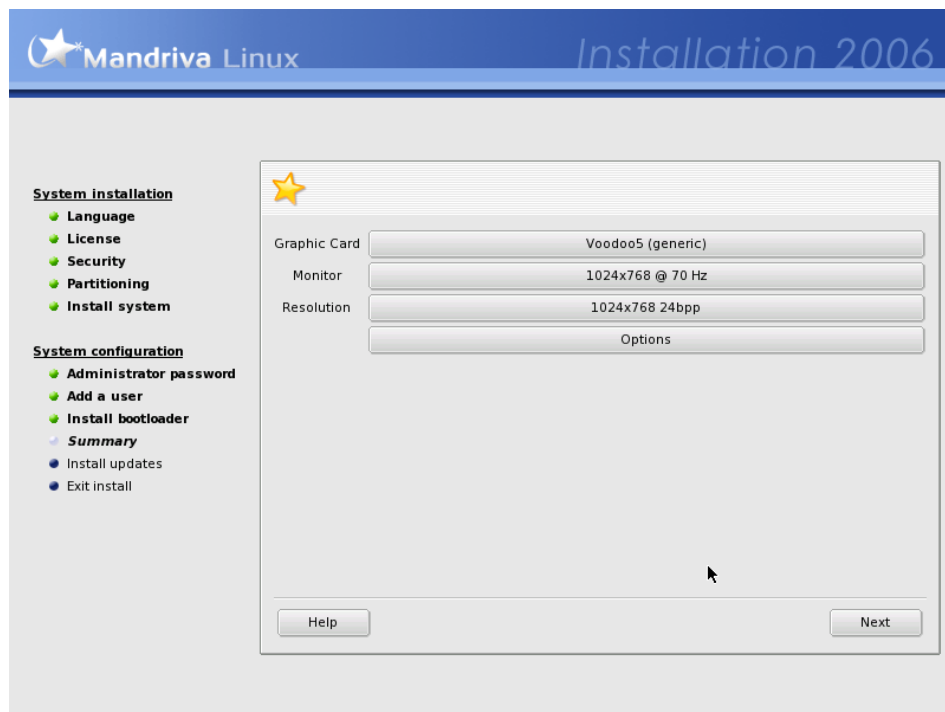
3.11.2. Time Zone Options

This setup allows to refine the time zone you are currently located in. After you've chosen the location nearest to your time zone, two more options for time management are shown.

Hardware clock set to GMT. 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 computer is set to local time, you may deactivate this by deselecting Hardware clock set to GMT, which will let GNU/Linux know that the system clock and the hardware clock are in the same time zone. This is useful when the machine also hosts another operating system.

Automatic time synchronization. This option will automatically regulate the system clock by connecting to a remote time server on the Internet. For this feature to work, you must have a working Internet connection. We recommend that you choose a time server located near you or the generic World Wide entry which will select the best server for you. This option actually installs a time server which can be used by other machines on your local network as well.

3.11.3. 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 Mandriva Linux rely on.

You will see a list of different parameters which you can change in order to optimize your graphical display.

Graphic Card

If everything works fine, the installer should detect and configure the video card installed on your machine. If the detection or configuration is incorrect, you can choose the card installed on your system from a list.

Monitor

If the installer fails to detect or configure your monitor properly, you can choose from this list the monitor which is connected to your computer.

Resolution

Here you can choose the resolution and color depth from the available ones for your graphics hardware. Choose the one which best suits your needs (you will be able to make changes after the installation). A sample of the chosen configuration will be shown in the monitor picture.

Test



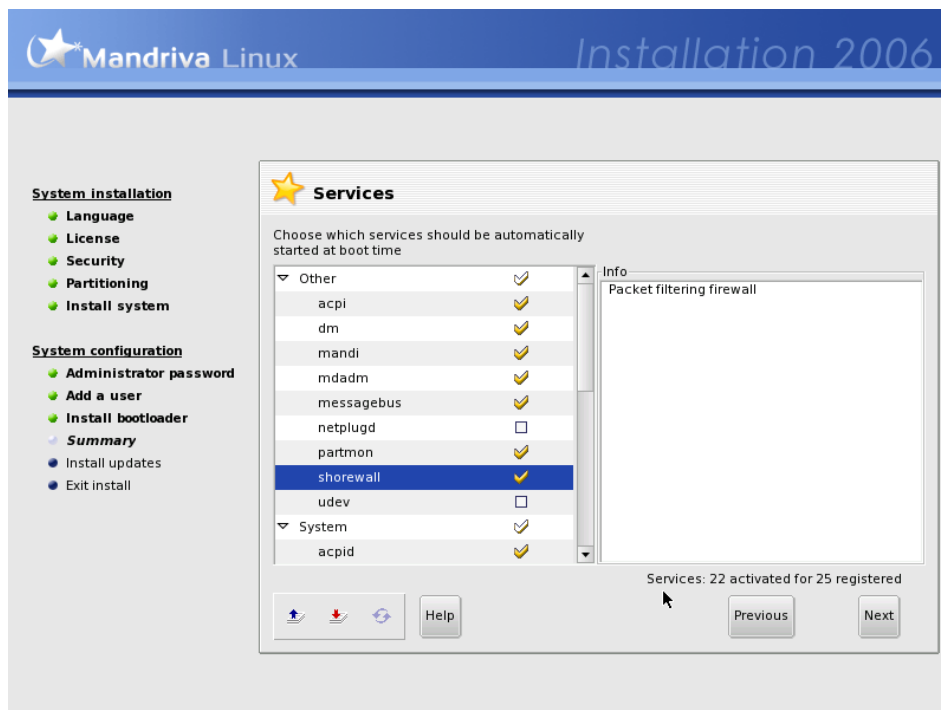
Depending on your hardware, this entry might not appear.

The system will try to open a graphical screen at the desired resolution. If you see the test message during the test and answer Yes, then DrakX will proceed to the next step. If you don't see it, it means that some part of the auto-detected configuration was incorrect and the test will automatically end after a few seconds and return you to the menu. Change settings until you get a correct graphical display.

Options

This step allows you to choose whether you want your machine to automatically switch to a graphical interface at boot. Obviously, you may want to select the No option if your machine is to act as a server, or if you were not successful in getting the display configured.

3.11.4. Selecting Available Services at Boot Time



This dialog is used to select which services you wish to start at boot time.

DrakX will list all services available on the current installation. Review each of them carefully and uncheck those which aren't needed at boot time.

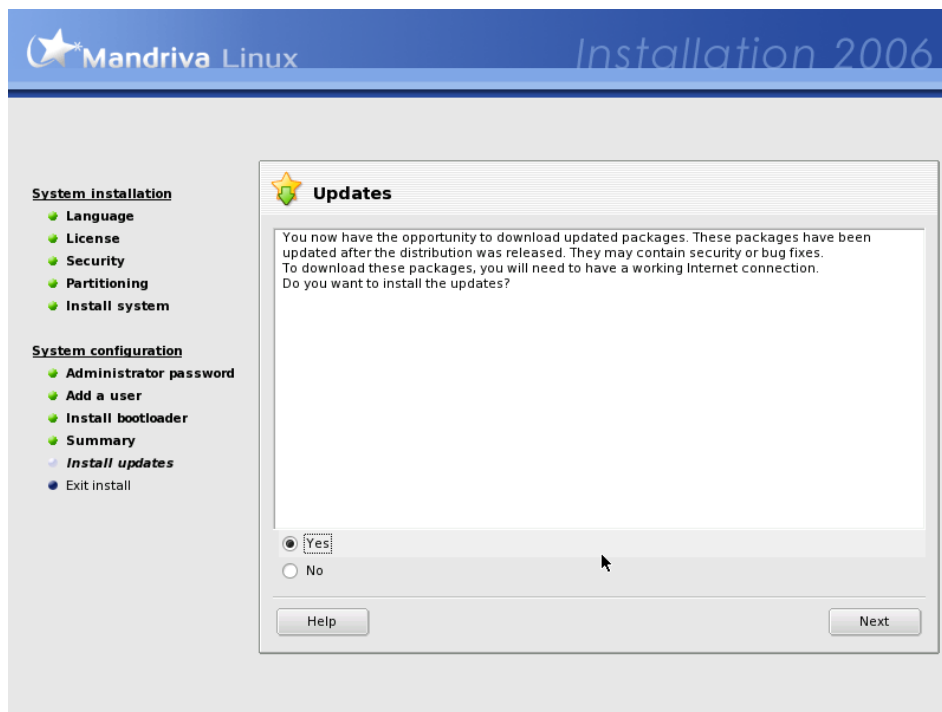


A short explanatory text will be displayed about a service when it is selected. However, if you're not sure whether a service is useful or not, it is safer to leave the default setting.



At this stage, be very careful if you intend to use your machine as a server: you probably don't want to start any services which you don't need. Please remember that some services can be dangerous if they're enabled on a server. In general, select only those services you **really** need.

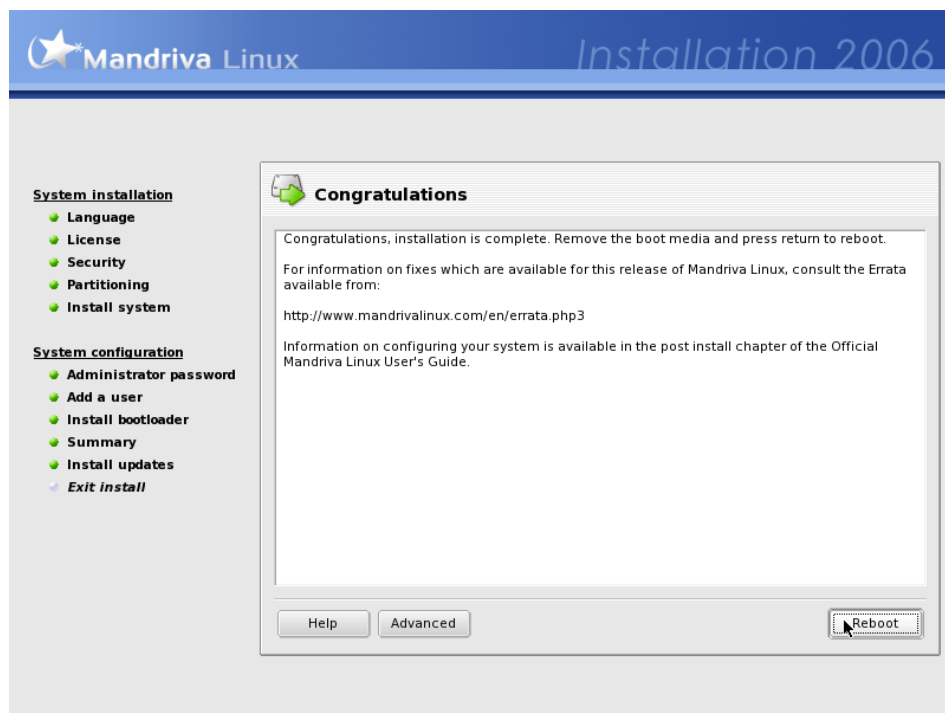
3.12. Installing Updates from the Internet



By the time you install Mandriva Linux, it's likely that some packages have been updated since the initial release. Bugs may have been fixed, security issues resolved, etc. To benefit from these updates select Yes if you have a working Internet connection, or No if you prefer to install updated packages later.

Choosing Yes displays a list of web locations from which you can retrieve updates. You should choose one near to you. Review the packages from the tree selection, and press Install to retrieve and install the selected packages.

3.13. It's Done!



There you are. The installation is now complete and your GNU/Linux system is ready to be used. Just click on Reboot to restart the system. Remember to remove the installation media (CD-ROM or floppy). The first thing you should see after your computer has finished doing its hardware tests is the bootloader menu, which allows you to choose between the OSes your system can boot.

3.13.1. Advanced Options

The Advanced button shows more buttons to:

1. Generate auto-install floppy: enables you to create an installation floppy disk which automatically performs a whole installation, similar to the one just finished, without the help of an operator.

Note that different options are available after clicking on that button:

- Replay. This is a partially automated installation. The partitioning step is the only interactive procedure.
- Automated. Fully automated installation: **the hard disk is completely rewritten, all data is lost.**

This feature is very handy when installing on a number of similar machines. See the Auto install (<http://qa.mandriva.com/twiki/bin/view/Main/AutoInstall>) section on our web site for more information.

2. Save package selection¹: saves a list of the packages selected in this installation. The following screen shows you the possible media to use to save the package list onto: you might need to fill some parameters when you click on the Next button.

To use this selection of packages with another installation, perform the installation as usual up to the point of the package selection, and choose to select individual packages, without worrying about the current package selection. Use the floppy icon and select the Load option. Then choose the medium which contains the package list. Finally click OK: the list of packages you loaded will be selected and installed.

¹ You need a FAT-formatted floppy to save on a floppy disk. To create one under GNU/Linux, type `mformat a:` or, as root, `fdformat /dev/fd0` followed by `mkfs.vfat /dev/fd0`.

3.14. How to Uninstall Linux

If for any reason you want to uninstall Mandriva Linux, you can do so. The process of uninstalling Mandriva Linux is done in two steps:



Removing partitions on your hard drive will inevitably result in the loss of all data stored on those partitions. Please make sure you've backed up all of the data you want to keep **before** proceeding.

1. Remove the bootloader, LILO in this example, from the Master Boot Record (MBR). To do so, execute `lilo -U` in a console, as `root`. Doing this will not only uninstall LILO but will also restore the previous master boot record, if any.

If you have a different boot loader, please refer to its documentation to determine how to regenerate the master boot record.

2. Delete all partitions related to Mandriva Linux on your hard drive (usually partitions hosting ext3 file systems and the Swap partition) and — optionally — replace them with a single partition using `fdisk`.
 - a. Log out from your current session and log back in as `root`.
 - b. Open a terminal window and run `fdisk /dev/hda` (if the hard disk containing Mandriva Linux is other than the 1st IDE disk, change `/dev/hda` accordingly).
 - c. Use the **p** command to display partition information, and then use the **d** command to delete all unneeded partitions.
 - d. If you want to create a single partition, use the **c** command, specify **1** as the partition number, make it use the whole space available, and when asked for the partition type use the **L** command to list the supported partition types and choose the right one for the OS you plan to install later. Some examples: **c** for a FAT32 (Windows® 9x) partition, **7** for a NTFS (Windows® NT/Windows® 2000/XP) partition, **83** for a GNU/Linux partition. Finally use the **w** command to write changes back to disk.

Once this is done, just reset or shutdown the machine “the hard way”.

Chapter 4. Your New Graphical Environment

In this chapter we quickly discuss the KDE graphical environment. We explain what your desktop's icons signify, how to configure your desktop background, your panel and other aspects linked to the user interface.

4.1. Exploring the Desktop



Figure 4-1. The KDE Desktop

On your desktop's background sit a series of icons which give you access to your personal and system files. Here's a quick overview:

Icon	Meaning
	Home. Gives you access to your personal files through a file manager.
	Media. Allows you to access all of your computer's storage media such as hard disks, removable media such as USB external hard disks and USB keys, audio CDs, etc.
	System. Enables you to access the same features as through the Media icon but it also gives you access to network places (such as shared folders on your local network).
	Welcome. Gives you an overview of all Mandriva-related web sites.

Table 4-1. KDE Desktop Icons

4.1.1. Managing Your Files

Organizing and looking for your personal and system files can be done in many ways. Here are two of them.



Click on this icon on your desktop to access your personal files. With this file manager (called Kon-

queror) you can copy, move and delete your files, organize them by topic, and more. From Konqueror's sidebar (located on the left) you can access your audio player (*Audio Applications*, page 41), your bookmarks (*Browsing the Web*, page 34), your browser's history, the root folder (which contains the system and configuration files), as well as services (your printing system, your external storage media, etc.).



This utility sits at the bottom right of your panel and is used to look for files on your system. Right-click on it and click on Configure Kat.

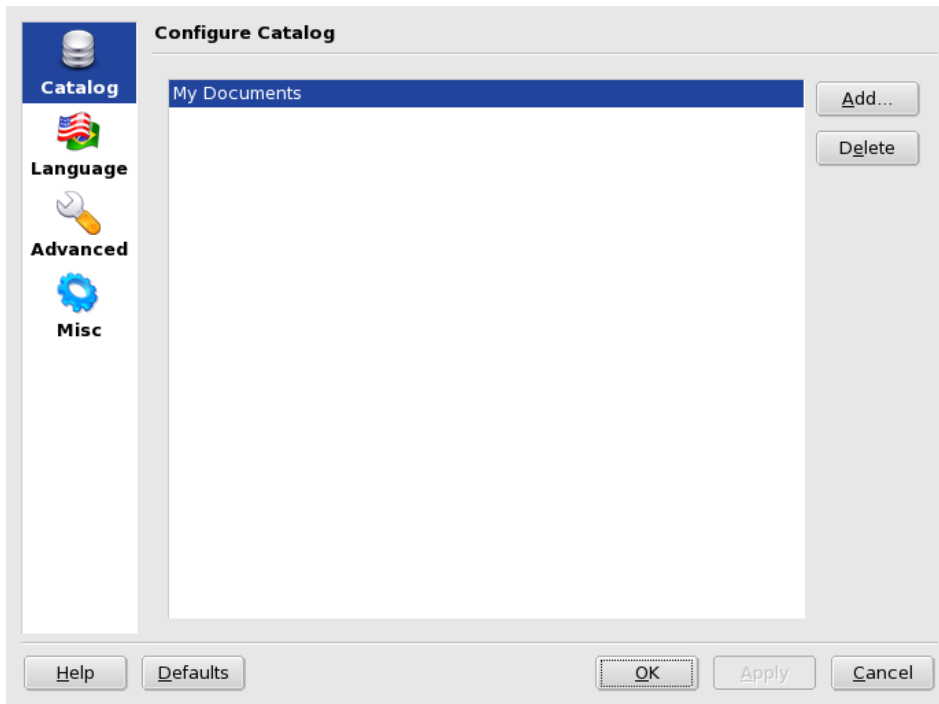


Figure 4-2. Kat Configure Dialog

Click on Add to configure a folder in which Kat will look and index all files. Typically you would choose your `/home/user_name` folder to index all your personal files. Once this is done click on the Ok button to start indexing. Click on the Kat icon to check its status.



Bear in mind that if you have a lot of files, this operation can take a very, very long time.

4.1.2. Configuring your Background

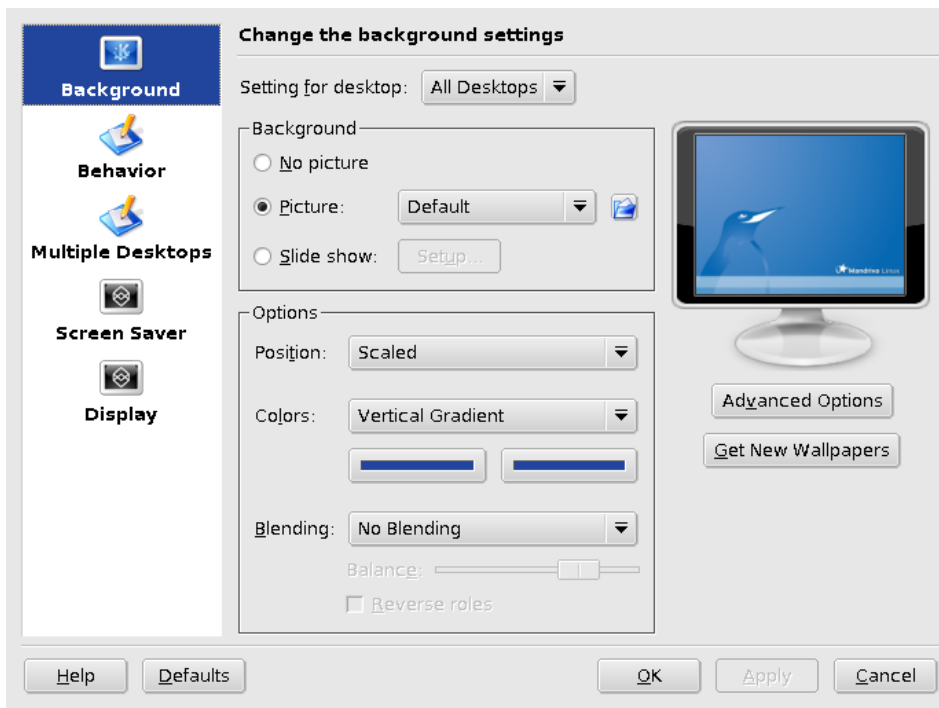


Figure 4-3. Changing the Background Settings



Right click on an empty space in the desktop and select the Configure Desktop item. You can personalize your background by opening the file dialog.

4.2. Personalizing the Panel

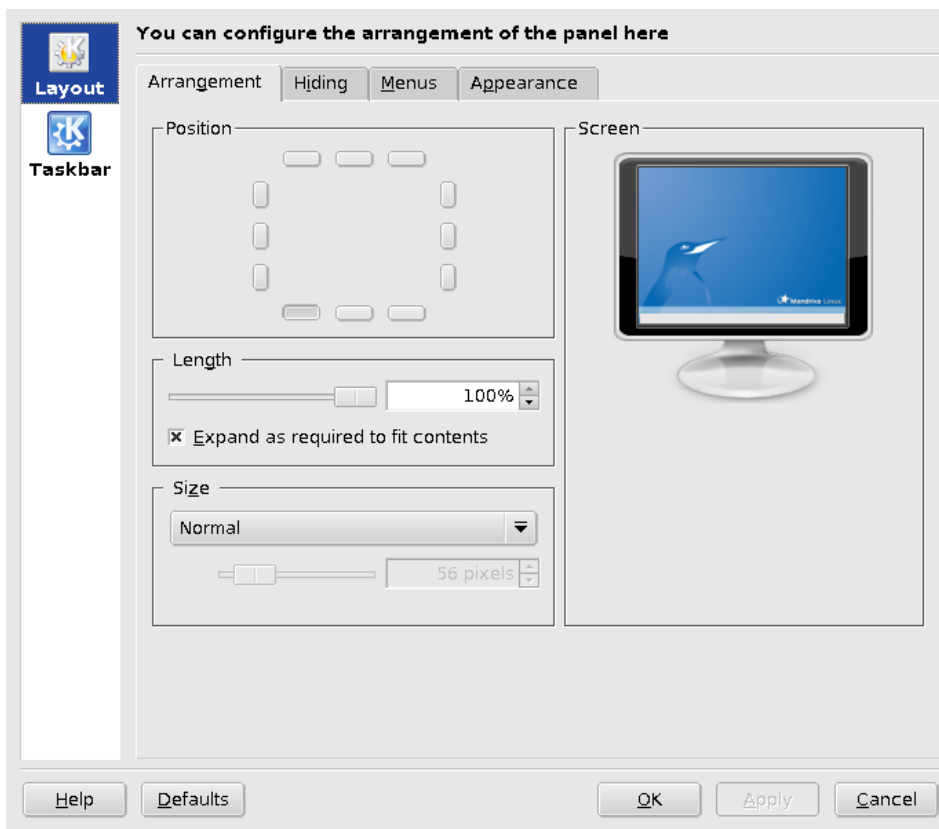


Figure 4-4. Configuring the Panel

The Panel sits at the bottom of your screen and allows you to access all the software installed on your system. Access the Panel Menu→Configure Panel item by right-clicking on the panel to configure it to your liking (add or remove buttons, change colors, add a sidebar, etc. see figure 4-4).

4.2.1. Using Virtual Desktops



These allow you to organize your applications coherently. For instance you could place all your web-related software on one desktop, while placing your word processor and your spreadsheet on another. Right-click on the virtual desktops to configure them. Remember to check out the Behavior section to personalize file and device icons, the Multiple Desktops section to organize your virtual workspaces, and set up your Screen Saver. The Display section enables you to change your screen's resolution, your refresh rate, and more.

4.3. Fully Customizing your Desktop

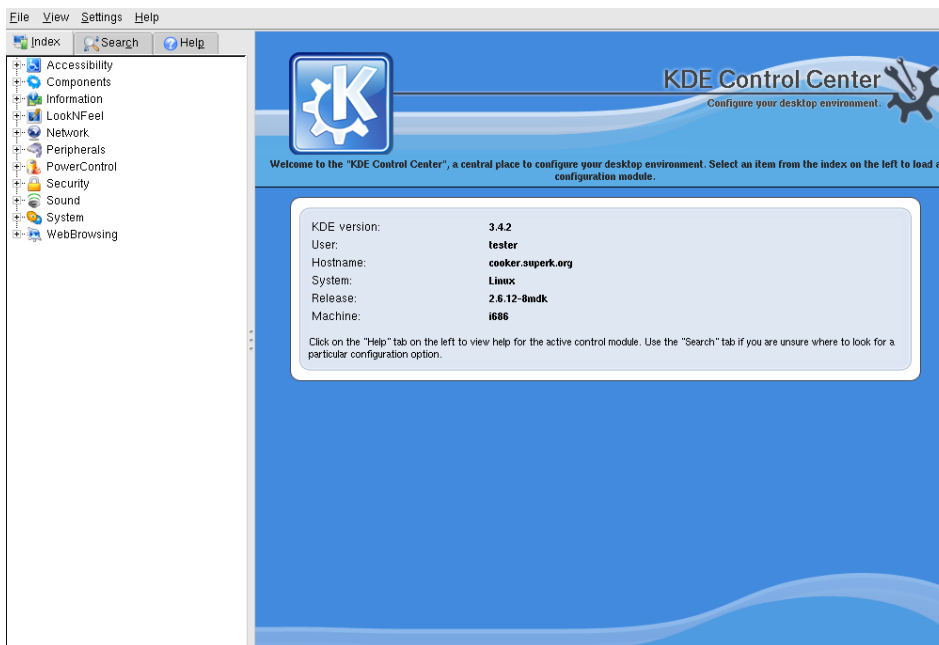


Figure 4-5. The KDE Control Center



Access the KDE Control Center to continue customizing your desktop (Main Menu+Administer Your System+Configure Your Desktop).

4.3.1. Look'n'Feel

Make an artist of yourself and explore this section to make your desktop reflect your personality: choose between many window decorations, styles and colors to suit your tastes.

4.3.2. Peripherals

Fine-tune your mouse, keyboard, and printer through this section. Set the keyboard repeating rate and delay, set your mouse for a lefty, add a digital camera, and more.

4.3.3. Sound

Set your preferences sound-wise. Determine your CD device, set real-time priority, adjust system alerts: everything's there!

4.3.4. System

This section enables you to configure many different elements such as your CD burner's options, change your login manager or your user password, customize your window theme and behavior, and set up your desktop search tool to find files and folders.

4.4. Logging Out



Logging out of the system means to stop using its resources. Here are two ways to log out properly:

- access the main menu and click on Log Out; or
- right-click on your desktop and choose Log out "your_login".

Finally click on End Current Session. At this point you also have options to close (Turn Off Computer) or reboot (Restart Computer) your computer.

Chapter 5. Internet Applications

5.1. Writing E-mails and Reading News

The KMail mailer is integrated into a groupware client named Kontact which also contains the Akregator RSS news reader. This chapter describes how to configure and use both of these applications to compose, read and organize your e-mail messages, as well as your news feeds.

5.1.1. KMail

Launch KMail by choosing Surf the Internet→Read and Send E-mail from the main menu.

5.1.1.1. Configuring KMail



Figure 5-1. KMail's Startup Interface

The first time you run KMail, Kontact's main window appears and the Mail section is selected. Access the configuration window through the Settings→Configure KMail menu. First of all, you must define an identity¹ under the Identities category. Click on the Modify button and fill in Your name, Organization and E-mail address. Use the Cryptography, Advanced and Signature tabs to set up other parameters such as different "Reply-To" addresses, a GPG key to send messages securely, and so on. Click on OK and Apply to define your default identity.

Now configure the mail servers in the Accounts section. Click on Add in the Receiving tab, select POP3 as the account type².

1. It is useful to create a different identity for each e-mail address you might have (work and private, for instance).

2. We use POP3 in our example since most ISPs provide POP3 accounts to retrieve mail. If you have another account type, such as an IMAP (Internet Mail Access Protocol) one, the configuration differs slightly.

Account Type: POP Account

General Extras

Account Name: PeterPingusWorkMail

Login: peter

Password: *****

Host: pop.pingusland.net

Port: 110

☒ Store POP password

☐ Leave fetched messages on the server

☒ Include in manual mail check

☐ Filter messages if they are greater than 50000 byte

☐ Enable interval mail checking

Check interval: 1 min

Destination folder: inbox

Pre-command:

Help OK Cancel

Figure 5-2. Configuring a POP3 Mail Account

Complete the Name field with a meaningful one for this account and the Host field with your POP3 server's name or IP address. Type in the e-mail user name and password which your ISP provided you with in the Login and Password fields. Check the Store POP Password option to avoid having to type your password each time you want to retrieve messages (see figure 5-2)³. If you use many computers to access your e-mail with a POP3 account, you should check the Leave fetched messages on the server option which allows you to access the messages you already downloaded from another computer. Click on OK to add the account.



If you have a permanent network connection (such as DSL or cable-modem) activate the Enable interval mail checking option which tells KMail to fetch messages periodically.

3. However please understand that this means anyone can actually access your e-mails if they are using your user account.



Figure 5-3. Setting the Outgoing Mail Server

In the Sending tab click on Add, and select SMTP as the transport type. Fill the Name field with a meaningful name for this server and the Host field with the SMTP server’s name or IP address (see figure 5-3).



For security reasons, the outgoing mail server you use may need authentication. If this is the case, check the Server requires authentication box and complete the login and password provided by your ISP or network administrator.

5.1.1.2. KMail’s Interface

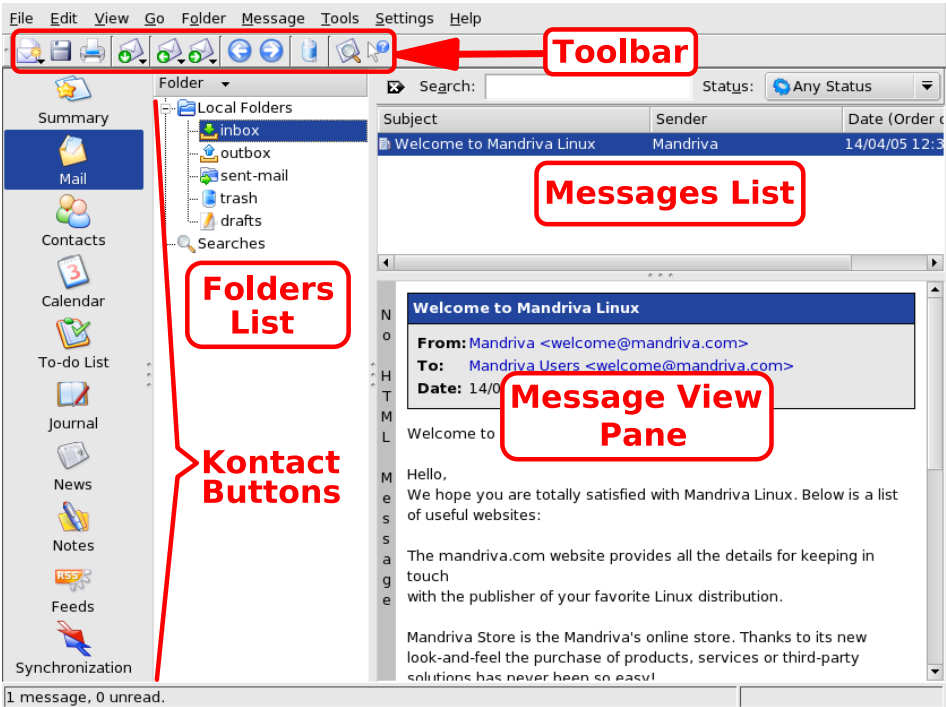


Figure 5-4. KMail Client Interface

Toolbar. Where the main action buttons lie. See table 5-1.

Messages List. Where information (subject, date, sender, etc.) about messages stored in the currently selected folder is displayed.

Message View Pane. Where the currently selected message's contents are displayed.

Folders List. Where all folders are listed. The default folders are `inbox` (incoming messages), `outbox` (unsent templates), `sent-mail` (already sent messages), `trash` (deleted messages) and `drafts` (draft messages).

Contact Buttons. On the left of the interface are buttons to access Kontact's components such as RSS Feeds (see *Akregator*, page 33).

The following table shows the most important buttons available in KMail's toolbar, their equivalent keyboard shortcuts and a brief explanation of the functions they provide.






Button	Keyboard Shortcut	Function
	Ctrl-N	Compose a New Message.
	Ctrl-L	Get new messages for all defined e-mail accounts. Keep this button pressed to display a list of all defined accounts; select the one you want to get mail from in order to retrieve messages only for that account.
	R	Reply to the author of the selected message. A message-compose window pops up with some fields already set.
	F	Forward (send to a third party) the selected message.
	Del	Delete the selected messages. Deleted messages are moved to the <code>Trash</code> folder. You can recover messages moved to the <code>trash</code> folder, but deletion from the <code>Trash</code> folder cannot be undone: be careful!

Table 5-1. KMail's Toolbar Buttons



Some of those buttons have a little black arrow at the bottom right corner. An additional menu with related actions can be displayed by pressing the mouse button a little longer.

5.1.1.3. Composing a Message

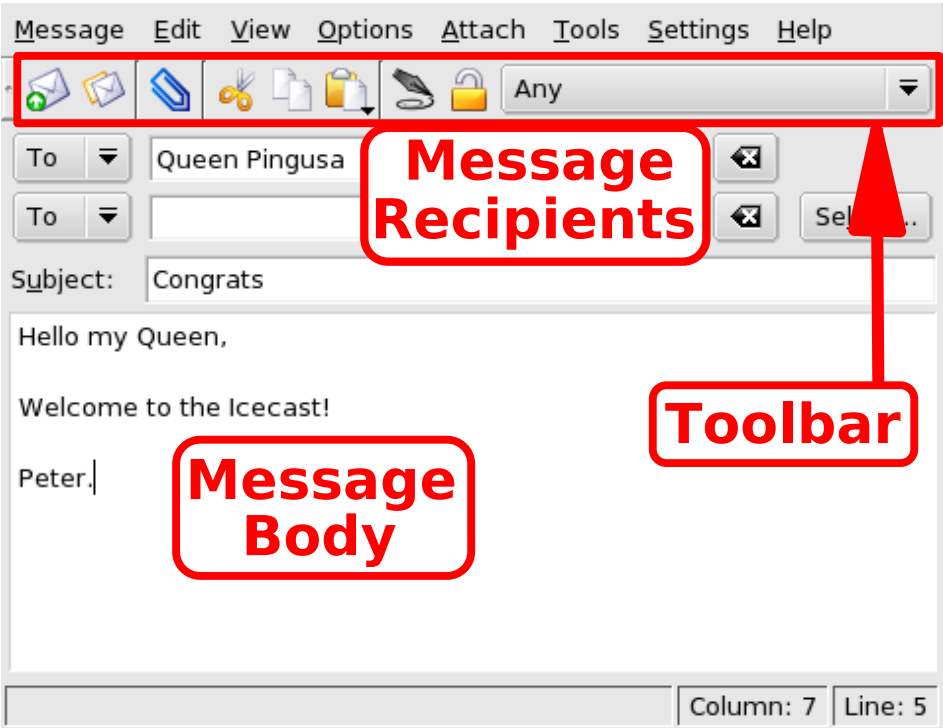


Figure 5-5. The Message-Compose Window

Toolbar. This is where the main composition buttons reside. See table 5-2

Message Body. The area where you will type the content of your message.

Message Recipients. The list of all recipients of this message. By default, the following options are shown:

- **To:** the “principal” intended recipient of this message.
- **CC (Carbon Copy):** not-hidden “secondary” intended recipient(s) of this message. All recipients will have access to the mail addresses to which this message is sent.
- **BCC (Blind Carbon Copy):** these recipients are also “secondary” but are hidden from the other recipients of this message. No recipients of the message will have access to the other mail addresses to which this message was sent.

The following table shows the buttons which are mostly used in the message-composition window, their equivalent keyboard shortcuts and a brief explanation of the functions they provide.




Button	Keyboard Shortcut	Function
	Ctrl-Enter	Sends the message immediately (your network connection must be active). A copy of the message will be kept in the <code>sent-mail</code> folder.
		Queue the message. The message will be saved in the <code>outbox</code> folder and will be sent the next time you request mail to be sent (File→Send Queued Messages).
		Attach a file to the message. This function is also accessible through the Attach→Attach File menu. A standard file dialog will pop up. Select the file you want to attach and click on Attach. Repeat for multiple files.

Table 5-2. Message-Composition Toolbar Buttons

5.1.2. Akregator

Akregator is a feed reader or aggregator which can check on RSS-enabled web sites for the latest headlines or articles. RSS is typically used on blogs, personal web sites but also on major media sites such as those from the BBC and Reuters.

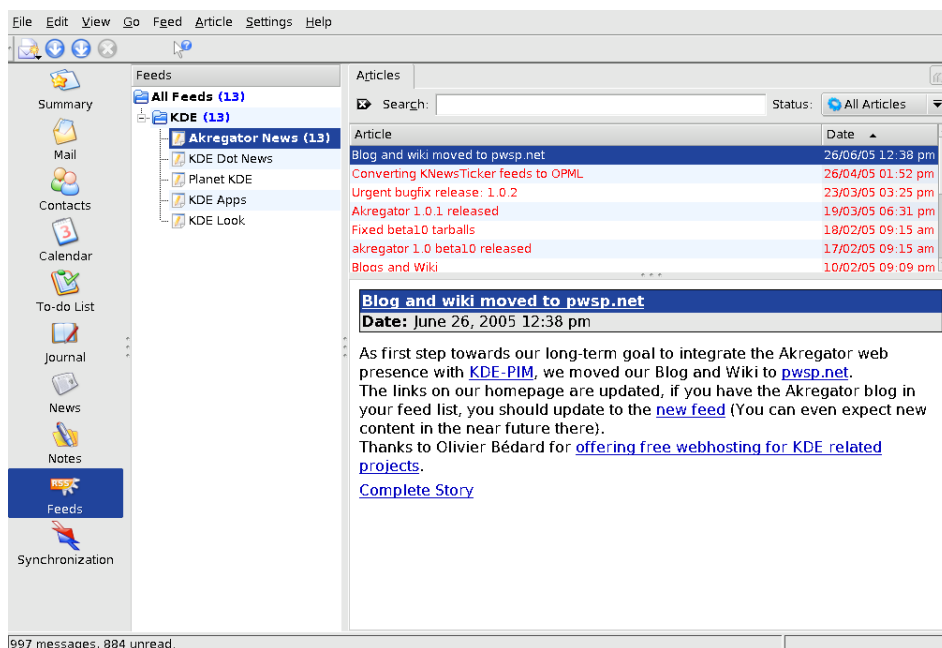


Figure 5-6. Akregator's Interface

Find a syndicated site⁴ and save the feed's URL by right-clicking on it. Then right-click on the All Feeds folder at the top of Akregator's tree structure. Paste the URL by clicking on your middle mouse button in the Feed URL field and click OK.

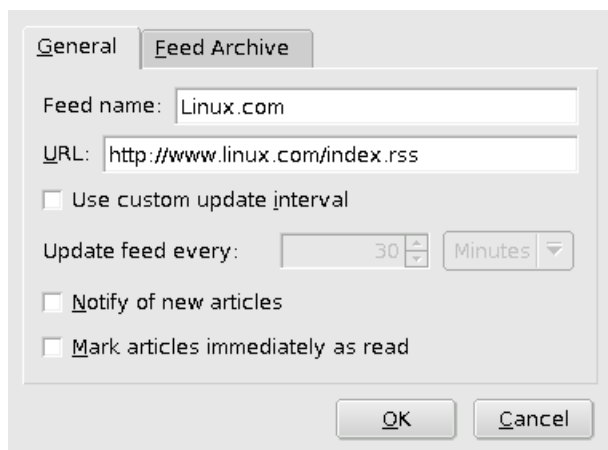


Figure 5-7. Adding a Feed

Right-click on a feed and select Fetch Feed to retrieve all of its articles. The right side of Akregator's window allows you to see all of your feed's article titles. Click on a title and then on the Complete Story link to read that story in a new tab.

4. A site which offers RSS feeds.

5.2. Browsing the Web

5.2.1. Konqueror's Web Browser Interface

You can launch the Konqueror web browser by selecting Surf the Internet→Browse the Web from the main menu. Then type in an URL in the Location bar.

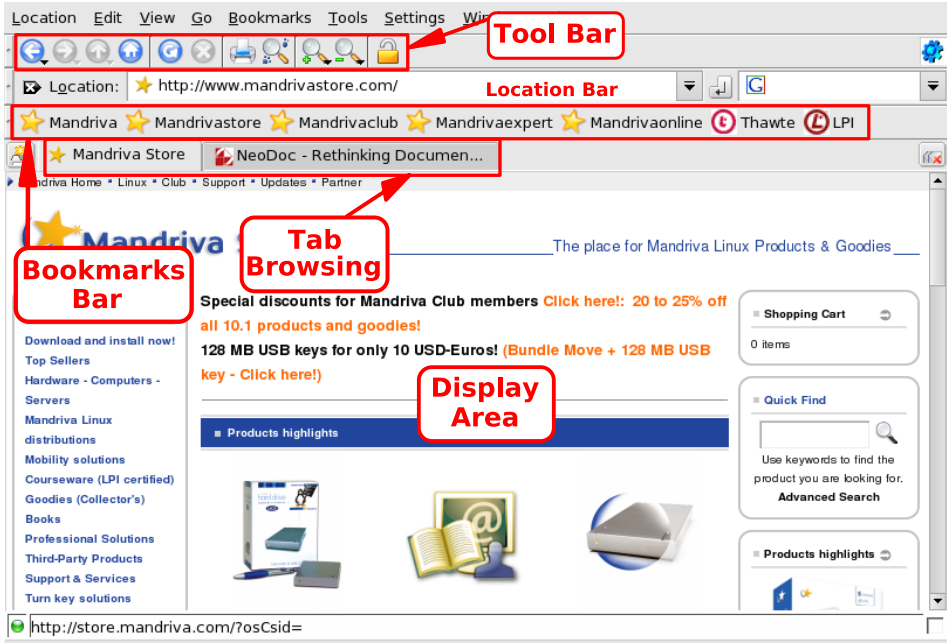


Figure 5-8. Konqueror Web Browser

Tool Bar. Contains all buttons used to navigate and perform common actions (see *Surfing the Web*, page 35).

Location Bar. Where you enter a site's URL (or a local file using `file://` as the protocol part of the URL).




Bookmarks Bar. Contains buttons which give you quick access to your favorite sites.

Tabs Browsing. Allows you to open many sites in the same window instead of opening new windows, which makes browsing much simpler.

Display Area. Where the contents of the web sites and local files you browse are displayed.

5.2.2. Surfing the Web

The following table summarizes the most commonly used navigation buttons Konqueror's web browser provides.

Button	Keyboard Shortcut	Function
	Alt-left_arrow	Go back. Returns to the page you visited before the current one. Keep this button pressed to display the list of all URLs you can access.
	Alt-right_arrow	Go forward. Returns to the page you visited after the current one. The same back-button considerations apply.
	F5	Reload. Refreshes the current page. By default, Konqueror first looks in the browser's cache (on-disk temporary storage space) and uses the local copy. Press the Shift key while clicking on the reload button to force Konqueror to fetch the page from the Internet.


Button	Keyboard Shortcut	Function
	Esc	Stop. Aborts the transfer of the currently requested object and cancels the page-loading operation.

Table 5-3. Konqueror's Tool Bar Buttons

5.2.3. Managing Bookmarks

Bookmarks store the URLs of your favorite sites. Press **Ctrl-B** and click on Add to bookmark a site. Use the Bookmarks Editor (Bookmarks→Edit Bookmarks) to classify your bookmarks. (see figure 5-9).

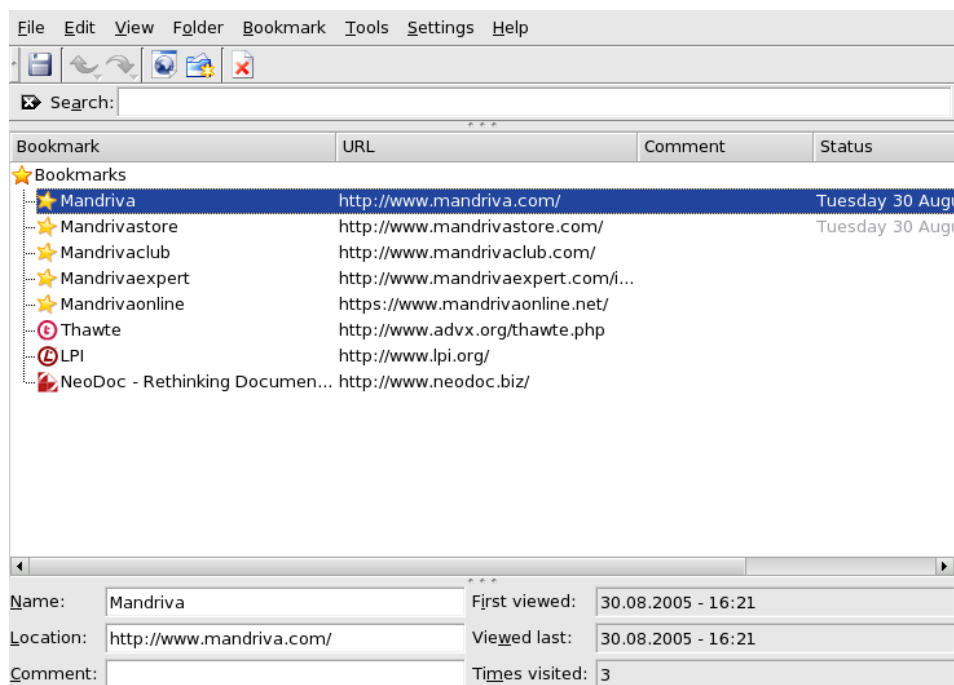


Figure 5-9. Editing Bookmarks

Your bookmarks can be exported (File→Export) and imported (File→Import) to and from different formats, allowing you to never lose a single bookmark.



Both export and import file dialogs are “intelligent”, meaning that they start from the current directory and show the file types which best fit the menu entry you selected.



Click on this button to store bookmarks (or **Ctrl-S**).

5.2.4. Tabbed Browsing



Konqueror's browser allows you to browse many web pages at a time by using **tabbed browsing** (see figure 5-8).



Creates and opens a new tab (**Ctrl-Shift-N**).



Closes the currently displayed tab (**Ctrl-W**).

5.2.5. Konqueror Web Browser and Plugins

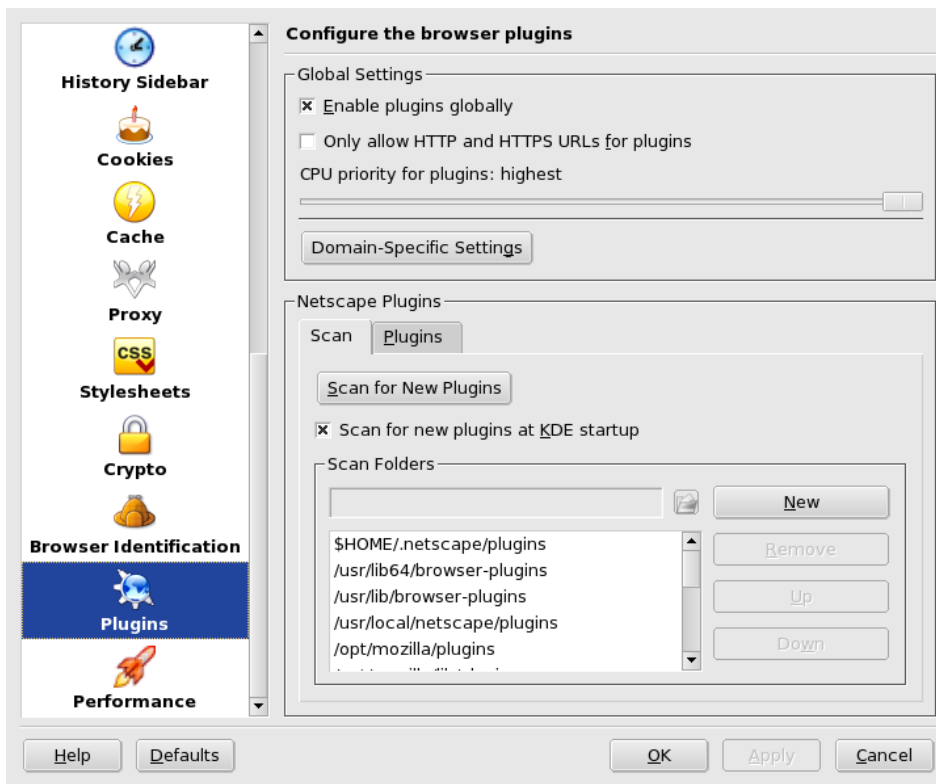


Figure 5-10. Plugins Settings

Plugins let your browser handle content other than HTML and graphics, such as animations, streaming audio, Java applets, and more. Select Settings→Configure Konqueror and open the Plugins section to set the plugins preferences (see figure 5-10).

After you (optionally) downloaded and installed some plugins (such as Flash®), click on Scan for New Plugins for Konqueror to recognize and set up the installed plugins: all directories listed in the Scan Folders list will be searched.

5.3. Instant Messaging



Kopete is a very complete instant messaging (IM) client. With it, you can chat with people using many protocols, such as AIM/ICQ, MSN, Yahoo!, etc.

Access the Surf the Internet→Chat menu to launch Kopete. The first time you launch Kopete, the configuration dialog shows up. You can also open it by going to the Settings→Configure Kopete menu to add an account.



Figure 5-11. Adding an Account

First select the protocol associated to your account (Jabber, MSN, Yahoo!, ICQ, etc.) Then enter your user name, review the protocol's options, and click on Next and Finish. You are connected with the protocol you've chosen and your contacts appear in the main window. Click on your protocol's logo (bottom right of the window) to control the connection and presence status.

5.3.1. Sending Instant Messages

Double-click on the name of one of your contacts to initiate a conversation.

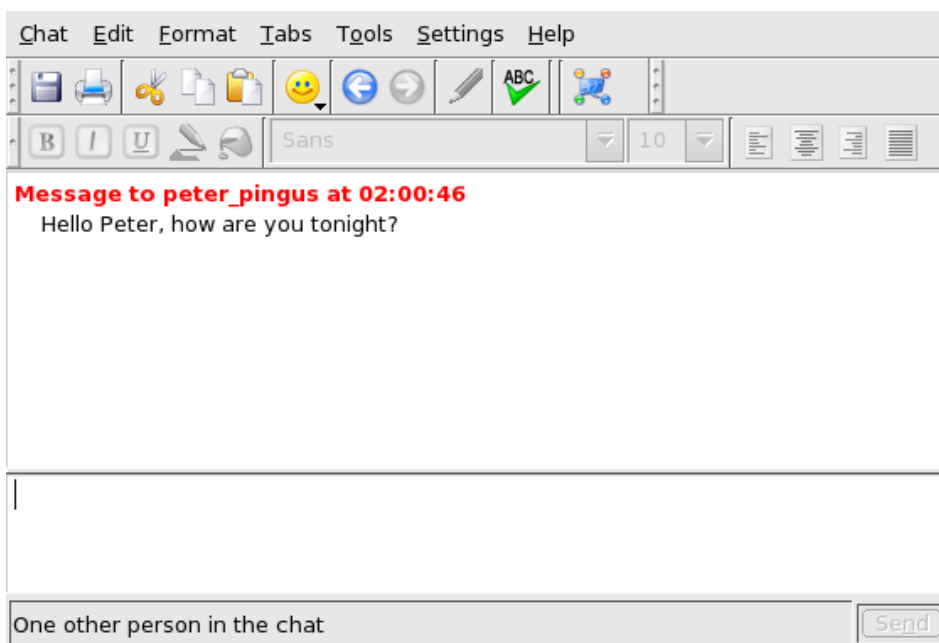


Figure 5-12. Chatting with a Friend

Use the different icons to add smileys, change the font, align your text, etc. Access the Chat+Invite→<Friend's Name> menu to invite another friend to your conversation which creates a "chatroom".

5.3.2. Sending Files and Email

From Kopete's main window right-click on your contact's name and then click on Other Actions→Send File.

Use the same method to send an e-mail. If you use the MSN protocol a browser window appears and connects you to Hotmail where you can write your e-mail.

5.3.3. Setting Up Plugins

Access the Settings→Configure Plugins menu. Here's a selection of the most interesting ones. Bear in mind that some of those plugins are somewhat immature and might not behave like you expect:

Bookmarks. Allows you to bookmark sites sent by your friends, either by contact or as a unique file.

Highlight. Enables you to filter certain words or expressions and to highlight them: background or foreground color, sound, etc.

History. Keeps a log file of all the messages you exchange with your contacts. They are stored in the `/home/username/.kde/share/apps/kopete/logs/[*]Protocol` folder.

Netmeeting. Allows you to use voice and video transmission with MSN Messenger clients through GnomeMeeting (see *Webcams and Video Conferencing*, page 52).

Chapter 6. Audio, Movie and Video Applications

6.1. Audio Applications

6.1.1. amaroK Audio Player

amaroK is “the” multimedia application to use to listen to your favorite music. You can organize your music in collections, get information about recordings such as artist, lyrics, album covers, and more.

In this section we go through its essential features. Choose Enjoy Music and Video→Listen to Music Files from the main menu to launch amaroK.

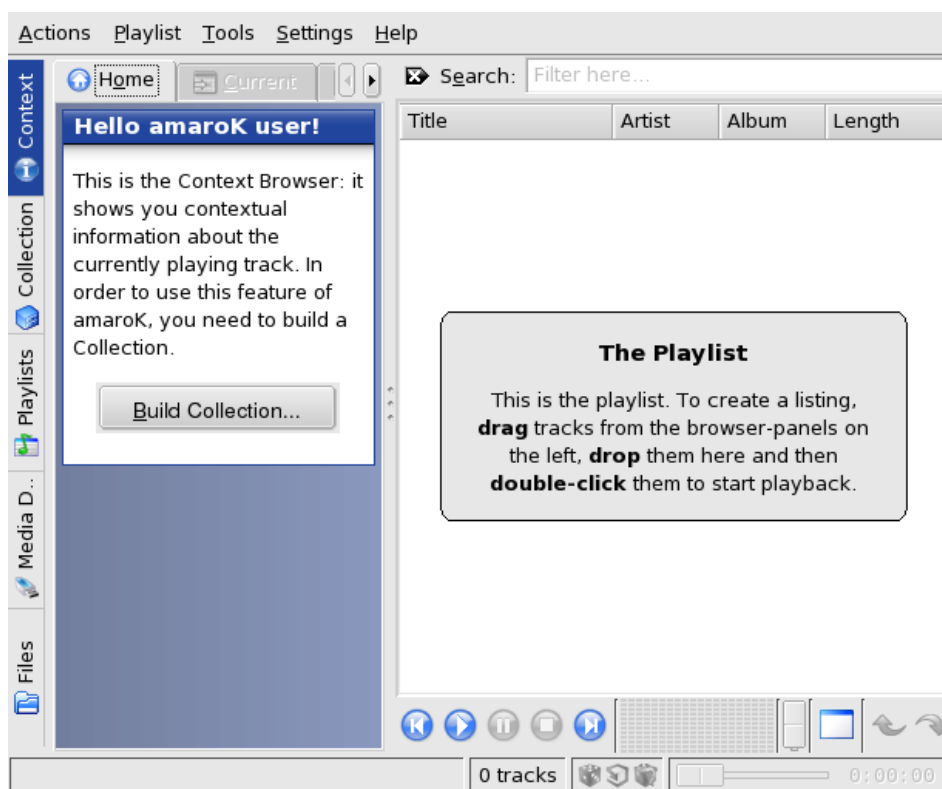


Figure 6-1. amaroK's Main Window



Once amaroK is launched this icon appears on the panel. Right click on it to access its options.



Click on the Build Collection button to configure a collection, check all folders you want amaroK to look for music files and click Ok to start building the collection.

Choose Settings+Configure amaroK→Collection from the menu to add more folders to your collection. Then choose Tools→Rescan Collection from the menu to update the collection.



If you added files from removable devices (such as a USB key or an external hard drive), make sure they are mounted at the same location as when you originally added them to your collection or amaroK won't be able to find the files they contain.



Click on this tab to access all your playlists. If you don't have any you can listen to the Cool-Streams, which is a collection of online radio broadcasts. To build a playlist, simply drag tunes into the playlist then select Playlist→Save Playlist As and give it a name.



Click on the Media Device Browser tab to transfer songs to your portable audio device, such as an iPod.



Finally this icon allows you to access you local file system. You can use it as an alternative to amaroK's Collection.

6.1.1.1. Burning Tracks with K3b from amaroK

Right-click on songs or music folders and access the Burn contextual menu item (it's slightly different whether you choose to burn an entire album or a single song). You can burn in two formats: the "data" format means you'll be able to listen to the songs on your computer and your MP3 CD player, for example, while the "audio" format also permits you to listen to the music through a traditional CD player.

6.1.2. KsCD CD Player

When you insert an audio CD in your CD drive the KsCD player starts up.

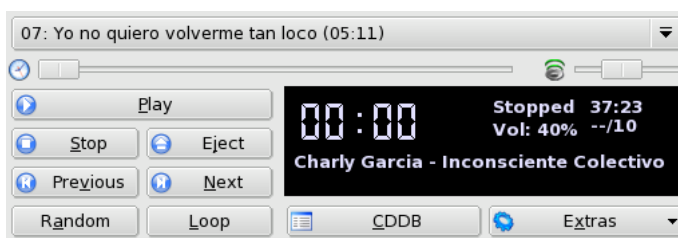


Figure 6-2. KsCD's Main Window

On the left you have the typical CD player controls: Play/Pause, Stop, Eject, etc. The ones below alter the playing order. Then, there are buttons to give you information on the disk you are listening to and to access more advanced configuration options.

6.1.3. Using the KMix Mixer

KMix is a sound card mixer application under KDE. It allows you to fine-tune your sound cards through various sliders.

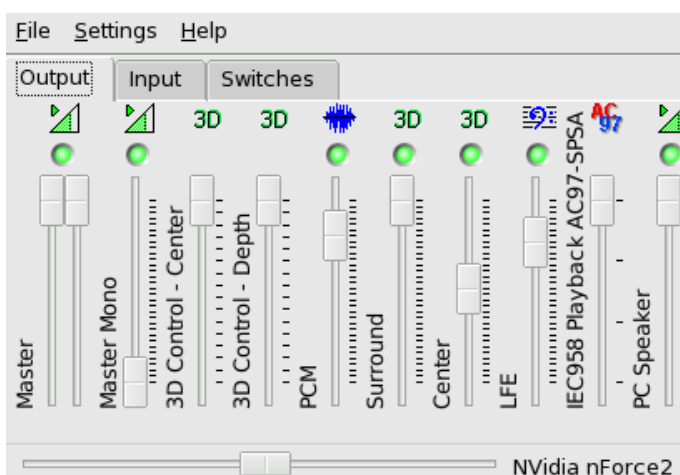


Figure 6-3. KMix Main Window

The Output tab controls the volume levels of the sound sources of your sound card. The most important one is the Master which controls the general volume. By right-clicking on each slider you have extra options such as Split Channels, Muted Hide, etc. Clicking on the green dot at the top of a column will mute/unmute that sound source.



Clicking on this icon pops up a slider which lets you control the master volume, as well as to mute all sound and to launch the full mixer window.

The Input tab controls the volume levels of the recording sources of your sound card. If you use videoconferencing software or are a musician, this is where you'll want to adjust your microphone and your auxiliary devices. Clicking on the green dot at the top of a column will mute/unmute that recording source, the red dot at the bottom enables or disables it.

The Switches tab goes deeper into your sound card's configuration. Boosting your microphone, using an external amplifier: these features are for advanced users who wish to **really** master their sound system. To activate them, simply click on the dot at the top of each column.

Finally the horizontal slider enables you to balance your sound between the left and right speakers. Notice that if your sound card supports separate levels for master's right and left, the Output's Master controllers will be modified following the movement of the horizontal balance slider.

6.2. CD Burning

In this section we discuss using K3b to perform common CD burning operations. K3b also supports DVD recording, but we concentrate only on CD recording in this section. You only need to install the k3b-dvd package. DVD recording is very similar to its CD counterpart.



Copyrighted Material. Please note that data, audio, video CD or DVD copying is often forbidden by copyright law. The examples provided here are informational only and are not intended to make a CD/DVD pirate out of you. We assume that if you want to duplicate copyrighted material, it's because you have the right to do so.

6.2.1. Getting Started

K3b is automatically configured to give normal users access to the CD burner. However, we highly recommended that these users be part of the `cdwriter` group to minimize burning errors due to system overload. So, go ahead and add those users to the `cdwriter` group. Please refer to the *Managing Users and Groups* section of the *Starter Guide* for information on users and group management.

Choosing Administer Your System→Burn CDs-DVDs from the main menu starts K3b. figure 6-4 shows K3b's interface with a new data project open.

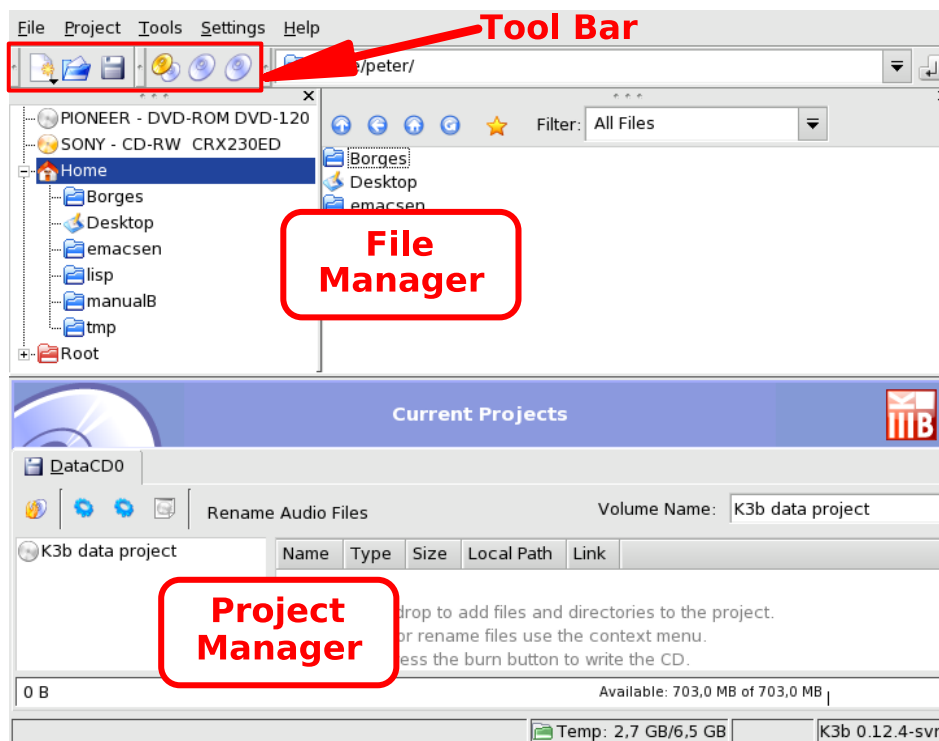


Figure 6-4. K3b's Interface

Tool Bar. Where buttons to perform common actions lie. See table 6-1.




File Manager. To choose which files to include in the burned CD. Use the left-side tree to navigate the file system and drag and drop the files you want to include in the project into the Project Manager.

Project Manager. Where all files which will be on the burned CD are shown and handled. Files can be removed and their location (directory) on the CD can be changed here.

The following table shows the most important buttons available in K3b's tool-bar, their equivalent keyboard shortcuts and a brief explanation of the functions they provide.



Not all buttons are enabled at all times. For example, the Save button is not enabled if there is no active project.

Button	Keyboard Shortcut	Function
		Create a New Project. Once you click on this button a list of available project types are shown: choose New Data CD Project to create a data CD (see <i>Burning Data CDs</i> , page 45) ; choose New Audio CD Project to create an audio CD (see <i>Burning Audio CDs (CDDA)</i> , page 47); choose New Mixed Mode CD Project to create a mixed mode (data+audio) CD; choose New Video CD Project to create a digital compressed video CD; choose New eMovix CD Project to create an eMovix (http://movix.sourceforge.net) CD.
	Ctrl-O	Open an Existing Project. A standard file dialog opens from where you can choose the project you wish to open. Select the project you are interested in and click the OK button.
	Ctrl-S	Save the Current Project. A standard file dialog opens where you can enter the name under which the current project will be saved. Type the name of the project and click the Save button.



Button	Keyboard Shortcut	Function
		Copy a CD. To make an exact copy of a CD. It opens a window which asks for the copy settings. Refer to <i>Duplicating a CD</i> , page 48, for more information. Please note that you cannot duplicate copyrighted DVD movies with this function, as they are encrypted.
		Erase a CD-RW. To erase re-writable media. It opens a window which asks for the erase operation settings. Please refer to <i>Erasing CD-RW media</i> , page 50, for more information.

Table 6-1. K3b's Toolbar Buttons

6.2.2. Burning Data CDs

6.2.2.1. Burning From an ISO Image

Let's presume you have downloaded a CD-ROM image from the Internet and you want to burn it on a CD. Choose Tools→Burn CD Image from K3b's menu. Click the "open file" button to browse for the CD image file and select the file in the standard open file dialog. The CD image is then verified and information about it is displayed (see figure 6-5).

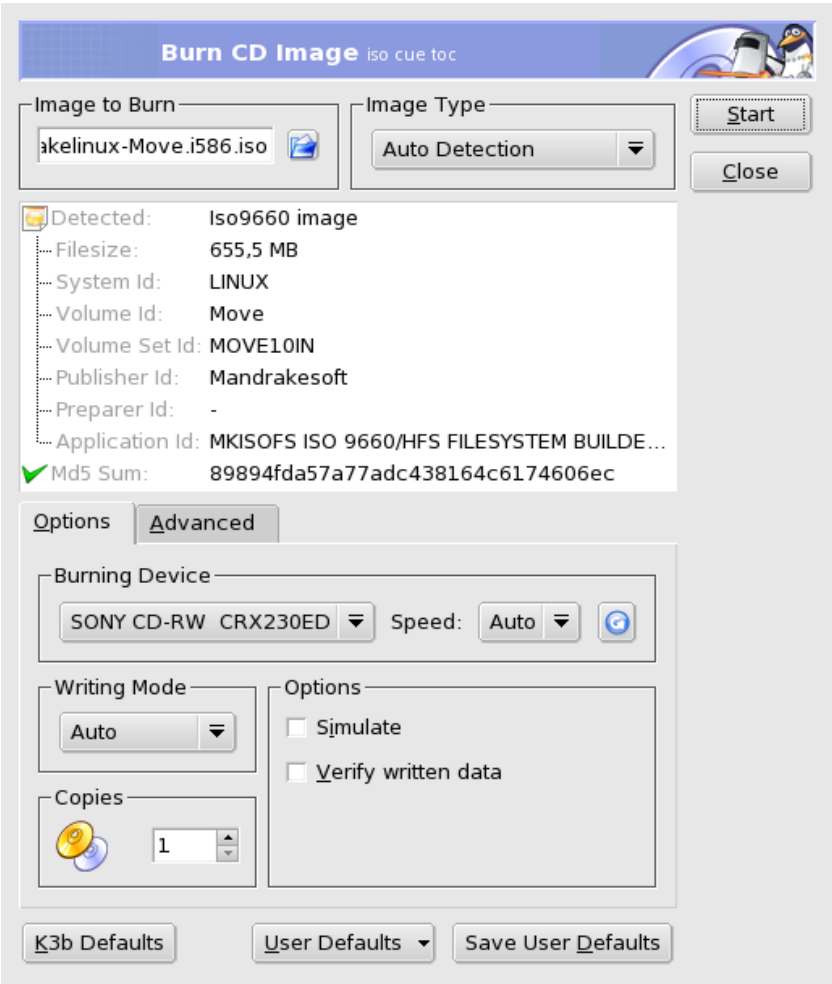


Figure 6-5. Burn CD Image Options

Once the image is verified, you can insert the recordable medium and click on Start to write it to the disc.



If an already written re-writable medium is found in the CD burner, a dialog pops up asking you whether to erase it first. Click Yes and follow subsequent instructions if you want to erase it, or change the medium for a non-written one and click No.



The Speed pull-down list should be set to Auto to make K3b select the fastest possible recording speed supported by the combination of your CD burner and the currently inserted recordable medium. The "slowest" speed between the two limits the maximum recording speed.

6.2.2.2. Burning a Set of Files or Directories

Choose File+New Project→New Data CD Project from K3b's menu . Then drop into the Project Manager the files and directories you want to include on the CD (see figure 6-6).

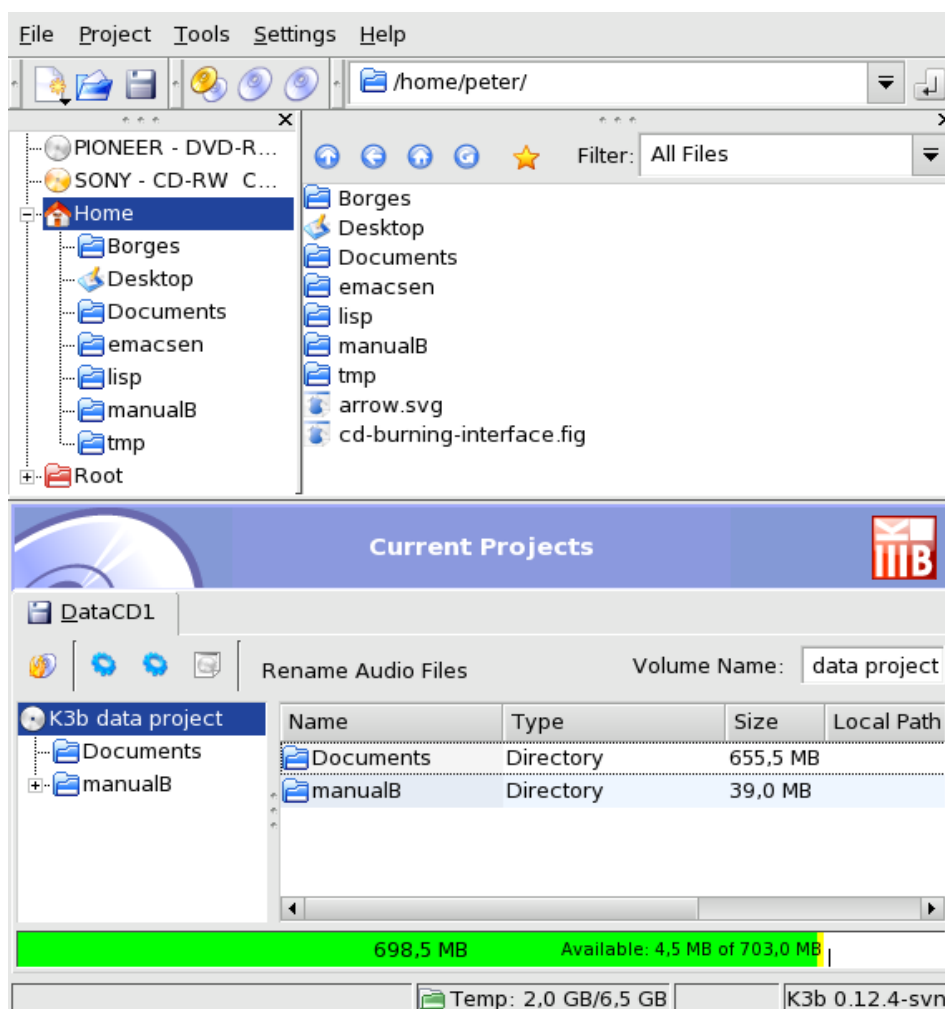


Figure 6-6. Selecting Files and Directories to Include on a CD



Adding directories containing lots of files can take some time. Please be patient and wait until the Adding files to Project PROJECT_NAME message disappears.

The space occupied by the selected files and directories is shown by a color-coded bar at the bottom of the Project Manager, together with the volume expressed in MB and the available MB of the medium's total capacity. The bar's color codes are as follows:

Green

The size of the set is less than that of the selected medium's capacity (700 MB by default). There are no capacity-related problems.

Yellow

The size of the set is nearly equal the selected medium's capacity. If it's a few MB below the medium's capacity, there won't be any capacity-related problems; if it's a few MB above the medium's capacity, the CD might be written without problems, but there's little guarantee of success.

Red

The size of the set exceeds the medium's capacity by many MB. The CD won't be recorded properly.

Right-clicking on any file or directory in the Project Manager pops up a contextual menu with options to remove and rename files, create new (empty) directories, etc. Files and directories can be relocated (change the directory under which you want them to appear) on the CD using drag-and-drop.



Renaming the top element of the left side tree in the Project Manager changes the CD's volume name (K3b data project by default for data CDs).

Choosing the Project→Burn menu entry displays a window where you can select writing parameters (see figure 6-7). Insert a recordable medium in the CD burner and click the Burn button to start writing the CD.

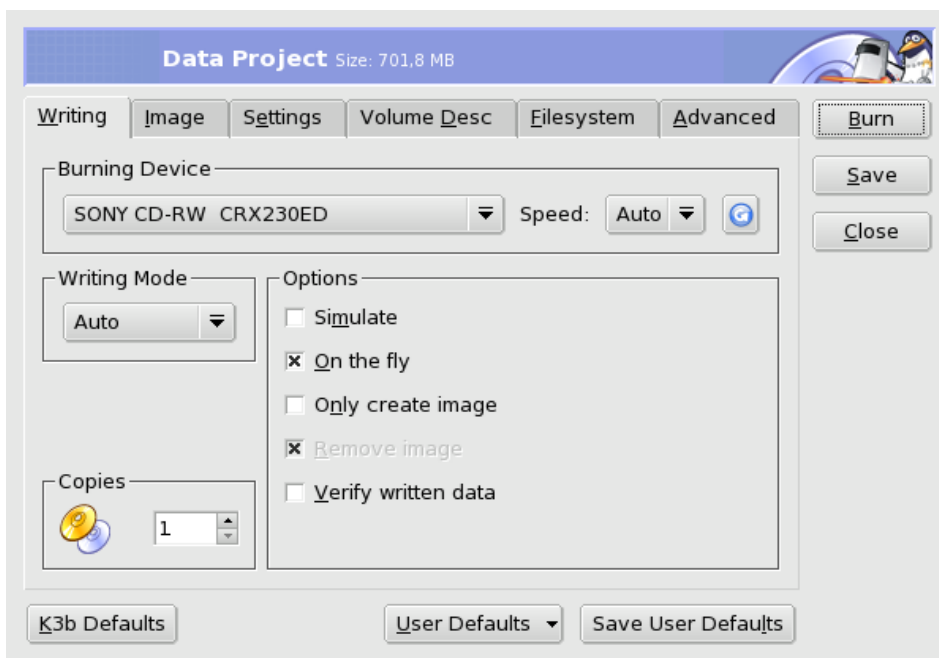


Figure 6-7. Setting Writing Parameters

6.2.3. Burning Audio CDs (CDDA)

By audio CDs, we mean the ones you play in your car or home stereo equipment, not data CDs containing OGG, MP3 or any other digital audio format files.

At the time of writing, K3b supports recording audio CDs from tracks digitized in Wave (*.wav), Ogg Vorbis (*.ogg), and MP3 (*.mp3) formats. You can mix digital audio formats since K3b decompresses the compressed ones on-the-fly. K3b can also create digital audio tracks from audio CDs, also known as "ripping" (see *Audio CD Extraction (Ripping)*, page 49).

Choose File+New Project→New Audio CD Project from K3b's menu. Select K3b's File Manager's filter to Sound Files, navigate to where the digitized audio files are and then drag the audio tracks and drop them in the Project Manager (see figure 6-8).

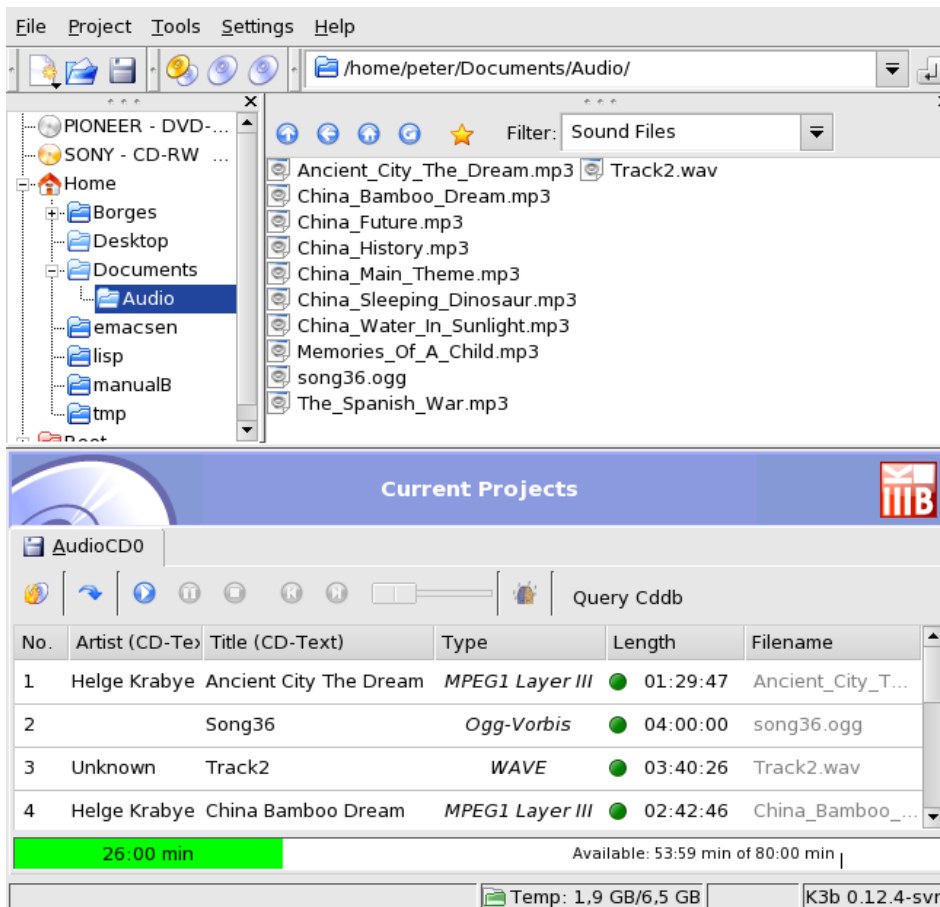


Figure 6-8. Selecting Audio Tracks to Include on the CD

Use drag and drop to move the files up and down the compilation. Once you have the tracks compiled in the order you want in the Project Manager, you can write them to CD.

6.2.4. Duplicating a CD

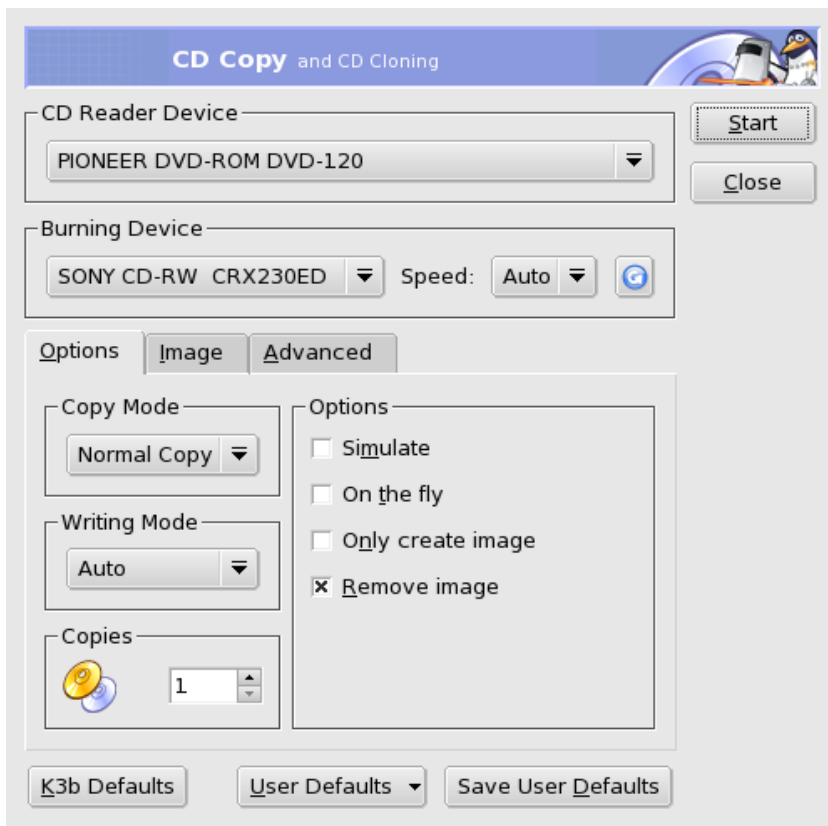


Figure 6-9. Setting Options to Copy a CD

Choose Tools→Copy CD from the menu. Select the number of copies (1 in the example), whether to remove the temporary image or not (yes), the reader and burning devices (automatically set) and click on Start. The “source” CD is then read, an image of it is made and the “target” CD is written.

6.2.5. Audio CD Extraction (Ripping)

Make sure that enough temporary space is available. You can check the available space in K3b’s status bar near the right. Bear in mind that each minute of CD-quality digitized uncompressed audio takes a bit more than 10MB of disk space.



Insert the audio CD to rip tracks from and double click on the drive in the left side of the File Manager. The CD is read and, by default, all tracks are marked to be ripped. Remove the check mark from those you don’t want to rip and click on the gears button to show a dialog to set ripping options (see figure 6-10).

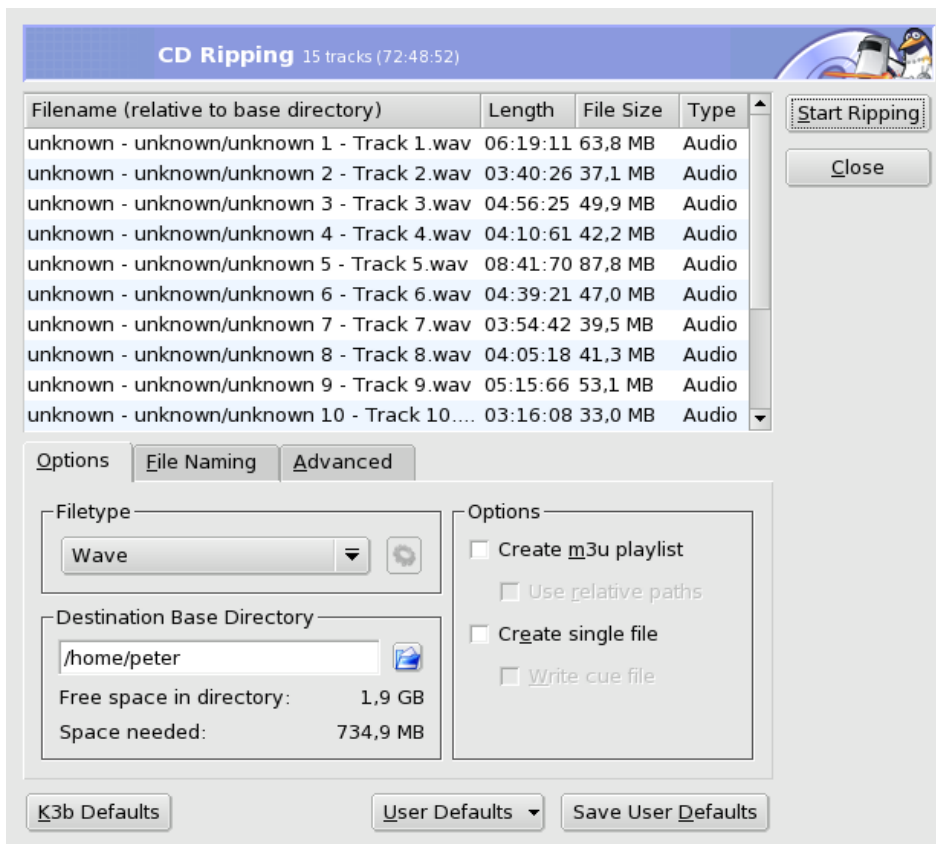


Figure 6-10. CD Ripping Options

Review the different ripping options (especially the file naming ones) and once you're satisfied with your settings click on the Start Ripping button.

6.2.6. Erasing CD-RW media

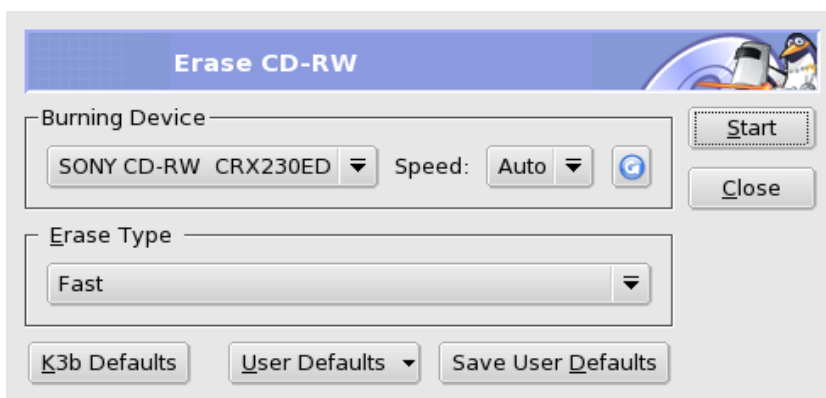


Figure 6-11. Setting CD-RW Blanking Options

You might want to format your CD-RW media in order to write it with different data. To do so, choose Tools→Erase CD-RW from the menu (see figure 6-11). The Erase Type can be set to Fast (the CD-RW is quickly erased in up to 3 minutes); Complete (the CD-RW is completely erased taking up to 90 minutes); and a few options related to multi-session recording are also available. Insert the medium on the CD burner and click the Start button to erase the CD-RW.

6.3. Movie Applications

6.3.1. Introduction

The main problem with video players under GNU/Linux is that most popular video codecs are proprietary, and to implement them in a free software application (mainly due to the cost of licensing), the codecs have to be reverse-engineered. This is very complex and may not be legal in some countries, which limits the availability of such codecs, and thus the type of video files which may be displayed under GNU/Linux.

For example, it's virtually impossible to play some compressed digital video files or DVDs without downloading the corresponding codecs from the Internet.



In some countries, the status of DVD playback and reverse-engineered codecs are still under review. That is why Mandriva does not include all the plugins to use those codecs¹. The information included here is meant to help Mandriva Linux users who know that, in their country, using these codecs and plugins is legal. **Mandriva does not encourage law violation and you should verify the law(s) which apply in your case before you download and use these codecs and plugins.**

6.3.2. Kaffeine

Kaffeine is based on Xine libraries which can play video files and streams.

Double-clicking on a supported video file launches Kaffeine, opens the file, and starts playing it. You can also launch Kaffeine by selecting Multimedia+Video→Kaffeine from the main menu.



The first time you run Kaffeine, a configuration wizard pops up and we recommend you accept the default options.

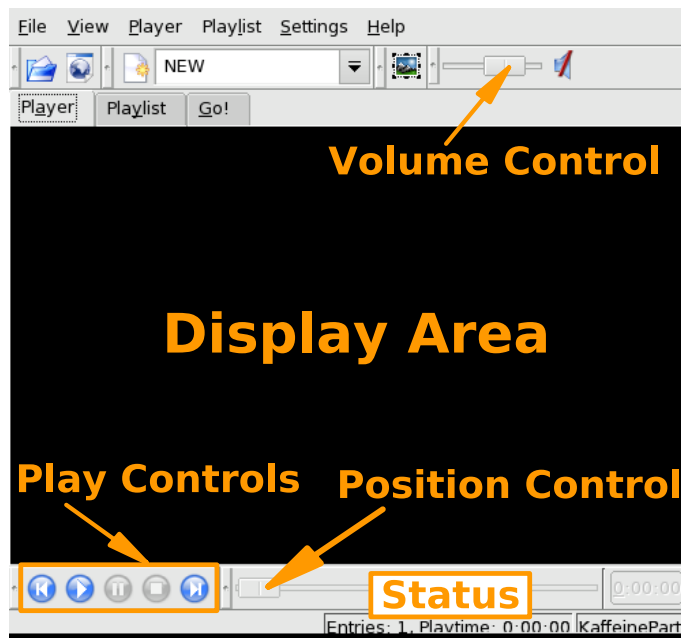


Figure 6-12. Kaffeine's Interface

Kaffeine's simple interface (figure 6-12) is comprised of the following:

- **Display Area.** Where the movie being played is shown. Press the **Ctrl-Shift-F** keys to switch between full-screen and windowed modes.
- **Position Control.** You can “jump” to any part of the movie by dragging the slider right (or press the right arrow key) to go forward; drag the slider left (or press the left arrow key) to rewind.
- **Volume Control.** Drag the slider right (or press the plus key) to make the sound louder; drag the slider left (or press the minus key) to make it softer.
- **Play Controls.** A reduced set of the usual VCR controls: Previous, Play/Pause (keyboard shortcut: **Space Bar**), Stop (keyboard shortcut: **Backspace**) and Next.
- **Status.** Located at the bottom right of Kaffeine’s window, it shows information about the playlist and the movie being played.

To play a DVD, simply insert the disc in the drive and Kaffeine starts playing the DVD title. We recommend you use full-screen mode to play DVDs.

6.3.3. Other Movie Applications for Linux

Xine

Xine is one of the most interesting video application for GNU/Linux. It supports a wide range of formats and input sources. It’s fast, flexible and extensible. It’s also provided as a library on which many players are based.

MPlayer

MPlayer is yet another interesting application and supports multiple output drivers, and even older video cards. It can also handle DVD, AVI, VideoCD, amongst others. However you’ll probably have to download and install winDLLs and proprietary codecs to make it work with many popular video formats. On one hand this might seem unfortunate, but on the other it gives you access to all formats supported under Windows®.

Totem

Totem is a GNOME 2 application based on Xine’s libraries. As you might imagine, its capabilities are very similar to those of its “parent”, but it’s better integrated in the GNOME environment.

6.4. Webcams and Video Conferencing

6.4.1. Getting Started

In this section, we will show you how to do video (and audio) conferencing using your webcam and GnomeMeeting. We will only discuss USB webcams since parallel models are really old and don’t have the image quality of USB devices.




Before buying your new webcam, it would be a good idea to check the Mandriva Linux supported hardware database (<http://www.mandriva.com/hardware>). You can also refer to the Linux USB (<http://www.linux-usb.org/devices.html>) and to the excellent Linux USB device overview (<http://www.qbik.ch/usb/devices/devices.php>) web sites for more information on USB webcams.



The hardware set up is very easy. Just plug your webcam in an empty USB slot and it will be automatically recognized and configured. You should see this icon appear on your desktop with a legend like `GnomeMeeting /dev/v4l/video0` underneath it; if not, you can run it choosing Surf the Internet+Use More Connectivity Utilities→GnomeMeeting from the main menu. Remember to connect your microphone and speakers to the proper place on your sound card.

When GnomeMeeting is run for the first time, a configuration wizard appears which will guide you through the setup process. Use the Forward and Back buttons to move through the wizard’s pages. Configuration options are self-explanatory, so fill in the fields, advance through the wizard until you get to its last page and click on the Apply button.



You can access the wizard later from within GnomeMeeting by choosing Edit→Configuration Druid from its menu.

To be able to communicate with your friends using NetMeeting™ (or other H.323/ILS compatible software), you will need to configure the directory settings by choosing Edit→Preferences from the menu and opening the Directory Settings sub-section of the General settings.

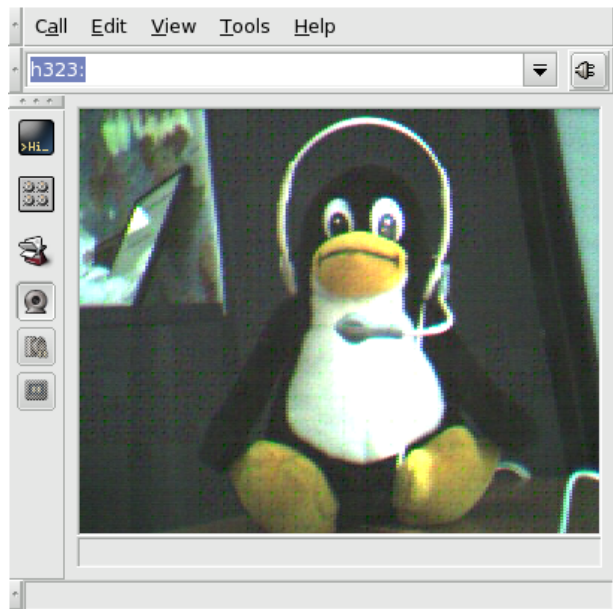



Figure 6-13. GnomeMeeting’s Main Window



This icon appears in GNOME’s or KDE’s panel whenever GnomeMeeting is run, and can be used to control GnomeMeeting by right clicking on it.

On the left side of the main window you have the tool bar with a few buttons. The first three are:




	Opens/closes the text chat window on the right side of GnomeMeeting’s main window so you can chat with the remote party you are currently connected to. Just type the text you want in the Send Message field and press Enter .
	Opens/closes the control panel at the bottom of GnomeMeeting’s main window where you can see communications statistics (lost/late packets, delay and jitter), the dial-pad from where you can call memorized URLs, as well as the audio and video settings panels.
	Opens/closes the ILS window to find and connect with friends registered on ILS.

Table 6-2. GnomeMeeting’s Toolbar Buttons

In the control panel’s audio tab you can use the sliders to set the speaker and microphone levels as shown in figure 6-14.

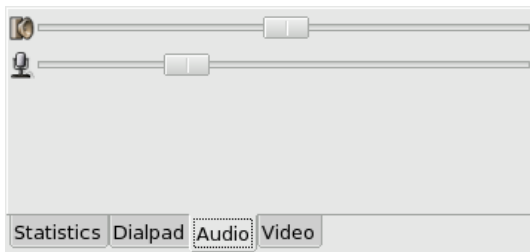


Figure 6-14. Setting Audio Levels for GnomeMeeting

In the control panel's video tab you can adjust the following video parameters (from top to bottom):

- Brightness level. The higher the value, the brighter the image will be.
- The whiteness level. This tells the video device which signal level should be considered “white”.
- The color level. This adjusts the amount of color the image from your camera will display. It might have no effect with certain cameras/light conditions.
- The contrast level. With the lighting conditions found in a typical office, the contrast is normally set to zero.



Figure 6-15. Setting Video Levels for GnomeMeeting

Example video settings are shown in figure 6-15. Please note that for the most part, these settings are automatically configured when GnomeMeeting starts up based on the lighting conditions of the environment and your webcam.

6.4.2. Connecting with Another User

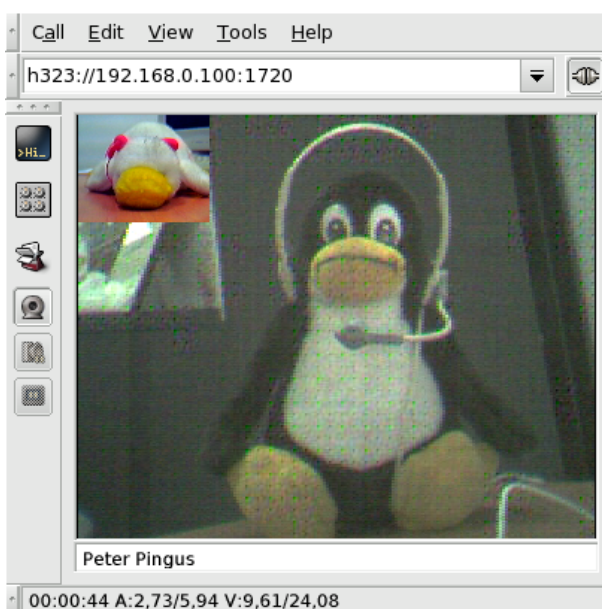


Figure 6-16. Video Conferencing with a Remote Party

To connect directly (end-to-end, no servers) to another user, you need to input a `callto://` or `h323://` URL with the remote user's host or IP address and optionally the port, in the pull-down list at the top of GnomeMeeting's main window. Then click on the button on the right (the one with the plug). If the connection succeeds and the remote party accepts your call, right-click on the video window and select Remote Video to see only the remote party, Both (Local Video Incrusted), meaning yourself and the remote party video within the same window, as shown in figure 6-16, or Both (Local Video In New Window) to have yourself and the remote party in different windows.

`callto://` and `h323://` URLs can be used to communicate with users through a "gatekeeper" server (just input the URL in the pull-down list at the top of GnomeMeeting's main window and click on the button on the right).

6.4.3. Connecting with ILS (NetMeeting™) Users

You can use GnomeMeeting to connect to an ILS server and video-conference with people using NetMeeting™ or other compatible software.



Click on this button or choose Tools→Address Book from the menu to open the ILS directory window and click on Find to update the list of available users connected to that ILS server, as shown in figure 6-17.

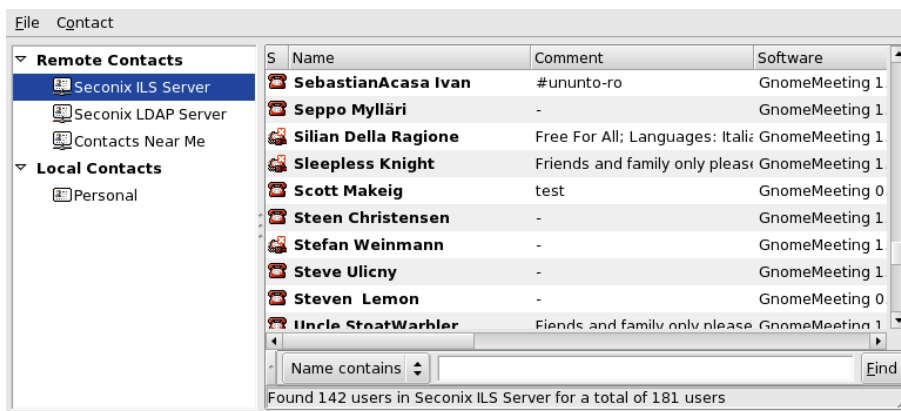
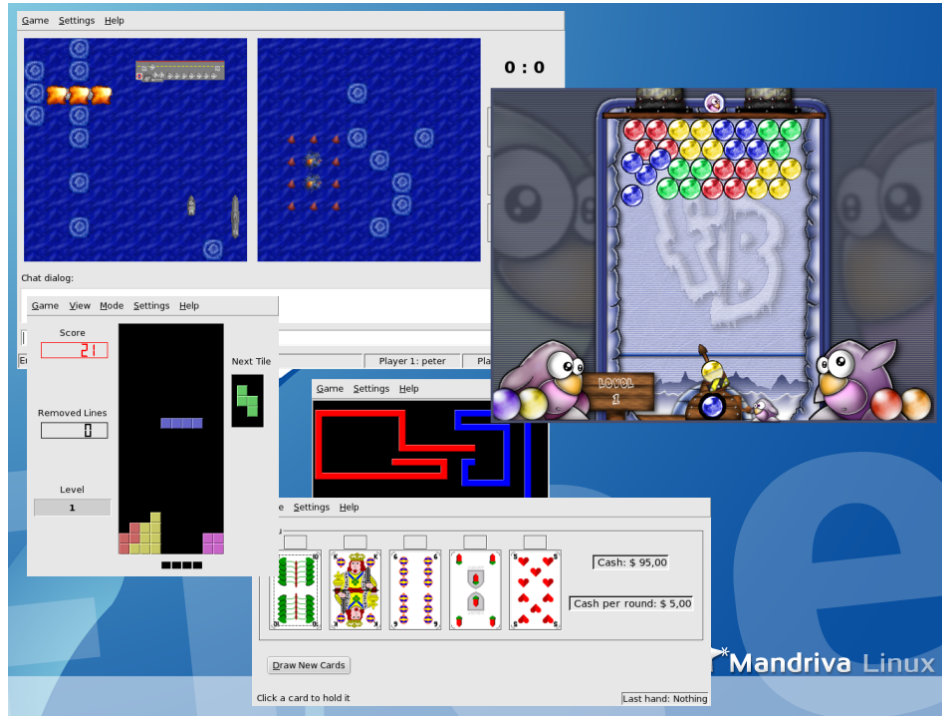


Figure 6-17. Finding People on ILS Servers

Select the search criteria in the pull-down list at the bottom and fill the field at its right, then click on the Find button. You can also leave the field blank and click on Find to look up all registered GnomeMeeting and NetMeeting users. Once you have found the person you want to communicate with, double-click on his name to initiate the call. You can change ILS servers in the Servers tree in the left part of the window.

Chapter 7. Playing Around



You have an impressive set of games available for your Mandriva Linux system. Install the `frozen-bubble`, `supertux` and `kdegames` packages and access them through the Play Games menu. Here are some of the options:

Frozen Bubble

This arcade-type game consists in firing colorful bubbles to build groups of at least three-of-a-kind bubbles. Once you get three, they fall and off you go shooting at other bubbles before your time runs out. It features 100 levels for a one-player game; finish the level quicker than your opponent in 2-player mode. Great stereo music and sound effects. Don't make that little penguin at the bottom of the screen cry!

How long will you be addicted?

Arcade

Access many free-software clones of popular games, like `KAsteroids`, `KTron` and `KSirtet`.

One of the most interesting games is a clone of Super Mario called `SuperTux` (<http://supertux.berlios.de/>). It features Tux the Penguin as he tries to save his beloved Penny from the arms of his arch-enemy, Nolik. The first milestone of this game features 26 levels and 9 enemies which you must help Tux jump over, squash or shoot at. Try out the 2 bonus levels and you can even draw up your own levels with the level editor.

Boards

Play classic board games such as chess, backgammon and battleship! Some games are network-enabled like chess (check out the Free Internet Chess Server (FICS) (<http://www.freechess.org>) for instance).

Cards

Bored out of your mind? How about a quick game of patience or poker? Start off your `KPoker` game with a 100\$ and... try not to lose it all!

Strategy

Spend a few minutes (or a few hours...) demystifying games such as `KSokoban`, `KAtomik` or `SameGame`.

If you want to learn more about gaming on GNU/Linux please check out the Happy Penguin (<http://www.happypenguin.org>) website where you will find a database of known games, a FAQ, a user forum and a list of the hottest GNU/Linux games.

