



SuSE Linux

APPLICATIONS

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Welcome

The number of applications available for Linux has grown immensely. This is why we decided to provide an overview of the large selection of important programs and applications needed for daily use in Linux in this application manual. You will find a summary of several programs and an introduction to using them effectively.

First we will present the office components. With the help of these applications, you will already be able to take care of most daily tasks. The files and documents created must also be edited, saved, processed, and administered. We describe a number of practical tools that do just this.

We will also show you how to access the Internet in Linux and how to use its wide range of features: MP3 files, graphics, video clips, home pages, and more.

Use SuSE Linux to surf the Internet as well as to send and receive e-mails.

Finally, we will introduce two programs — The GIMP and Kooka — which both offer multifaceted functionality for editing and modifying your photos and images.

Have a lot of fun!

Your SuSE Team

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Word Processing and More with StarOffice

StarOffice is an extensive and powerful office package available for Linux systems. Whether you want to write texts, work with spreadsheets, administrate databases, or create elaborate presentations, StarOffice offers the right tool for all office needs. You can even open and edit all files from Microsoft Office and save them in the Microsoft format. This chapter covers the installation and helps you get started with StarOffice.

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Requirements

This chapter assumes that you have a fully operating Linux system available. You should be familiar with terms such as Yast2, mounting, and clicking. To work successfully with StarOffice, you must first install it on your computer, preferably with Yast2. After this, the graphic installation is dealt with in StarOffice itself. The following section provides some assistance.

Installation with Yast2

StarOffice comes with your SuSE Linux system. If you have chosen an installation that does not include it, install StarOffice according to the following instructions.

1. Insert CD 1 or your DVD and start Yast2.
2. Select 'Software' → 'Install/Remove Software'.

In the left window, scroll up to 'Applications/Productivity' and select the Paket `so_base` with the mouse and click the 'Select/Deselect' button. Then select the language package, for example, 'so_en' (for English) or 'so_es' (for Spanish).

Hinweis

After choosing 'Show package series' in the window to the left, find StarOffice in the Serie pay.

Hinweis

Next select 'OK'. Yast2 may prompt you to insert the appropriate CD. After you have done this, Yast2 will install both packages. Following successful installation, SuSEconfig is automatically started. Finally, exit Yast2.

Graphical Installation with StarOffice

Although you now have StarOffice on your computer, the graphical installation program itself must be run before you can use StarOffice. Load the installation program by clicking the StarOffice icon on your KDE desktop. If you do not find an icon, enter `/opt/office52/program/soffice` as a normal user, not as `root`. Alternatively, press **(Alt) + (F2)** in KDE and type your entry in the small window that appears. The graphical installation program starts and you will see the opening screen as shown in Figure 1.1.

Some important information is displayed followed by the software license. Read this carefully before confirming. After accepting these conditions, adopt your personal data and settings from a previous installation if one exists. If StarOffice has recognized an older directory, it will show this. Otherwise, click 'import personal data' → 'Browse'. A window will open in which to enter the directory.



Abbildung 1.1: The StarOffice Opening Screen

When you click 'Next', you will be asked for personal user data, such as last name, first name, and organization. We recommend entering your personal user information to avoid repetitive entries later (such as having to enter your name and address each time you write a letter).

Next, you will be asked what type of installation to perform: Standard or Standard Workstation (default).

Hinweis

Do not change the preconfiguration for the installation path and type of installation (Standard Workstation Installation). Although StarOffice offers installation on the local hard drive, it is not necessary, because StarOffice is already locally installed. To repeat the installation, delete the subdirectory `office52` and the `.sversionrc` and `.user*.rdb` files in your home directory.

Hinweis

For the Java and JavaScript support to function in the StarOffice web browser, the Paket `java` must be installed. If you have installed additional Java versions, select the right ones — those installed in the `/usr/lib/jdk1.1.8` directory. When installing StarOffice, an e-mail will be sent to the user `root`. It contains a brief description of the installation procedure (look for an e-mail with the subject line „SuSEconfig: so_en“).

After the installation process, start StarOffice in the command line using the command `soffice`.

Configuration

Start StarOffice. When first starting, the Internet assistant appears, which helps configure Internet access. If you do not have an Internet connection, choose 'Do not use Internet'.

Tipp

To configure StarOffice later, set your preferences in 'File' → 'Autopilot' → 'Internet Setup...'.
Tipp

Repairing StarOffice

If files have been damaged during your work with StarOffice, you can repair them. In KDE, use (Alt) + (F2) and enter /opt/office52/program/setup. A dialog window will be displayed and you can choose whether to uninstall StarOffice or repair it. With 'Repair', recreate a damaged installation. All steps are performed automatically.

Overview of the Programs

There are various programs in StarOffice that interact with each other.

StarWriter	Text editing with formula editor
StarCalc	Spreadsheet calculation with chart program
StarBase	Data management program
StarSchedule	Appointment planner
StarMail	Sending, receiving, and managing e-mail
StarDraw	Drawing program to create vector graphics
StarImage	Editing and creating images
StarImpress	Programs to make presentations

Tabelle 1.1: Applications in StarOffice

The emphasis of the descriptions in this manual is on StarWriter and StarCalc. The other programs are only briefly discussed. Refer to the online help for more information (see also Section *Help* auf der nächsten Seite).

First Steps

The following section gives an overview of the possibilities of StarOffice. These questions will be answered:

1. Where do I get help?
2. How do I convert my existing documents from Microsoft Office 97/2000 to StarOffice format?
3. What is the StarDesktop?
4. How can I rename, delete, and copy files or directories?
5. How can I specify or change settings?

Help

Get help with StarOffice at any time in the 'Help' menu. At the same time, choose how detailed it should be:

1. To thoroughly read through a topic, use 'Help' → 'Contents' (also accessible from the Start menu at the bottom left of the taskbar). It provides information about the corresponding StarOffice program parts, such as StarWriter, StarCalc, and StarImpress. Have a look around.
2. If you feel overwhelmed by the mass of information, try the 'Help Agent'. It updates its window whenever you perform various actions in StarOffice and provides helpful hints. Simply activate the 'Help Agent' entry in the 'Help' menu.
3. If you do not need so much detailed information, try 'Tips' or 'Extended Tips'. Both display a help text when you point to an icon with the mouse. The text is more comprehensive in 'Extended Tips'.

Tipp

If you are unsure whether the functions are activated, click the 'Help' menu. A check mark shows the status of the menu item in question (check mark visible means that the function is activated).

Tipp

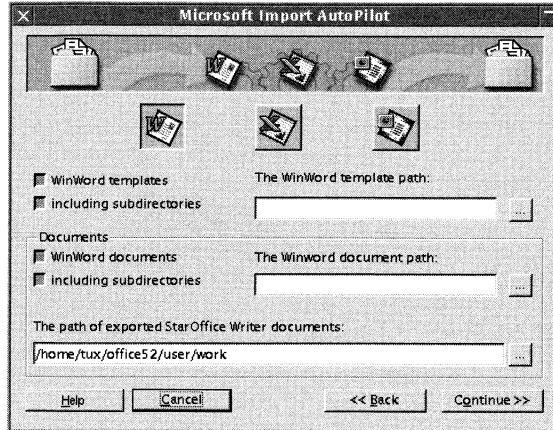


Abbildung 1.2: Dialog for Importing MS-Office Documents

Converting Microsoft Office Documents

To edit your Microsoft Office 97 or 2000 documents in StarOffice, select 'File' → 'Autopilot' → 'Microsoft Import...'. A dialog window opens as shown in Figure 1.2.

Choose 'Continue'. Now choose the file format you want to convert: Excel, Word, or PowerPoint. Click on one of the program icons and enter the document path under 'The Winword document path'.

To convert WinWord templates, activate 'WinWord templates' and enter the path in the entry field on the right. Do not forget to specify the path of the converted StarOffice documents. By clicking 'Continue', proceed to the summary page. 'Import' sets the action in motion.

The StarDesktop

The StarDesktop is the central switchboard of StarOffice. From here, all program parts are started and files are deleted, renamed, and moved. Figure 1.3 shows the StarOffice Desktop.

The StarDesktop consists of the menu bar (top) followed by the icon bars. In addition, the Explorer or Beamer can be integrated. The Start menu is at the bottom edge with the taskbar. Above it, a „Did you know?“ window might be displayed. These control elements can be switched on or off, according to your preferences.

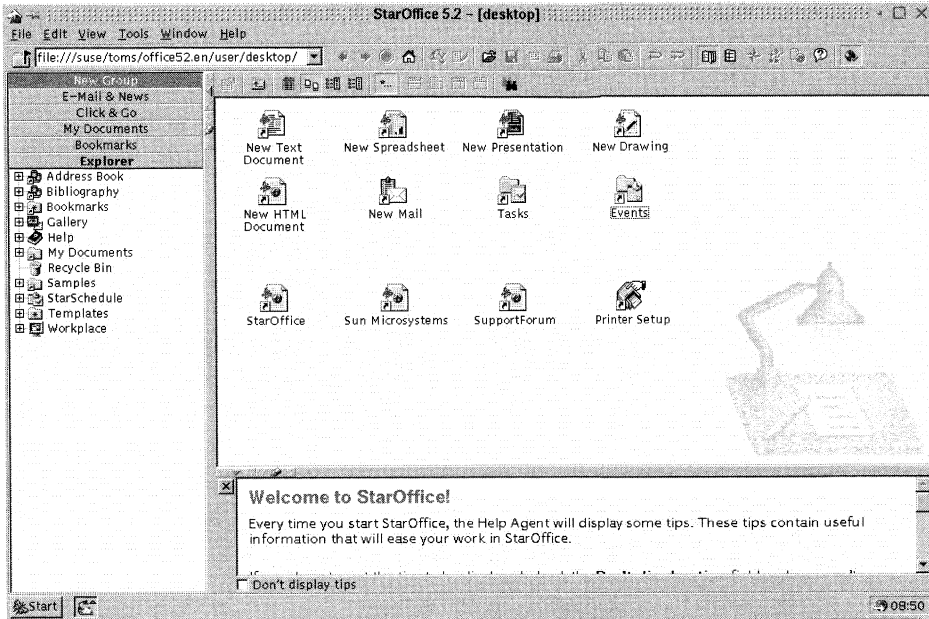


Abbildung 1.3: The StarOffice Desktop After Start-Up

- The taskbar shows directories or files currently open — called tasks. Switch to another task by clicking it. Figure 1.4 auf der nächsten Seite shows the taskbar.



Abbildung 1.4: The Taskbar

- „Did you know?“ shows a new tip after every start. Remove it by clicking the closing symbol (the icon with the X). If necessary, the size of the frame can be changed by clicking the resize bar (the mouse pointer changes). Simply drag the mouse up or down. To disable display at start-up, check ‘Don’t display tips’. This option can be reactivated with ‘Tools’ → ‘Options’ → ‘General’ → ‘Other’ and checking ‘Show Tips’.
- The Start menu offers help and various programs, directories, and references.

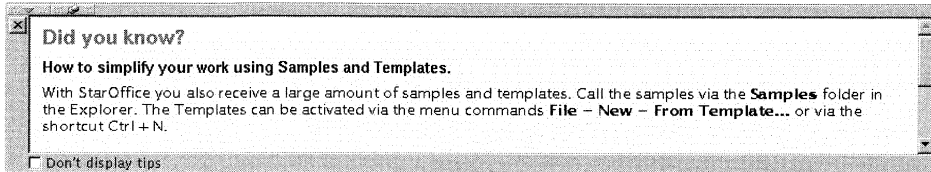


Abbildung 1.5: The „Did you know?“ Window

- The Explorer can be used to access your resources in an easy and space-saving manner. It can be opened by clicking the arrow symbol in the top left corner or with 'Explorer' → 'View'. A frame will open in which various subitems can be selected. You can then navigate around your work directory or manage bookmarks. The Explorer window can be set up in two ways: sticky or floating (the icon with the pin). If the window floats, the working area underneath is hidden.

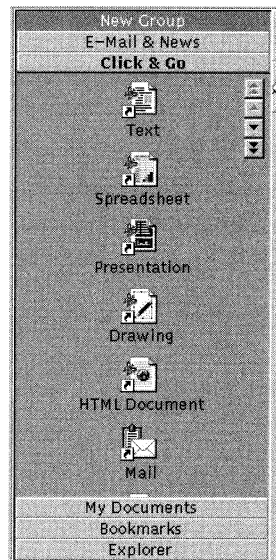


Abbildung 1.6: The StarOffice Explorer

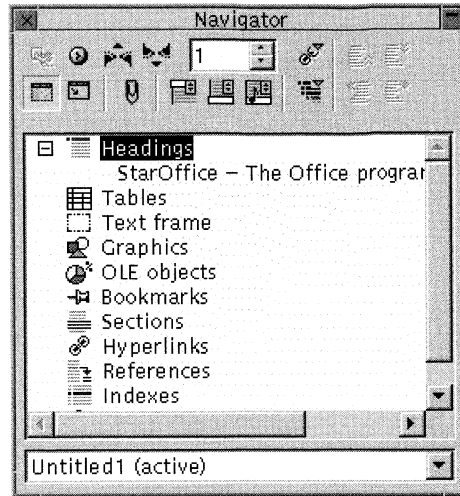


Abbildung 1.7: The Navigator Inside StarWriter

- The Navigator does more than show information about the contents of your document. You can also use it to navigate to specific places. In StarWriter, for example, use the Navigator to retrieve a quick overview of the available chapters or to see which graphics are included in the document. Figure 1.7 shows the Navigator inside StarWriter. The contents of the Navigator vary according to the type of document. Open the Navigator with 'Edit' → 'Navigator'.
- The Beamer, a projector, offers a convenient preview function. This tool can be used to display the contents of directories or the StarOffice Gallery. Figure 1.8 shows the Beamer in action.

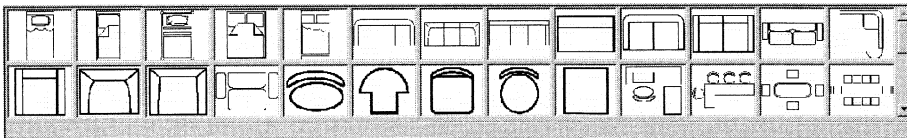


Abbildung 1.8: The StarOffice Beamer

- The function bar contains important commands and functions. From left to right, these are:



'Load URL': Shows the path name of the document currently being edited. If you are surfing the Internet, the Internet address is shown here.



'Browse Backward' or



'Browse Forward': With these two icons, access documents loaded before or after the current document.



'Stop Browse': Aborts the loading process when browsing the Internet.



'Go to Home Page': Jumps to the preset home page.



'Reload': Loads the current document again. If changes were made that would be lost during this operation, StarOffice asks, as a precaution, if you really want to do this.



'Edit File': Toggles between viewing and editing modes.



'Open File': Opens a file.



'Save Document': Saves the document under the current file name.



'Send Message': Sends the current document to an e-mail address via the Internet.



'Print File Directly': Prints the file on the default printer.



'Cut': Cuts the current selection to the clipboard.



'Copy': Copies the current selection to the clipboard.



'Paste': Inserts the clipboard contents at the current cursor location.



'Undo': Undoes the last executed action.



'Redo': Repeats the undone action.



'Explorer On/Off': Shows or hides the Explorer.



'Beamer On/Off': Shows or hides the Beamer.



'Navigator On/Off': Shows or hides the Navigator.



'Stylist On/Off': Shows or hides the Stylist (see Section *Working with the Stylist*).



'Help Agent': Activates the Help Agent for interactive help.



'Internet Online/Offline': Establishes or terminates a connection to the Internet.



'Hyperlink Dialog': Creates links to web pages, Internet addresses, and documents (locally or on the network) and inserts them into the text.

Various references can be found on the desktop itself to create text ('New Text Document'), spreadsheets ('New Spreadsheet'), and other documents. To write a new text, double-click the icon labeled 'New Text Document'. StarWriter launches and you can start writing immediately.

Renaming, Deleting, and Copying Files and Directories

This can be carried out under the StarOffice desktop as well as under KDE. Simply click the corresponding file with the right mouse button. This opens a context menu. This special menu only offers functions meaningful for this kind of file or directory.

Specifying and Changing Settings

All global settings can be specified under the 'Options' entry of the 'Tools' menu. This opens a dialog as shown in Figure 1.9.

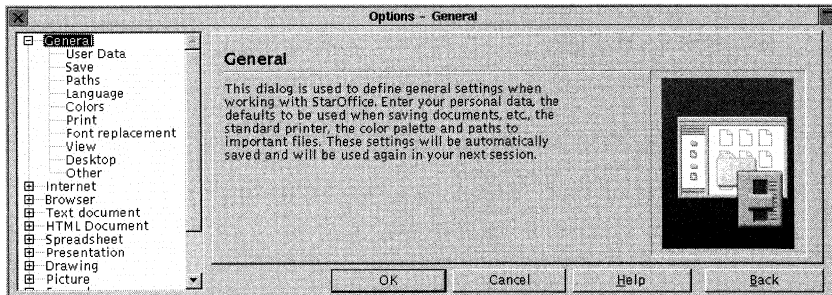


Abbildung 1.9: The Options Dialog

On the left hand side, the various categories of settings are listed. These are arranged in a tree structure.

'General': Enter user details such as address and e-mail. This is also where you will find important paths and defaults for the printer.

'Internet': Configure an Internet connection, including proxy, mail, news, and FTP servers, search engines, and defaults for new mail and news accounts.

'Browser': Specify the behavior of the browser. Decide whether Java and JavaScript should be activated, what address to load when you click on the home page symbol, and cache size and location.

'Text documents': Specify global settings for StarWriter, such as default fonts and basic layout.

'HTML Document': Define settings for the HTML editor including screen display, layout, and color coding for the source file.

'Spreadsheet': Make global settings for StarCalc: sort lists, grid, input, and more.

'Presentation': Define settings for all presentation documents. You can, for example, specify the unit used for snapping and sizing to grid.

'Drawing': Configure the settings for things such as scale, grid, and printing.

'Picture': Configure StarImage settings including resolution and filter effects.

'Formula': Set printing formats and options for formulas.

'Chart': Specify the basic colors to use for chart diagrams.

'Database': Specify language and source paths for databases.

'Filter Settings': Specify the general settings for loading Microsoft Office documents.

Hinweis

All settings made here apply *globally*. Settings in this dialog will be adopted every time you open a new document.

Hinweis

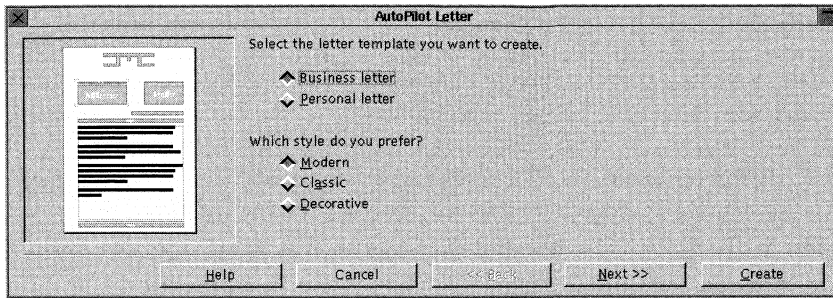


Abbildung 1.10: The Autopilot in StarOffice

Text Processing with StarWriter

Creating Text with Autopilot

To use a standard layout for your text, try the Autopilot. The Autopilot is a small program that accepts your entries and creates a finished text from them, according to a given template. If, for example, you want to create a business letter, select 'File' → 'Autopilot'. In the submenu that appears, select 'Letter...'. This opens a dialog window as shown in Figure 1.10.

Generally, clicking 'Next' proceeds to the next page. Clicking 'Back' returns to the previous page. Clicking 'Create' assembles the document from your entries. 'Cancel' closes the dialog. 'Help' displays a help text in the Help Agent.

The following list shows the individual pages and a series of entries using a letter Autopilot as an example. Remember that you do not need to enter everything. You can create your letter at any time with 'Create'. Click 'Next' between list items to progress through the pages.

1. Decide whether to write a business letter or a personal letter. Three styles are offered: modern, classic, or decorative.
2. Select optional graphics and position them.
3. Enter your sender address and specify position and size of the sender field.
4. Enter the addressee's data or layout address fields from a database.
5. Select letter elements such as subject and page numbers.
6. Define footer contents and margin size.
7. Define layout for additional letter pages.

8. Enter desired document information such as file name and title.
9. Select when logo and sender are included and configure the printer and paper sources. Click 'Create' when finished.

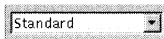
StarOffice designs a letter from the information supplied. Now you only need to compose the letter text and your work is complete. There are many other useful Autopilots to navigate you through documents such as faxes, agendas, memos, and presentations.

Working with Document Templates

If the Autopilot does not offer the documents you need, try the document templates. With 'File' → 'New' → 'From template...', choose from a variety of different templates. A dialog is opened that offers various categories on the left-hand side including education, forms, and contracts. On the right, find the corresponding templates. Click 'More »' to extend the window with additional information, such as title, description, and preview.

Creating Text Without Autopilot

Create a new text document simply by clicking 'File' → 'New' → 'Text Document'. You can now begin writing. When you have started a new document, a second bar (the text object bar) is added underneath the standard function bar. It includes, from left to right:



Apply Style



Font Name



Font Size



Bold



Italic



Underline











Align Left



Centered



Align Right

-  Justify
-  Paragraph numbering on/off
-  Bulleted lists on/off
-  Decrease indent of the current paragraph (if possible)
-  Increase indent of the current paragraph
-  Font Color
-  Highlighting (color of text background)
-  Background Color

You can also format text with the Stylist (see Section *Working with the Stylist* on page 16).

Selecting Text

To select an area of text, click the beginning or end of the area to select and, keeping the mouse button pressed, run the cursor over the desired text. You will recognize the selection when the text appears white on black. When all the desired text is selected, release the mouse button. Right-clicking opens a context menu providing variety of choices for formatting the selection (see Figure 1.11).

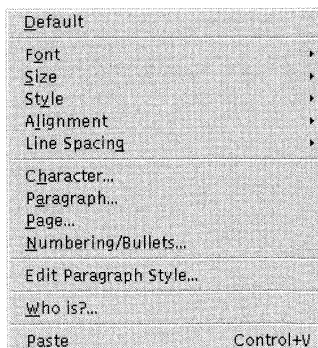


Abbildung 1.11: The Context Menu

Working with the Stylist

Introduction

The Stylist allows you to format your text quickly and easily. Figure 1.12 shows the dialog window of the Stylist.

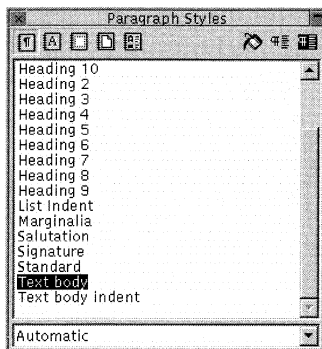


Abbildung 1.12: The StarWriter Stylist

A style sheet is a collection of predefined format specifications stored under a name. You can, for example, specify paragraph indents, text color, and font size.

Tip

There is a list box on the bottom border of the Stylist. When this says 'Automatic', StarOffice will try to „guess“ which styles can be sensibly offered in the current context. If 'All Styles' is set, all styles of this group are shown.

Tip

Text formatting carried out in a hard or soft manner:

Hard formatting:

A text area is *directly* assigned a text attribute. Hard because it is hard work to change the formatting. This procedure should only be applied to short texts (short letters, articles, and the like). Nevertheless, this way is quick and intuitive.

Soft formatting:

The text is not formatted directly, but is instead assigned a style. This can be easily modified. When the style is changed, the formatting of the associated text is changed automatically. Use this method for larger texts (diplomas, Ph.D. theses, and whole books). It is not quite as intuitive, but if you want to apply extensive formatting changes, these can be handled quickly and easily. To try out various layouts, this is a definite advantage.

The Stylist offers several style elements for different formatting needs:

Paragraph Styles: indenting and spacing, hyphenation, tabs, alignment, and font

Character Styles: font style, size, and language


Frame Styles: position, anchoring, and frame

Page Styles: header, footer, borders, and columns

Numbering Styles: number type, structure, graphics, positions, and options

Assigning Paragraph Styles with the Stylist

To assign a style to a paragraph, the Stylist can save a lot of work.

1. Select the name of the style to use in the Stylist.
2. Click the paint bucket symbol in the Stylist: 
3. Assign the styles by clicking the mouse inside the relevant paragraph.
4. To switch this off, press **(ESC)** or click the paint bucket symbol again.

Creating a New Style

You can easily create your own styles by following these steps:

1. Format any paragraph or any character any way you like. You can also use the 'Character...' or 'Paragraph...' command in the 'Format' menu.
2. Click the left mouse button in the Stylist on 'New Style from Selection' (to the right next to the paint bucket symbol)
3. Enter a name for the style and click OK.

Now you can use the nw styles for other paragraphs. To change some details, it is not difficult. Select the name and right-click 'Modify...'. All adjustments can be made in the dialog box that appears.

Inserting a Table

Easily create tables by clicking the 'Insert' icon in the toolbar and keeping the mouse button pressed until an additional toolbar appears. If you point the mouse to the third icon, a grid opens below, as shown in Figure 1.13.

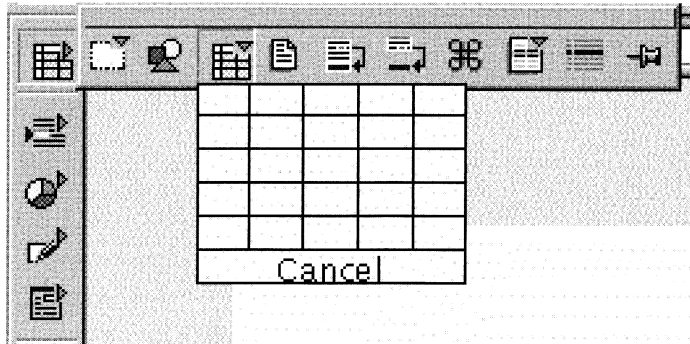


Abbildung 1.13: Inserting Tables with the Toolbar

If you need, for example, a table with two columns and two rows, simply move the mouse over the grid. The cells automatically become black when you move the mouse over them, showing the current selection of lines and columns. With a click of the mouse, the table is inserted into the current text at the current position of the cursor.

Tipp

The 'Insert' icon changes according to what you last inserted. You can, therefore, quickly click it and trigger the required action without having to open the whole pop-up menu.

Tipp

Inserting Graphics

Graphics can be inserted, as in the previous section, with the horizontal toolbar (second icon on the left) or by selecting 'Insert' → 'Graphics' → 'From file...'. A dialog window opens. Choose the appropriate file. If you click 'Preview', the image is shown on the right-hand side. With larger pictures, this procedure may take a little longer. After you have made your selection, the inserted picture appears at the cursor position. Select the graphic. The selected graphic can be recognized by the eight squares around the graphic. In the context menu, choose 'Graphics'. The dialog that appears offers numerous adjustments, including setting text wrapping around the graphic, borders, and much more.

To alter the size of the graphic, click it. Small green squares appear on all four corners and edges, indicating an activated graphic. Click one of these „handles“, keep the mouse button pressed, and drag it in the desired direction. You will see a dotted frame. Release the mouse button and the graphic image will be scaled to the new dimensions.

To change the position of the graphic instead of its size, click it and keep the mouse button pressed. Drag the picture to the desired position. Release the mouse button and the graphic is repositioned.

Spreadsheet Analysis with StarCalc

Introduction

StarCalc is the spreadsheet program in StarOffice. With this program, you can make your private or business calculations. Simply start StarCalc by clicking on the 'New Spreadsheet' reference on the Desktop, 'File' → 'New' → 'Spreadsheet', or in the Explorer under the 'Click & Go' group. StarCalc then opens with an empty spreadsheet. This spreadsheet is split into rows and columns. The rows are numbered from top to bottom and the columns are lettered from left to right. Cells are identified by the names of the column and row that intersect to create it. For example, the address of cell B3 indicates the second column (B) and the third row. This is also indicated in the top left corner next to the entry line.

Each cell can have content. Possible contents include numbers, text, dates, times, currencies, and formulas.

A cell can be active or inactive. The active cell is displayed with a thick black frame. Move the activation with the cursor keys or by clicking a new cell with the mouse. When a cell is active, you can edit it.

Creating Spreadsheets from Templates

StarCalc includes several templates where you only need to enter your figures. To do this, select 'File' → 'New' → 'From Template...'. A dialog window opens with a selection of categories (education, finance, etc.). Click 'Financial Documents' and several templates will appear in the right-hand option field from which to choose. If you want to buy a new car, the 'Car Financing' template is just right for you. For an overview of your household budget, choose the 'Household Budget' template. Manage your shares with the 'StarOffice Stocks Manager'.

Changing Cell Attributes

To enter something into a cell, just type it. By default, text is aligned to the left and numbers are aligned to the right. Confirm entries with (↵). To change the formatting of your cells, open a context menu by clicking with the right mouse button. Choose 'Format Cells...' to open a window in which to make the necessary adjustments. There are six option tabs inside the window (from left to right): Numbers, Font, Alignment, Border, Background, and Cell Protection (see Figure 1.14).

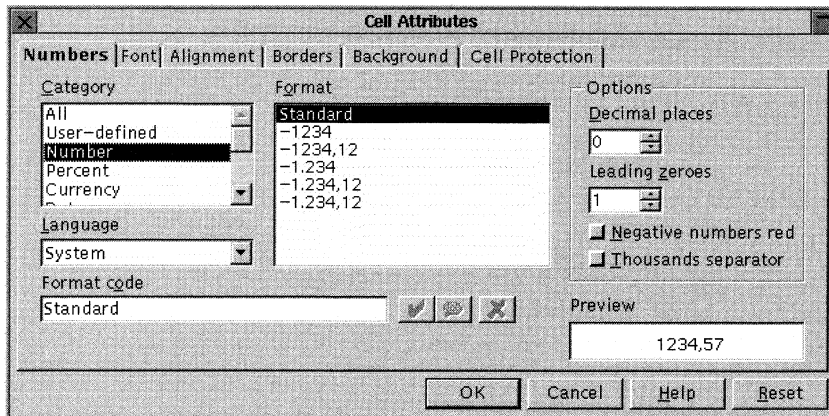


Abbildung 1.14: Dialog for Adjusting Cell Attributes

- 'Numbers': Choose a category, such as percent, currency, date, or time. The format determines the decimal digits and leading zeros.
- 'Font': Specify font, font style, and size.
- 'Alignment': Determine the horizontal and vertical position of the cell contents. The direction of writing can be set here, too.
- 'Border': Surround the cell with a frame. All kinds of shadows, line styles, and thicknesses are available.
- 'Background': Fill the cell background with a color.
- 'Cell protection': Prevent unintentional or intentional alteration to the cells by activating 'Protected'.

A StarCalc Example: Monthly Expenses

Calculations in StarOffice can be carried out using formulas. Enter your numbers in the cells. Using the cell addresses, perform calculations with the entries. For example, you want to check your monthly expenditure. See Figure 1.15.

	A	B	
1		Month	
2	Expenses	January	
3	Telephone	500	
4	Gas	200	
5	Sum	700	
6			

Abbildung 1.15: A StarCalc Sample Spreadsheet

The telephone bill for the month of January is in cell B3. B4 tells you how much you have spent for gas bills. You want to add both totals. Simply enter the following formula in cell B5:

= B3+B4

The result is shown in cell B5. You have carried out a simple calculation. If you have mistyped the numbers (or estimated your telephone bill too low or too high), enter the numbers again and the new total is automatically updated. In StarCalc, perform calculations with a wide range of functions extending beyond the four basic operations. Find an extensive list at 'Insert' → 'Function...' arranged by categories.

Extending your table is also easy. To add another entry between Gas and Sum, click with the right mouse button on the 5 next to it. This opens a context menu. Select 'Insert Rows'. A new row is immediately inserted in row 5 and you can simply continue writing.

Formula entry becomes somewhat awkward after a certain number of cells. If you have several positions in your A column and want to add them, a more elegant solution is offered with the SUM function.

To do this, enter the following formula in the field B6:

= SUM(B3:B5)

Alternatively, click the Sigma sign (Σ) next to the entry line and enter the range by hand. This formula adds all lines between B3 and B5 (inclusive). With several lines, this can be very practical. You can also specify several ranges.

A range is specified by two cell addresses (as in the above formula) separated by a colon. Several ranges are separated by a semicolon (;). The formula

= SUM(B3:B5;D3:D5)

adds up everything between B3 and B5 *and* between D3 and D5. It is really a kind of abbreviation for the longer expression = B3+B4+B5+D3+D4+D5.

Creating Charts

Extend the spreadsheet with some more entries and write another few months into row 2. Now our spreadsheet looks like the one shown in Figure 1.16.

Select the range from A2 to E5. The text is now shown with white text on a black background. To create a chart, click 'Insert' → 'Chart...'. A dialog window appears. To modify the range or the first line or column is a label, change this here. Normally, accept these settings. Click 'Next'. The dialog window has four pages. The really interesting and important page is shown in Figure 1.17.

	A	B	C	D	E
1		Month			
2	Expenses	January	February	March	April
3	Telephone	500	300	430	350
4	Gas	200	80	200	470
5	Sum	700	380	630	820
6					

Abbildung 1.16: Extended Sample Spreadsheet

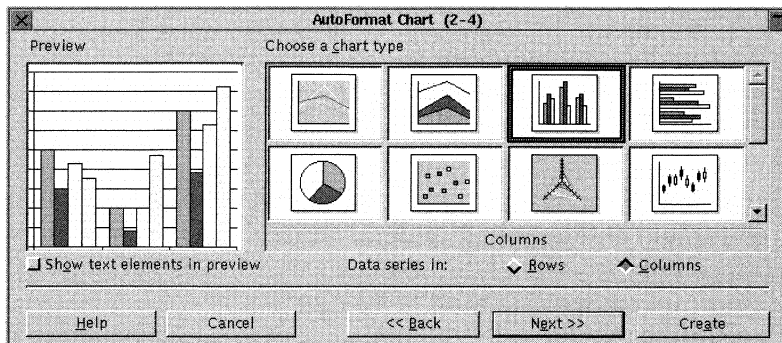


Abbildung 1.17: Choice of Chart Types

In the middle, you can see the available chart types. You can choose between lines, areas, bars, columns, pies, and others. On the left is a preview of your own data presentation.

The line chart is best suited for our example. After clicking 'Next', you have a choice of variations of the line chart: with and without symbols, stacked, percent, or as cubic spline (approximation curve). Choose the 'Symbols' chart type. Activate 'Show text elements in preview', so the descriptions (here January, February, etc.) will be shown on the X axis and the values on the Y axis. A legend is added on the right-hand side.

The next page allows you to assign the chart a title and to name the X and Y axes. We have entered 'Expenses overview' as the title and '\$' for the Y axis. By default, the X axis is deactivated. You can, however, enter text here. After you click 'Create', the diagram appears in your spreadsheet. Figure 1.18 shows our finished image.

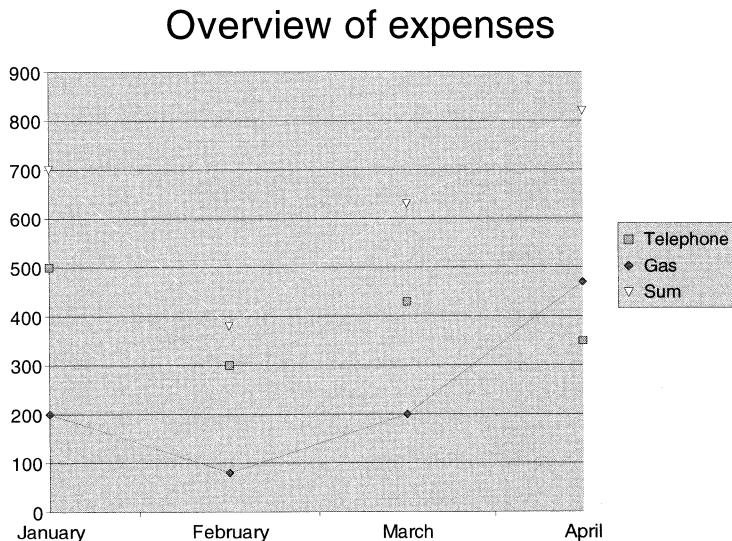


Abbildung 1.18: Sample Chart

Another Example: Importing from Tables

Often the situation arises when you want to import information in tabular form to a StarCalc table. Examples include stock information, telephone rates, and lists.

There are two ways you can import this information in StarCalc.

Importing from the clipboard: Suppose you would like to import stock information. To do this, enter the address of the desired stock page in a web browser. When the table appears, mark the area with the mouse. Copy the table as is customary for your particular browser (in the StarOffice web browser, for example, find this item under 'Edit'). The marked region will then be copied to the clipboard.

In StarOffice, open a new document under 'File' → 'New' → 'Spreadsheet'. Click the cell in which to make the insertion. Select 'Edit' → 'Paste'. The table will now be inserted into the document along with all the format specifications and hyperlinks.

Importing with a filter: If you already have an HTML file to import to StarCalc, click 'File' → 'Open'. A dialog window appears. Under 'File type', select 'HTML (StarOffice Calc)'. Use the arrow keys to navigate around the list. Select the file name and click 'Open' to import the table.

Data Management with StarBase

Creating Databases with Autopilot

Under StarBase, you can also use Autopilot for your data. Before you create a new database, choose the location in which to save it. Open the Explorer then click the 'Explorer' tab. Open a context menu with the right mouse button and click the 'Database' entry under 'New'. This opens a dialog window with the tabs 'General', 'Type', 'Adabas', and 'Tables'. For the moment, you only need 'General' and 'Type'. Give your database a name under 'General'. Enter the directory under the 'Type' tab. (Set this easily with the 'Browse...' button). For the moment, leave all other tabs as they are. Confirm with 'OK'.

Open the Explorer and click the tab 'Explorer'. Now, see the name given to your database. By clicking the + symbol, open the tree structure below it. You can now see four items: Forms, Reports, Queries, and Tables. Open a context menu by right-clicking 'Tables'. Under 'New' → 'Tables' → 'Autopilot', start the Autopilot. Figure 1.19 shows the window.

In the selection field, decide whether your table should be 'Personal' or 'Business'. With 'Personal', specify, for example, books, music, or photo and video collections. Use 'Business' to manage customers, products, or calculations. Make your selection and click on 'Next'.

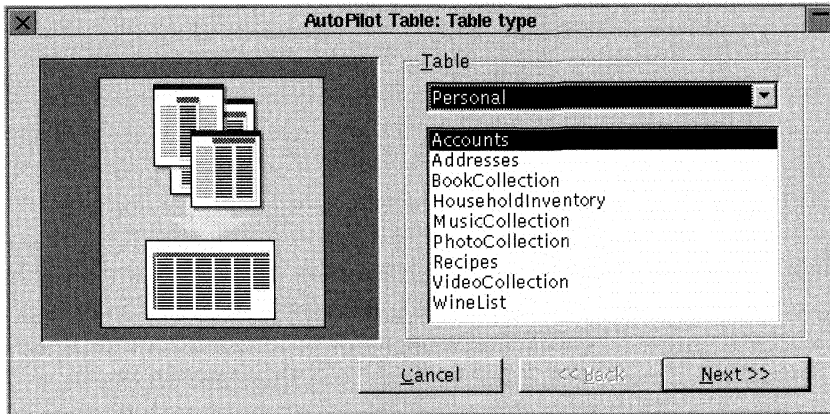


Abbildung 1.19: The Autopilot in StarBase

On the next page, a number of fields are proposed that might be useful in this database. In a book collection, for example, book title and author are included. The '->' button adds the currently selected item. '=>' applies all the entries. If you do not need a field, remove it with '<-' . After you have collected the fields for your database, click 'Next' to proceed to the next page.

If desired, assign additional names to your tables and your selected fields.

Usually this is not necessary because the Autopilot makes sensible suggestions.

In conclusion, you are asked whether to display the table right now. Of course, you can enter your data now. Make your decision and close the Autopilot with 'Create'. Now, you can easily enter your data. Use (Tab) to move the entry cursor to the next column.

Creating Reports

Under StarOffice, a report is the ordered collection of data. It can be produced in a sorted or tabular form. Few limits are set for the layout. Open the Explorer and click on the 'Explorer' tab. Your database is shown in this window. Click on the + sign before the name of your database. A tree structure is opened. Right-click on Reports and, in the context menu, select 'New' → 'Report'. After this, you will be prompted for the data source. Select the appropriate database.

On the following page, you will be asked which existing fields to include. Proceed as described in Section *Creating Databases with Autopilot*. After you have collected the fields for your report, specify a structure. This is necessary for the later layout. On the next page, specify the sorting options. Select which fields should be sorted first, second, then third. In the style selection, specify the page orientation (portrait or landscape) and whether the format should be table or column style.

The following page can be used to choose formatting templates. On the right-hand side is a selection box with the existing templates. On the left-hand side, a page displays a preview. Clicking a selection updates the preview. Choose one. As a final question, you will be asked for the report name and whether it should be immediately displayed or saved. Clicking 'Create' ends the Autopilot.

Creating Queries

The power and versatility of a database program first become apparent when you make queries to the database. Do you want to list all people in the Nürnberg area in your address database? Would you like to view all persons who are older than 20 but younger than 40 and, in addition, have a specific local area code?

All this is no problem with StarBase. Open the Explorer and click the 'Explorer' tab. Inside this window, find your database. Double-click the name of your database. Right-click 'Queries' to open the context menu. Under 'New' → 'Query' → 'Autopilot', start the Autopilot.

First you will be prompted for your data source. Select it and click 'Next'. Specify the fields to display in the created table. After moving these to the right-hand field with the -> button, click 'Next'

Use the filtering options to create the query. First, choose the field to which the condition should apply in the selection box. Assuming you want to list all the names in your database that start with the letter H, the following entries give the desired result:

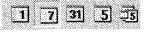
Field name	NAME. The following defined condition and value only apply to this field name.
Condition	Select 'How'.
Value	H%. Data entered in the NAME field name will only be displayed if it begins with H.

Tabelle 1.2: Example Filter in StarBase

To link several requests, use the 'Link' list box. Choose between OR and AND. If you specify a link with AND, all conditions must be met for the request to be successful. With OR, at least one condition needs to be met. When you have set up your filter, carry out the sorting of your filtered data with 'Next'. Finally, you will be asked for the query title and whether to carry it out immediately or just store it. 'Create' ends the Autopilot and lets you carry out the queries according to your parameters.

Event Management with StarSchedule

You can also manage events with StarOffice. Ask to be reminded, for example, of a certain date via e-mail. Simply double-click 'Events' on the desktop. Figure 1.20 auf der nächsten Seite illustrates the Events window.

There are several icons in the function bar  that give an overview of a day, a week, or a month. You can even display a working week from Monday to Friday. On the right-hand side, depending on the settings, view the display for the current month and the next two months or the current month and a task list.

As in Figure 1.20 auf der nächsten Seite, the time of day is shown on the left side except in a monthly overview. This way, you can control the beginning and the end of your appointments. To create an appointment, open a frame on the corresponding time of the day in question. This marks the beginning and the end of your appointment.

Start writing. The background changes to white and your input become visible. The appointment is only created when you enter text, showing an additional blue bar on the left side of the frame. To postpone the appointment, click the frame and drag it. When you release the mouse button, the new position is assigned. Find more interesting possibilities under 'Help' → 'Contents'.

Drawing with StarDraw

Introduction

You can draw vector graphics with StarDraw. A graphic, such as a normal line, can be defined in two ways.

First, by means of many dots, which, next to each other, form the line. This is the „classic“ variation, a bitmap image. Common image formats are GIF, JPEG, and PNG. This way only represents a rough approximation, which depends on the number of dots. You can manipulate these pictures with StarImage (see Section *Image Processing with StarImage*).

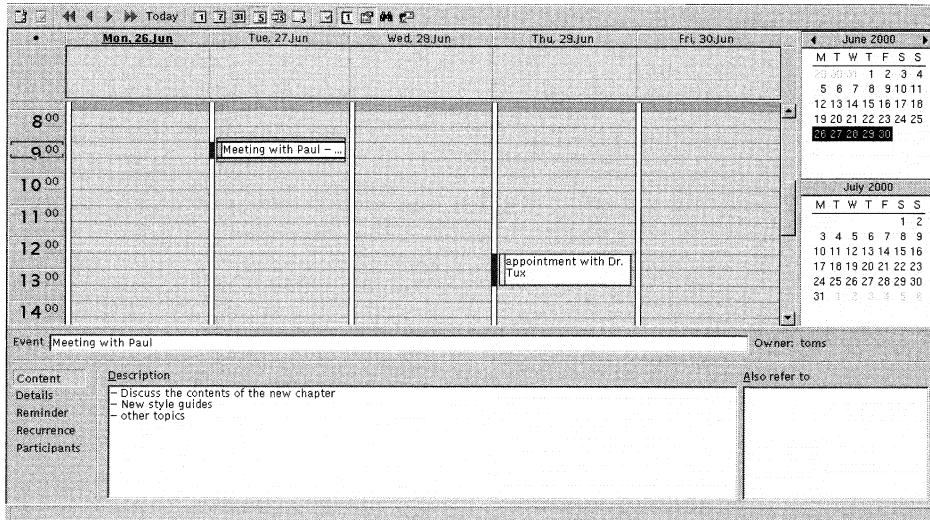


Abbildung 1.20: Event Management with StarOffice

A line can also be defined by means of the starting and ending points. This saves a lot of memory, but it assumes that the thickness of the line, its color, and other features are known. Common formats are EPS and AI. This method of representation is called vector graphics, corresponding to a *mathematical* description of the image.

Drawing Graphical Elements

To make a new drawing, click 'New drawing' on the desktop or select 'File' → 'New' → 'Drawing'. The graphical elements available in StarDraw can be modified by different operations. It is possible to change line thickness, type, color, or fill.

Try to draw a rectangle. On the left-hand side, you can see the toolbar. Click and keep the mouse button pressed for a few seconds on the fifth symbol from the top (the filled rectangle). A small submenu opens with filled and unfilled rectangles and squares, some with rounded corners.

Select a filled rectangle. The mouse pointer takes the shape of a crosshair. Click on the workspace and drag the mouse down to the right. A rectangle appears, which follows the mouse movements. Once you have reached the desired size, release the mouse button.

To change the fill color, activate the rectangle with a click. Green handles with which to change the size are shown on the four corners and the four sides. A right-click opens the context menu. Select 'Area...'. A dialog opens offering various settings. Make a few experiments. Once you are satisfied with the settings, click 'OK'. Alternatively, change the color directly in the second icon bar on the right side of the color fill bucket.

The toolbar contains even more useful graphical elements. Insert circles, ellipses, lines, and even 3-D elements. Just try out how many possibilities StarDraw offers. Additional information is available in the help.

Image Processing with StarImage

As you have learned in the last section, there are two kinds of image formats: vector graphics and bitmap images. StarImage works with bitmap images. You can retouch your photos with StarImage and remove unwanted color combinations. Create a new image by clicking 'File' → 'New' → 'Image'. A dialog window opens that asks the dimensions and number of colors in your picture. Enter the values.

On the left-hand side, a toolbar offers several functions. For example, draw filled or unfilled rectangles and ellipses. You can also use various graphics tools, such as a spray can and pencils with round or flat tips. Different effects, including relief, aging, and mosaic, add a special touch to your picture. Just try the different possibilities StarImage offers. You can find additional information in help.

Creating Presentations with StarImpress

Presentations structure facts in a logical order and present them in a visually appealing way. StarImpress assists in this task with many useful templates.

Creating Presentations with the Autopilot

If you have some initial trouble putting your ideas onto „virtual paper“, the Autopilot is what you need. Select 'File' → 'Autopilot' → 'Presentation...'. A window opens like the one shown in Figure 1.21.

In the dialog, choose an appropriate template from the template pool by clicking 'From template'. A list of possible choices appears. Using 'Preview', get a first impression of the presentation.

With the 'Next' button, proceed to the next page. Here, the emphasis is on backgrounds and display media. Choose an appropriate one. Do you require special effects for your presentation? The next page offers the opportunity to select some. On the second to last page, enter the name and subject area of your presentation together with other thoughts to integrate.

On the last page of the Autopilot, put together the pages for your document. Click 'Create' to end the Autopilot and displays your presentation.

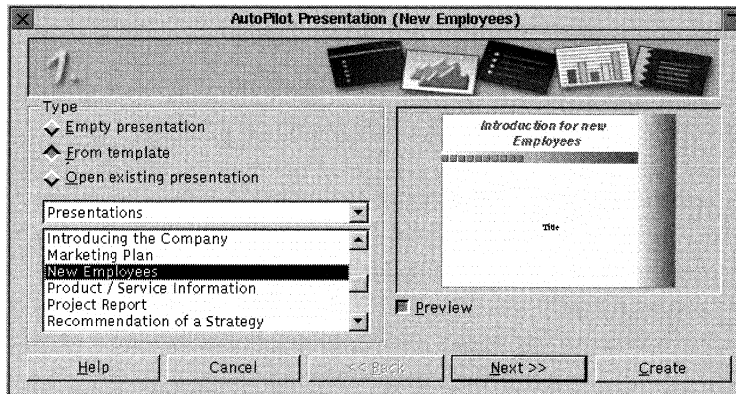


Abbildung 1.21: Creating Presentations with the Autopilot

Change the headlines and the text, make any other adjustments, and your presentation is ready. Using the 'Slide Show' command from the 'Presentation' menu, your presentation can be viewed immediately. Access the next page with a click of the left mouse button. End the presentation with (Esc). Refer to the StarOffice Help System to find out more about all the modification options.

Adding a Slide

To add a page to your presentation, use 'Insert' → 'Slide'. A dialog window opens (see Figure 1.22 auf der nächsten Seite). Give a name to the slide there and choose the AutoLayout to use. By clicking 'OK', insert the slide. 'Cancel' aborts this process. In 'File' → 'New' → 'From Template...', specify your templates.

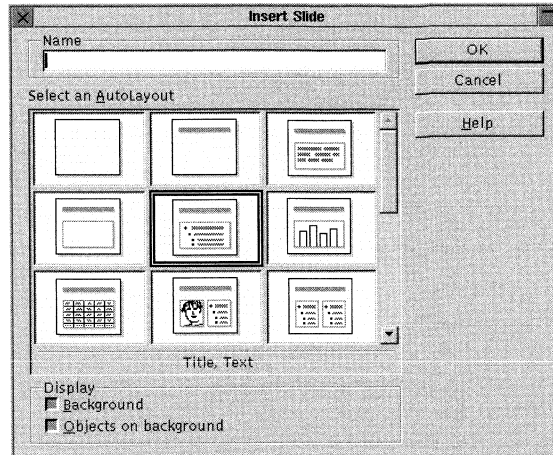


Abbildung 1.22: Inserting Slides in StarImpress

For More Information

StarOffice is a product of Sun Microsystems. Find additional information about StarOffice at <http://www.sun.com/staroffice>. To follow or contribute to development efforts for StarOffice, more information is available at the OpenOffice project site, <http://www.openoffice.org>. The source codes of the applications were recently released by Sun for the benefit of committed developers' access. As you can see, there are some interesting innovations in the office field.

Adobe Acrobat Reader

— The PDF Viewer

Adobe Acrobat Reader is a program for viewing and printing PDF files (portable document format files). It can be found in the Serie pay (commercial applications). Install Paket `acroread` with YaST2.

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Introduction

The developers' goal was to make paperless information management possible for computer users. Electronic documents of a visionary paperless office theoretically have several advantages. These range from easy e-mail sending to space-saving archiving of larger amounts of data.

Viewed globally, the PDF format is only one of the many possible core image formats for text. Acrobat Reader is a viewer for this file format. The program and the file format have several useful features. Figure 2.1 shows the screen displaying a document.

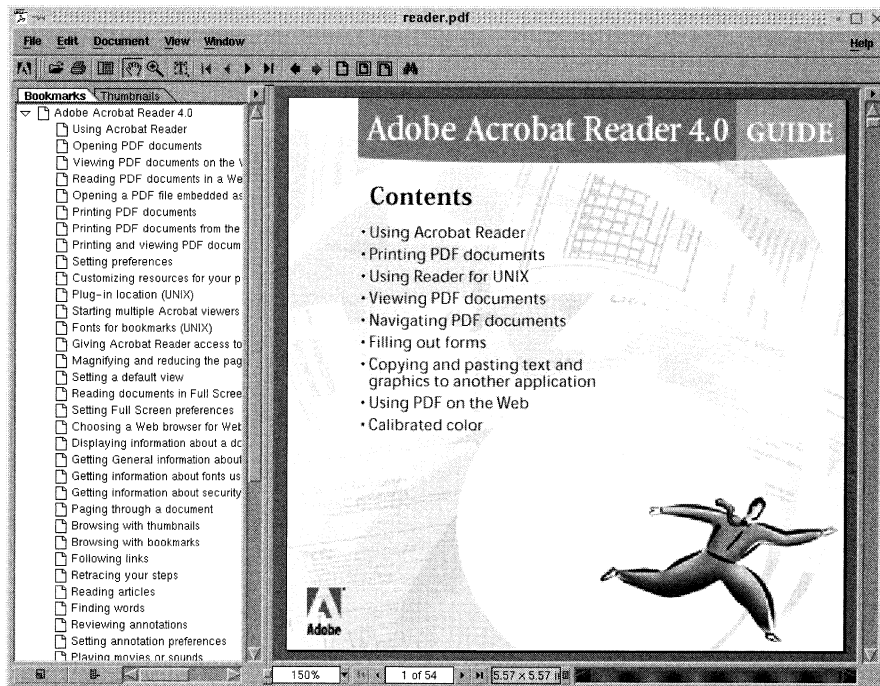


Abbildung 2.1: Adobe Acrobat Reader

The PDF format has been highly optimized for its intended use and is now regarded as the standard format for portable documents. Adobe Acrobat Reader takes full advantage of all PDF features. It is available for Macintosh and Windows as well as Unix and Linux. This provides users with a standard interface to go with their standard documents, giving standardized viewing and printing.

The PDF format is the most popular standard format for documents. You can find many PDF documents on the Internet, which you can easily view and download. Acrobat Reader can be integrated into Netscape as a plug-in. This way, it is used automatically *within* Netscape. When you click a PDF file on the web, it automatically opens the Acrobat Reader, displaying the selected document. The file can also be saved locally with the Netscape 'File' menu.

PDF documents can contain links and bookmarks, shown in their own individual windows. Clicking a link immediately opens the appropriate page in the same document or another PDF page. The hypertext linking features of this format make it easy for users to access glossary references or information elsewhere. PDF files can also include preview images, often called thumbnails. These are displayed in miniature in a separate window, providing a quick overview of the document. They can also be used to locate specific sections or passages. Use the function 'Text' → 'Image detail mark and copy' to copy the selection to the clipboard.

Hinweis

With Acrobat Reader, PDF documents cannot be created, only viewed.

Hinweis

To create PDF documents, you need the Adobe Acrobat programming package or a text processing program that can store texts in the PDF format using a special driver, such as pdftex, pdflatex, or ghostscript. ps2pdf can be used to convert Postscript documents to PDF files.

The Acrobat Reader in Everyday Use

Opening a PDF File

If you click any file with the `.pdf` extension in the KDE file manager and have the basic SuSE Linux system, the file will be opened with KGhostView instead of Acrobat Reader. Because PDF files are based on the PostScript format, KGhostView can display and print them. However, KGhostview lacks the link and search functionality of Acrobat Reader. Manually configure KDE to use Acrobat Reader instead, if desired.

Open the Acrobat Reader itself by clicking 'Other' in the SuSE menu then 'Business/Office'. The menu structure may vary depending on the SuSE Linux version you have. Acrobat Reader can also be started from a terminal with `acroread`.

Open the Acrobat Reader file manager in the application itself via the 'File' menu under 'Open', with `(Ctrl) + (O)`, or via the corresponding icon.

The first line is the menu bar. In the menus, find all the control commands for Acrobat Reader. Familiarize yourself with the keyboard shortcuts to operate the program more quickly (see Figure 2.2).

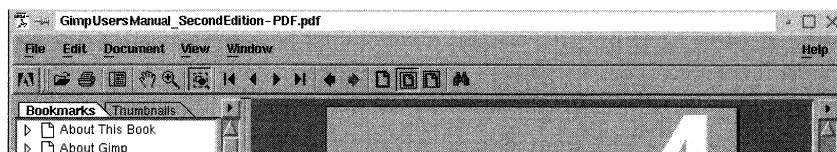


Abbildung 2.2: The Menu and Icon Bars of Acrobat Reader

The icon bar can be found under the menu bar. The icons represent the most common functions and can be activated with a mouse click. On the left-hand side is a separate window in which either the links (bookmarks) or the preview images (thumbnails) of the file are displayed. If a document does not have these functions, the window will not be shown. The open document is displayed on the right-hand side. Normally, this window takes up most of the space in the program window. There is a status bar with more information below the document. It can also be used for navigation. The menu bar, icon bar, link references, and preview images can be deactivated.

Displaying Documents

Sometimes the document text is shown too small to read. Acrobat Reader has several ways to enlarge the text. The easiest way is to click the paper icons in the icon bar. This way, change the size of presentation to '100%', 'Full page', or 'Width of page'. Click the magnifying glass in the icon bar to activate its function. A left-click in the document enlarges. A click with **(Ctrl)** held down shrinks the display. Alternatively, click in the percent display in the status bar and directly enter your own enlargement factor (see Figure 2.3).

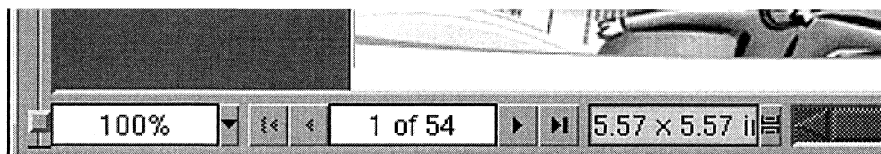


Abbildung 2.3: Setting the Size

Navigating

To change pages, use the mouse or the keyboard. The mouse allows you to easily control the vertical and horizontal scroll bars. You can also click the arrow icons in the icon bar. These icons are also shown in the status bar beneath the document. There, click the page number and type in the page number you want. The arrow keys of the keyboard move the page up or down in small steps. (PgUp) and (PgDn) change to the previous or next page. The status bar contains all the important navigation and settings functions (see Figure 2.3 auf der vorherigen Seite).

Tipp

(F6) turns the link window off and on. (F7) and (F8) respectively deactivate and activate the menu and icon bar. The key shortcut (Ctrl) + (F) activates the search function.

Tipp

Finding Specific Information

Acrobat Reader has a search function for easily locating text. Use the icon with the binoculars or select 'Edit' → 'Find'. Enter the desired keyword and Acrobat will find the first reference. To repeat the search, use 'Edit' → 'Find Again'.

Printing

In the printer menu, the following options are important:

Printer selection: With 'Printer command', specify the print queue. lpr is the default.

Selection of pages: Print all or only a few pages.

Reverse printing: 'Reverse order' activates a very useful function. Use this to print the document last page first.

Enlargement of the pages: Use 'Fit to page' if the page size of the document is larger or smaller than the paper.

Help

Clicking 'Help' opens a PDF file with a detailed help text. Use Acrobat's search, link, and scrolling functions to find the information needed.

Opening PDF Files in Netscape

If PDF documents cannot be opened automatically, it may be due to an incorrect Netscape configuration. Netscape must be told what to do with a PDF file with the Netscape basic settings. To access these basic settings, open 'Edit' → 'Preferences' → 'Navigator' → 'Applications'. The MIME type is application/pdf and the file extension is pdf. If you have an entry for this MIME type, click 'Edit'. Otherwise, click New. Select nppdf.so as a plug-in (see Figure 2.4). If, for whatever reason, the plug-in module is not available, enter acroread %s under the 'Application' column. Then Acrobat Reader will not be opened in Netscape as a plug-in, but instead started as an independent application in its own window. Acrobat Reader must be installed on your system first.

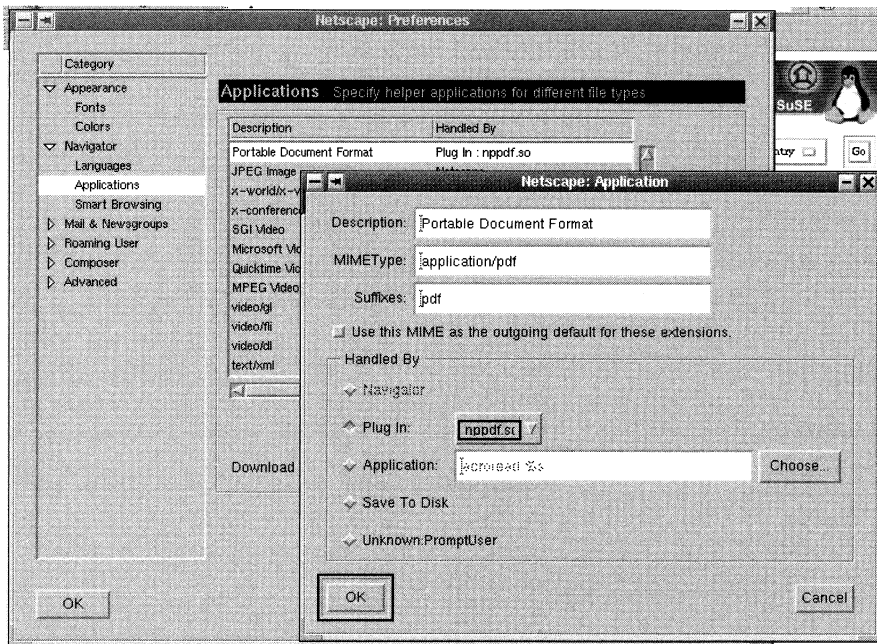


Abbildung 2.4: Netscape Settings

Browsers for KDE and GNOME

Introducing the Konqueror and Galeon browsers for both desktop systems — KDE and GNOME. Konqueror is a web browser, file manager, and document viewer in one. This chapter gives an overview of the numerous capabilities that Konqueror offers. Our short introduction to Galeon will illustrate the most efficient way to take advantage of the extremely fast and user-friendly web browser for the GNOME desktop, Galeon.

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Starting Konqueror

Konqueror can be started in several ways. In KDE, an icon in the panel depicts a house. Click this icon with the left mouse button to start Konqueror or press **(Alt) + (F2)** and enter `konqueror`. A Konqueror window is shown in Figure 3.1.

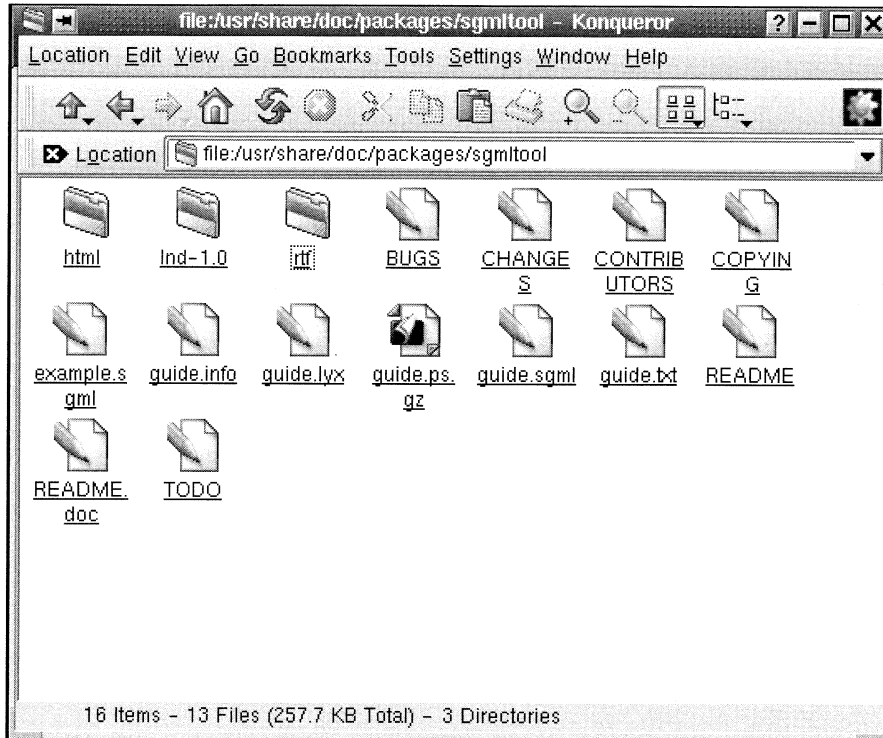



Abbildung 3.1: The Konqueror Window

A Quick Overview of the Konqueror Window

The Konqueror window is divided into several parts. The title bar is the strip at the top of the window. It displays the path of the current directory, document, or web page.

Underneath the title bar is the menu bar. Depending on whether Konqueror is running as a web browser or as a file manager, you can only select certain items. The toolbar shows icons frequently needed for navigation in Konqueror. If you leave the mouse cursor over an icon for a few seconds, a small help text will appear. A right-click opens a pop-up menu. Here, set justification, text position, and icon size.

Beneath the toolbar is an entry line in which to enter URLs. A URL is a general address for one of many different objects. These locations can be on the Internet or a local hard disk. Enter a URL and press .

A URL consists of a transmission protocol and an address. The most common protocols are:

http	web pages
file	local files
ftp	files on an ftp server
smb	shares on a Samba computer
man	man pages
info	info pages
tar	compressed files in tar format
audiocd	audio CDs in Konqueror
floppy	browse floppies

There are a number of other protocols. Valid URLs are, for example, `http://www.suse.de` or `file://localhost/opt/kde2` or, in abbreviated form, `file:/opt/kde2`.

Tipp

Delete the entire line with the × icon to the left of the entry line.

Tipp

To return to previous entries, click the arrow pointing down on the right edge of the screen. This opens a list of previous entries. Select the desired entry. You can also have a bookmark panel displayed. Under ‘Settings’ → ‘Display bookmark toolbar’, activate or deactivate this.

Beneath the URL line is the main window. It shows the contents of directories, web pages, or documents. You can divide the window into different views and look at a document in one section and a web page in the other.

The status bar at the bottom of the window provides a general summary. If the mouse cursor hovers over a link for a few seconds, it will show the Internet address. If the mouse rests over a directory, it will show the folder name. Over files, the name, size, and type of file will be shown. If the window is divided (see Section *Different Modes of Display*), a status line is available for each view and, on the left-hand side, a small icon shows which view is currently active.

The Basics of Konqueror

The Help

There are many ways of getting help in Konqueror. Normally, select 'Konqueror manual' in the 'Help' menu. The KDE help system starts and you will see documentation on Konqueror with numerous additional references. Sometimes this help is too extensive, however, such as when you just want information about a small icon. Normally, a small help text appears when the mouse hovers over an icon for a few seconds. For more information, press $\text{Ctrl} + \text{F1}$ or choose 'Help' → 'What's This?' then click the icon. A small window will open giving more detailed information. A left-click closes it again.

Different Modes of Display

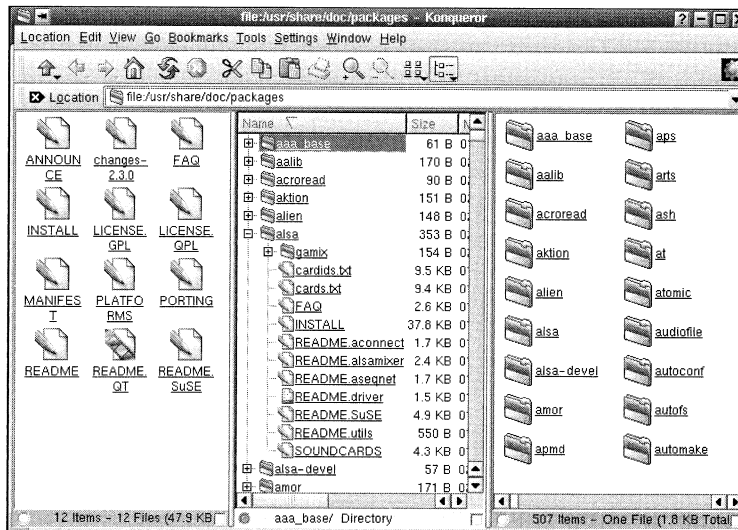


Abbildung 3.2: Split Konqueror Window with Various Views

In 'View' → 'View Mode', select icon view, multicolumn view (the file name appears on the left of the icon), tree view, detailed list view, or text view. Figure 3.2 shows, from left to right, icon view, tree view, multicolumn view. At first glance, the tree view and the detailed list view both look the same. You can, however, examine the directories more closely by enabling the tree view — several directories can be opened at the same time. The tree view is denoted by a „+“ or „-“ in front of the folder name. The detailed list view does not provide this option. It is used to change to a directory.

Dividing Windows and Saving this Configuration

You are probably familiar with the dilemma of going to a directory and losing sight of the overall structure in the process. One solution is to have different displays as in Figure 3.2 auf der vorherigen Seite.

Konqueror can divide the window horizontally or vertically. To do this, just click, in the ‘Window’ menu, on ‘Split View Left/Right’ or ‘Split View Top/Bottom’. The active display shows a green dot in the status bar.

You can even activate a terminal window. If the check mark in front of ‘Show Terminal Emulator’ is activated, a terminal window is opened in which you can enter and run commands as usual. This makes it easy to combine both preferences — graphical and command-line oriented — in one window.

Once you have „assembled“ a display, save it under ‘Window’ → ‘Configure View Profiles...’. Give your profile a name and load it again in future. In addition, decide if the window size should be saved. If the space is too small, move your Konqueror window to its own desktop and choose ‘Fullscreen Mode’.

Konqueror as a File Manager

Navigating in Konqueror

As a file manager, Konqueror enables navigation through various directory levels with ease. Enter your home directory in the URL entry line, for example (or click the icon with the house). Switch directories or open files with the mouse as usual. A single-click is usually sufficient for changing directories or opening files. You can also move around in Konqueror using the arrow keys. Use any of the arrow keys to highlight an item (the background of the selected icon is shown in a different color). Pressing (↵) will open the file or change to the directory. To select a number of files, press (Alt). To return to the previous directory, click the left arrow in the toolbar with the left mouse button.

Navigating with the Sidebar

Konqueror provides a sidebar. This is a window that you can activate or deactivate inside Konqueror, giving several options: display your bookmarks, recent visited URLs, home directory, and much more. Activate the sidebar via ‘Windows’ → ‘Display extended sidebar’.

Deleting Files and Directories

In KDE, there are three methods to delete files and directories. Each method has different advantages. In the first method, the highlighted files are moved to the `Trash` directory when you choose 'Edit' → 'Delete'. They are stored there and can be retrieved until the trash can is emptied. Of all the deleting methods, this is the safest. Delete the contents of the trash by clicking the trash icon on the desktop with the right mouse button. A pop-up menu appears. Choose the entry 'Empty Trash Bin'.

The second method deletes the file by marking the file system objects as „free“. These deleted files can only be restored with special tools, if at all. The third method *really* deletes the file: 'Edit' → 'Shred'.

Achtung

Be extremely careful with 'Shred'. After this treatment, files really are deleted, because the space they occupied is overwritten with random data. If you have sensitive data, which should not fall into the wrong hands, use this method.

Achtung

Selecting Several Files


To select several files in Konqueror, drag a frame around the files required. Click a free area in the window, hold the mouse button down, and move the mouse. A dotted frame surrounds the selected files. When the background color changes, release the mouse button and carry out the desired action (such as copying or deleting).

For a more exact selection, such as all PNG files, choose 'Edit' → 'Select'. In the dialog box that appears, enter an expression, for example, `*.png`. Now all PNG files in the directory currently displayed will be selected. To add additional files to your selection, open the dialog box again and repeat the individual steps.

Finding Files

To find files, go to 'Extras' → 'Find file...'. Specify the name or pattern along with a path and click 'Find'. Konqueror will search the directory specified and show the results below. Conduct a more precise search by selecting 'Date Range' (from when to when) or 'Advanced' (type, text, or size). The program can be run separately from the K menu by clicking 'Find files'.

Renaming Files

To rename files, right-click the respective file. A pop-up window will open. Select 'Rename'. Give your file a new name and complete this action with .

Using Filters

If your directories begin to show so many files that you lose oversight of the contents, use filters. Filters can limit the display to just the files needed. To do this, select 'Extras' → 'View Filter'. It lists the currently recognized file types. If you click an entry, only this type of file will be displayed in the Konqueror window. Via the menu item 'Use multiple filters', designate several filters. View all files again with 'Reset'.

Browsing Compressed Files

Konqueror has another interesting feature: it can browse compressed files. If you have a `tar.gz` file, click it and Konqueror will show the contents as if it were a directory.

You can also copy single files from it. Copying files *into* an archive is not yet supported, but this feature may be included in one of the next versions. `tar: /` at the beginning of the entry line in the URL window shows that you are currently surfing inside a compressed file.

Creating an Image Gallery

Konqueror can help with managing directories full of images by generating an HTML file with the image in miniature. Open the respective directory in Konqueror and select 'Extras' → 'Create Image Gallery'. A window opens in which to specify the background and foreground colors, the title, and where to save it. Start by clicking on 'Ok'. By default, a file called `index.html` will be created. Open it with Konqueror to see your images displayed in a minimized, clear format.

Browsing in Audio CDs

Insert a CD into the drive and enter `audiocd:/` in the URL window. After a few seconds, the contents of this CD are displayed. If you receive an error message, check to make sure you are a member of the group `disk` (use `id`). Add yourself to this group with `Yast2` if needed. Log out of KDE, log back in, and try again.

If you have an open Internet connection, even the title of the audio CD will be shown. This is automatically queried from a CDDb server. Entries are made there by many different users. It is quite likely that your CD title can be found. Copying audio tracks from the CD to your hard disk is also possible. You can even convert them to ogg-vorbis (a nonpatented music format similar to MP3).

Pop-Up Menus with the Right Mouse Button

If you have a directory displayed in an open Konqueror window, open a pop-up menu with the right mouse button at any time. Depending on the file type, you can start various actions here. If you click a file or directory, entries will appear as in the 'Edit' menu.

Konqueror as a Web Browser

Konqueror is more than a file manager. It is also an effective web browser.

Opening Web Pages

Simply enter a web address in the URL line, for example, `www.suse.de`. Konqueror will attempt to display the address. You do not even need to write the protocol (`http://`) at the beginning, as it is recognized automatically by the program. This feature only works properly with web addresses, however. For FTP servers, you must enter `ftp://` at the beginning of the entry line.

Saving Web Pages and Graphics — Web Archives

To save a web page, select 'Address' → 'Save as...' and give your HTML file a name. Images will not be saved along with it. To archive an entire web page — both text and graphics — select 'Extras' → 'Archive Web Page'. Konqueror will suggest a file name to accept or edit. The file name ends with `.war`, the ending for web archives. To view the saved web archive at a later point, click the corresponding file and the web page will then be displayed in Konqueror along with its images.

Extended Web Browsing (Internet Keywords)

Searching the web using Konqueror is very practical. Konqueror defines a number of search engines for you, all with a specific abbreviation. To search for a certain topic on the Internet, enter the abbreviation and the keyword, separated by a colon. The relevant page containing the search results will be displayed.

To define your own abbreviations, click 'Settings' → 'Configure Konqueror' and choose 'Advanced Web Browsing'. A dialog will appear in which to define your own abbreviations.

Translating Web Pages

Konqueror cannot translate web pages directly, but requires an external Internet source. To translate a web page, enter the address then select 'Tools' → 'Translate Web Page'. A dialog will open in which to choose the source language and the target language. After the selection has been made, it will take a few seconds until the translated page appears.

Your Bookmark Collection

If you frequently visit certain pages, it is often a hassle to constantly have to type in the same address. Konqueror helps you set up a bookmark list. For this, use the 'Bookmark' menu. Here, save all your bookmarks, from web pages to directory links, on your local hard disk.

To create a new bookmark in Konqueror, click 'Bookmarks' → 'Add Bookmark'. If you have already added some bookmarks, you will also see them in this menu. It is recommended to arrange your collection by subjects, grouped hierarchically. 'New Directory' creates folders in which bookmarks can be grouped. Open the bookmark editor by selecting 'Bookmarks' → 'Edit Bookmarks...'. Using this program, organize, rearrange, add, and delete bookmarks.

If you are using Netscape or Mozilla as additional browsers, you do not need to set up your bookmark folders again. The bookmark editor includes 'File' → 'Import Netscape Bookmarks' where you can integrate your Netscape and Mozilla bookmarks into your most current collection. The reverse is also possible via 'Export as Netscape Bookmark'.

Change your bookmarks by right-clicking on the entry. A pop-up menu will appear in which to select the desired action (cut, copy, delete, etc.) When you achieve the desired results, save it ('File' → 'Save').

To save your bookmark list and have instant access to it, make your bookmarks visible in Konqueror. Select 'Settings' → 'Show Bookmark Toolbar' and a bookmark panel will automatically be displayed in the current Konqueror window.

Java and JavaScript

Do not confuse these two languages. Java is an object-oriented, platform-independent programming language from Sun Microsystems. It is frequently used for small programs (applets), which are sent over the Internet for things like online banking, chatting, and electronic shopping systems. JavaScript is an interpreted scripting language mainly used for the dynamic structuring of web pages.

Konqueror allows you to enable or disable these two languages, even on a domain-specific level. You can allow some hosts access while denying access for other hosts.

Hinweis

For applets to run correctly, at least a „Java Runtime Environment“ must be installed. The minimum solution can be found in the Paket `javarunt` in the Serie `d`. If you need to compile Java source code, install the Java Development Kit (Paket `java`, Serie `d`) instead.

Hinweis

If you have high system security requirements, completely deactivate Java and JavaScript. Unfortunately, some web pages require JavaScript.

Proxies

If access to a proxy server is allowed by your provider, enter this for KDE. The advantage is that your pages may be available more quickly if multiple users have access to them at the same time.

In ‘Settings’ → ‘Configure Konqueror...’, select ‘Proxy Server’. Enter the proxy for HTTP and FTP along with their respective ports. Under ‘No proxy for:’, exclude specific servers. Normally, you would enter `localhost` here or the name of your Linux computer.

Konqueror as a File Viewer

In Konqueror, view different files as well as directories and web pages. If you click a text file, for example, the program belonging to this will not be started. Instead, the text will be „embedded“ into the Konqueror window. The respective editor must be started separately to work with the file.

The displayed documents cannot be edited. To do this, right-click the file. Use ‘Open with’ to select a program in which to open the file.

For More Information

The following links provide further information.

http://www.kde.org	All about KDE
http://bugs.kde.org	Known KDE bugs
http://www.konqueror.org	All about Konqueror

The Web Browser Galeon

Recently, the widely-used web browser has been transformed into a real „jack of all trades“. During the course of constant development, the Netscape browser has grown into an E-Mail and news client and, in doing so, has become the ultimate „all-in-one“ user tool. The reality that today’s Internet applications feature such depth in integration and that they are so strongly integrated into their corresponding desktop environments that the web browser can no longer be run externally is almost taken for granted. Users of outdated machines will soon feel the effects of this development. All-around browsers are often memory-eaters, sluggish in their operation, and occupy thirty megabytes on the hard disk.

That is why the idea behind Galeon is to devote itself just to one assignment: the web and only the web. To this end, Galeon implements the speedy „Gecko“ engine of the Mozilla browser and integrates this into a slick, extremely functional user interface. The application loads very fast, is quite swift in its operation, and is among some of the fastest browsers out there, thanks to its Gecko engine.

With Galeon on the Internet

Galeon’s most essential navigation tools can be found in the first toolbar. The ‘Next’ and ‘Back’ buttons offer the feature of flipping through Internet sites, just as in other browsers. To the right of those buttons is the ‘Reload’ button, which updates the contents of a site. The ‘Cancel’ button, which stops a connection or transfer from taking place, follows. An quite useful function is zoom, usually scaled to 100%. It provides a 1:1 display of the document. To the right of it, both the up and the down arrows can be used to set the zoom levels in intervals of ten. Enter Internet (URLs) addresses in the following entry box. To the far right, is the GNOME foot. Its purpose is to show Galeon’s progress. If the icon is animated, Galeon is working and transferring data.

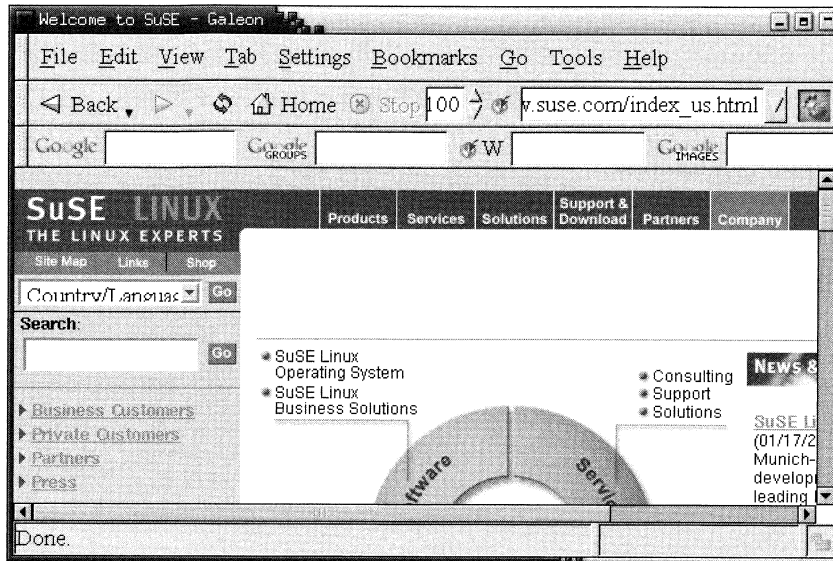


Abbildung 3.3: The Main Window in Galeon

Optimized for the Web

Galeon is primarily designed to make surfing the Internet as convenient as possible. In the default configuration, Galeon presents a second toolbar, enabling quick access to the popular Google search engine as well as its news and image search function.

You can likewise search for keywords in an online dictionary, and use the „bookmarklets“. This is made possible by small JavaScript functions built into Galeon. You can, for example, find out how current the page you are looking at is, or allow the Internet site to slowly scroll down the screen. This provides a lot of practical functionality.

Efficient Surfing with Tabs

Galeon can display multiple WWW documents in a single application window. Such a procedure is often more practical than having to open a new window for each Internet document. To open a link in a web site in the form of a new tab, right-click that link. Select 'Open in new tab' in the emerging pop-up menu. Now, Galeon will divide its application window into „index cards“, so you can maintain easy access to the documents. Create a fresh Galeon tab by clicking 'File' → 'Open New Tab'.

Settings and Controls

All settings characteristic of other web browsers can be also be accessed here via 'Settings' → 'Preferences'. With this dialog's very user-friendly layout, the key selection options are quite self-explanatory. Galeon's appearance can also be changed with these options.

Galeon features built-in password management, cookie controls, and monitor, as well as setting options that specify the web sites from which images may be downloaded. All these options can be accessed through a single dialog, via 'Tools' → 'Cookies' → 'View Cookies'.

After the brief period of initial adjustment, you will find that Galeon is optimized for its single important task. The breathtaking speed of the Mozilla HTML engine does its part as well. Have fun!

For More Information

http://galeon.sourceforge.net	The Galeon home page
http://www.gnome.org	All about GNOME

KMail — The KDE Mail Application

KMail is the KDE mail application. In addition to the usual features like sending and receiving e-mail and multiple mail protocols, it offers several custom-definable filters for sorting e-mails into individual folders. This is useful for separating important business correspondence from less important e-mails from mailing lists, for example. Mails can be either read at leisure or skimmed over briefly and safely deleted.

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The First Steps

When first starting KMail, a `Mail` folder will be added to your home directory. This folder contains the initial mail directories (inbox, outbox, sent, and trash). Use 'Settings' → 'Configure KMail...' to enter the first information needed for KMail to send and receive your messages.

Defining Your User Identity

The settings in the 'Identity' icon panel are organized into three tabs: 'General', 'Advanced', and 'Signature'. Under the 'General' tab, enter your full name in the 'Name' field and, optionally, the relevant information in the 'Organization' field. Enter your e-mail address in the fields below 'Email address'.

Under 'Advanced', enter a 'Reply-To Address' (if applicable). If you want to send encrypted or signed messages, select a key under 'OpenPGP keys' (if you already have a public key) (see also *Mail Encryption with PGP or GnuPG* on page 62). Furthermore, you can select 'Sent message folder' and 'Draft folder'. You will probably not use the option 'Special sending method' very often.

Finally, choose to add a special at the bottom of each message by selecting 'Enable signature' under the 'Signature' tab. This is a common way to add personal information or expression to e-mails.

Add additional user identities with the 'New' button.

Configuring Mail Boxes

The settings in the 'Network' icon panel tell KMail how to receive and send e-mails. Here, find two tabs — one for sending and one for receiving e-mails. Many of these settings vary depending on the system and network where your mail server is located. If you are unsure about the settings or which items to select, consult your Internet service provider or system administrator.

Sending Create outgoing mail boxes under the 'Sent' tab. 'Add' gives the choice of either SMTP or sendmail. For most purposes, select SMTP here. After making this selection, a window will appear in which to enter SMTP server data, such as 'Name', 'Server', and, if needed, the required authorization.

Security settings are under the 'Security' tab. Specify your preferred encryption method here. If uncertain, click 'Test server capacity'. The corresponding settings will then be tested and applied.

Receiving Find all you need for receiving E-Mails under the 'Receiving' tab.

Using 'Add', select from various options: local (Mbox format), POP3, IMAP, or local (maildir format). Normally, POP3 is sufficient.

After making your selection, a window will appear in which to enter the POP3 server data. Give the server a unique name. As all additional data should have been given to you by your Internet Service Provider or your system administrator, you will only need to enter the values in the corresponding fields. The fields that need to be filled out here are 'User', 'Server', and 'Password'.

Under the 'Extras' tab, find several methods of encryption and authorization. If you are uncertain of which options your server provides, try 'Test server capabilities'.

Using KMail

Main Window

The main window appears when KMail is started. It is divided into three sections.

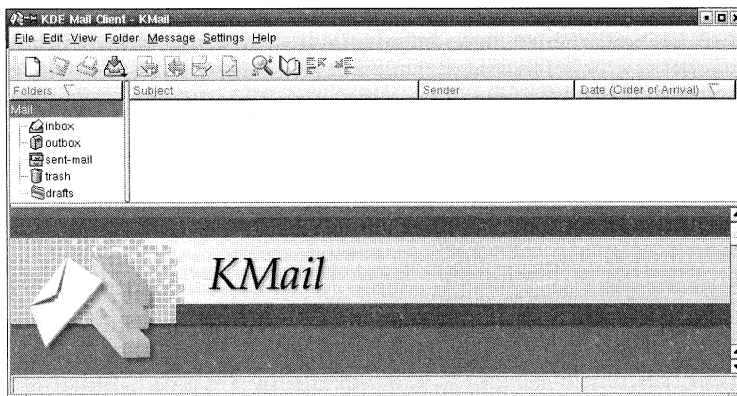


Abbildung 4.1: Main Window in KMail after Start-Up

- Folder area (left)

This section contains a list of your mail folders or mail boxes. The number next to the folder indicates that it contains unread mail. Select folders by simply clicking them. The messages they contain will appear in the upper right window panel. A status bar shows the number of unread mails and the total number of messages in the selected folder. The folders can be displayed either in short form (which only takes up a small portion of the left window margin) or in a detailed display (which takes up the entire left portion of the screen, but displays more folders).

- Header area (right)

In this window panel, the header information (message status, sender, subject, and date) is listed for messages in the currently selected folder. By clicking the header, the message is selected and will be shown in the message window. Select several messages at once by clicking one message then, holding **(↑)**, clicking another. Both of these messages, as well as all the ones in between, will be selected. By holding down **(Ctrl)**, select any number of messages without highlighting the ones in between. Sort messages by clicking the column by which to sort. If you click more than once on a column, the sort direction will switch between ascending and descending order. Sort according to subject, sender, or date.

- Message area (below)

Here, the header and contents of the currently selected message are opened and displayed. Attachments are depicted in the lower message margin as icons, based on the attachment's MIME type. Use **(PgUp)** and **(PgDn)** to scroll through the pages of the message or use **(↑)** and **(↓)** to scroll line-by-line. Find the shortcut keys in the main window.

Messages can be labeled with several different kinds of status flags. They can be changed under 'Message' → 'Highlight as'.

'New' (red dot, header in red print): The message is new and has not yet been read.

'Unread' (green dot, header in blue print): a message changes its status from 'New' to 'Unread' after the folder containing it has been reopened.

'Read' (–): The message has been read.

'Replied' (blue, U-shaped arrow): The message has been answered.

'Waiting' (envelope): The message has been placed in the outbox to send later.

‘Sent’ (slanted envelope): The message was sent.

‘Important’ Label for important messages.

Creating a New Message

The window ‘Create Message’ is used for writing new messages. It can be opened either using the document icon in the button panel inside the main window or via the ‘Message’ → ‘New Message’ menu.

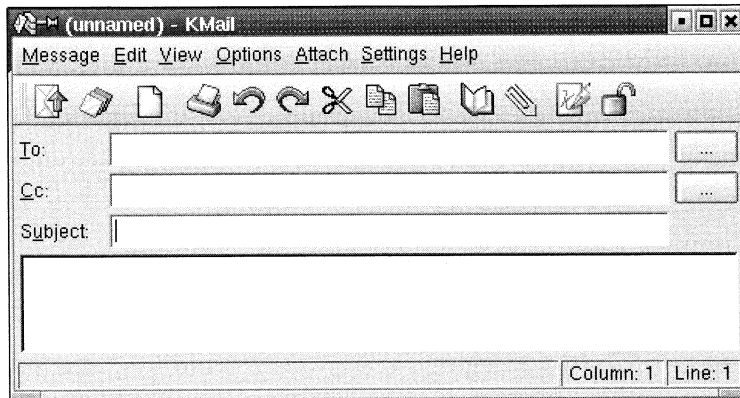


Abbildung 4.2: Creating a Message

Creating a Message

Fill out the corresponding fields in the ‘New Message’ window. There are a number of key shortcuts that can help in writing your message. To send e-mails using various e-mail accounts, select your identity, already configured in *Defining Your User Identity*. The buttons next to ‘To:’, ‘CC:’, and ‘blind copy (Bcc):’, if applicable, open the address book for address selection. If you have already entered the beginning of the address, press **(Ctrl) + (I)** to obtain a list of possible completions. Once After writing your message, click ‘Send’. Use the ‘View’ menu to set up different headers.

Attachments

Attach files to your messages using one of the following methods:

- Click the paper clip icon and choose the file to attach.

- Drag a file from the desktop or from another folder into the 'New Message' window.
- Select one of the options in the 'Attach' menu.

'Attachment Properties' appears, which will ask for information about the attachment. Normally, the file's MIME type is properly recognized, but, if not, select it from a list. Enter a short descriptive text in the description field. Next, select a code for your file from the options list (the default values usually work well). If a file is attached to your message, it will appear in the list of attachments in the lower part of the window. Save, remove, or open an attachment by choosing a name for the attachment and by subsequently clicking 'Remove', 'Save', or 'Properties' in the 'Attach' menu. Attach PGP keys to your messages by choosing the respective options in the 'Attach' menu. PGP keys are treated like file attachments. Their MIME type is application/pgp-keys.

Check Message for Spelling Errors

Check the spelling of your message with 'Edit' → 'Spelling...'. KMail uses KSpell to check the spelling. KSpell is the KDE front-end for the ispell and aspell spell check programs. The spell checker must be configured via 'Settings' → 'Spellchecker...'.

Message Folders

Message folders serve as an organizing tool for your messages. By default, all the message folders are stored in the Mail folder in your home directory. When first starting KMail, the `Inbox`, `Outbox`, `SentMessages`, and `Trash` folders will be added. These folders have the following functions:

- `Inbox`: New messages are stored here (unless a filter has been defined).
- `Outbox`: Messages to send are stored here.
- `Sent`: Copies of all e-mails sent are stored here.
- `Trash`: Stores deleted e-mails.

Although the default folders will most likely serve your needs, you may require additional folders to organize your e-mails. Select 'Folder' → 'Create' to add a new folder. A dialog will ask what to name the folder (see Figure 4.3). If it should be a subfolder, select the folder above it (a pull-down menu labeled 'Belongs to:'). Specify the folder type, any mailing lists belonging to it, and an expiration date (after a certain amount of time, the e-mails will be marked for deletion) inside this window. You still have the option of choosing another user identity or displaying a given sender or receiver.

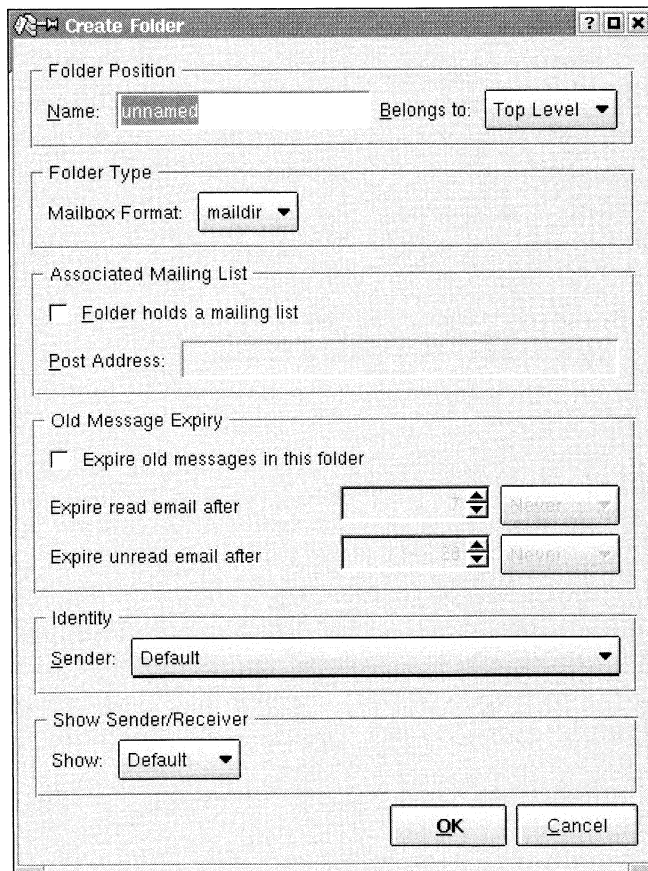


Abbildung 4.3: Creating New Folders

To move messages from one folder into another, highlight the message to move then press (M) or click 'Message' → 'Move to...'. A list of folders will appear. Select the folder to which to move your messages. Messages can also be moved from the upper window into the left window panel by dragging and dropping the message into the appropriate folder.

To remove all the messages from a folder, click 'Folder' → 'Empty'. All the messages located in the folder will, at this point, be moved to Trash. The messages will not be permanently deleted until you actually empty the trash.

The Address Book

Save frequently used e-mail addresses in the address book. Open the address book under the 'File' menu, from the open book icon in the main window, or in the 'New Message' window.

KMail offers the choice of several address books. 'Traditional KMail' is very simple and 'KAB' offers a few more features. Define the address book by clicking the icon panel 'Miscellaneous' and selecting the 'Address Book' tab in the 'Settings' → 'Configure KMail' menu. If you do not have any previous address books, 'KAdressbook' is recommended.

Note the comments below the selection. There, packages required by the enhanced alternatives can be seen. The data in the different address books are independent of one another. You will not see the addresses in 'KAB' that are entered exclusively in the 'Traditional KMail' address book.

Filters

After using KMail for a while, you may get tired of sorting all the new inbox messages into their respective folders. Filters enable automatic processing of incoming messages as well as manual processing of selected messages in a folder. To filter selected messages to a specific folder, highlight the messages and enter **(Ctrl) + (J)** or select 'Message' → 'Create Filter'. In doing so, *all* of your filter rules will be applied to this message. There is no way to just use particular filters for one given message. To delete a filter, select it in the 'Filter Rules' window and click 'Delete'.

Filter Rules

A filter consists of criteria and actions. One filter criterion, for example, selects messages according to the sender, contents, or recipient. The filter action which corresponds to this criterion could, for example, move, delete, highlight, or forward these messages.

Examples of Filters

If you are subscribed to the KDE user list, create a folder for this list (we will call it KDE Users). Create a filter to automatically transfer new messages from your inbox to the KDE User folder, as described in the following:

1. Add a new folder as described in *Message Folders* on page 4. Call it kde-user, for example.
2. First, think about the most concise way to identify messages to filter. The messages in the KDE user list described in our example are specified by their `kde-user@kde.org` address, found in the 'To:' or 'Cc:' field.
3. Click 'Settings' → 'Configure Filters'. A window will open. The left side displays the available filters. The right side of the window is composed of two panels: filter rules and filter actions.
4. Click the 'New' icon to create an empty filter. It will show up as unknown.
5. Select 'To:' or 'Cc': from the first drop-down menu and 'contains' from the second drop-down menu. Enter `kde-user@kde.org` in the text field.
6. In the field 'Filter actions', pick the option 'Move to Folder' from the first drop-down menu. A second drop-down menu appears from which to select the folder. Choose the folder to which the filtered messages should be moved if they meet the desired criteria. In this case, choose kde user from the drop-down menu.

You might need complex criteria to filter your messages. You may want to only save the messages from the KDE user list written by your friend Fred Johnson (`fj@anywhere.com`). Here, the remaining filter criteria come into play:

1. Click 'Settings' → 'Configure Filters' and highlight the filter just added.
2. To filter all messages containing `kde-user@kde.org` in the 'To:' or 'Cc:' fields *and* originating from Fred, define a second filter under 'Filter Criteria' using the second row of drop-down menus. Select 'From' in the first menu and 'contains' in the second. Then enter the e-mail address to filter. select the second pop-up menu inside the filter criteria from the drop-down menu and select 'From' and next to it, 'contains'. Enter your friend's e-mail address: (`fj@anywhere.com`). Note that 'Applies to all' is activated here.
3. Now you have created a filter that transfers all mails from Fred Johnson on the KDE user list.

Mail Encryption with PGP or GnuPG

The following is a short description of how to encode e-mails using KMail. These instructions are geared toward new beginners.

You can encrypt your e-mails (those you send using KMail). This does not mean that the attachments will be encrypted, so you must take care of that in advance with a shell command or one of the other tools. Before you can implement PGP or GnuPG in KMail, install and configure it properly. Find both packages in the `Series` section. For details, refer to the `man gpg` or `man gpg` documentation of PGP and GnuPG.

Requirements for PGP and GnuPG

KMail requires that you name your PGP binary file `gpg`. If you are using GnuPG, KMail will expect a binary file named `gpg`. First, generate a key pair for your identity. This can be done at the command line (use `gpg -kg` or `gpg --gen-key`). The identity (usually your name followed by your e-mail address in angle brackets, as in `JohnDoe<john@example.com>`) and your password are required by KMail to interpret PGP.

KMail Settings

Click the KMail settings dialog with 'Settings' → 'Configure KMail'. Click 'Security' → 'OpenPGP'. Specify the application to use for this purpose in the pop-up menu 'Select encryption program'. The option 'Automatic recognition' is usually chosen.

Once you have made your decision, click 'Identity'. Here, find the item 'OpenPGP key'. A click on 'Change' shows you a dialog box, from which you can make your selection for the required key.

Under the 'OpenPGP' tab, there are the following additional options:

- 'Keep passphrase in memory': If this option is disabled, KMail will always ask for your password when you sign a message (before sending it) or when you decode a message received. If you enable this option, KMail will only ask you twice for your password before storing it in memory. Thus it is stored in memory, but not written to your hard disk. However, be aware that a user with the right privileges (e.g., `root`) might be able to read your password from memory.

- ‘Always encrypt to self’: If this option is disabled and you want to send an encrypted e-mail, you will not be able to read this message yourself once it has been created and encrypted. Enable this option when you still want to be able to read your encrypted messages yourself. You can read the pure text of the message in the `Sent` folder.
- ‘Show ciphered/signed text after composing’: Enable this option if you want to have the text displayed after it is encrypted or signed.
- ‘Always verify the encryption key’: If you click this option, you will be asked each time which key you want to use for signing and encoding.

Under the icon list ‘Composer’, click the checkbox next to ‘Automatically sign messages with OpenPGP’. At this point, all messages will be signed before they are sent. To send encrypted messages and have the recipient verify your signature, give him your public key. To send encrypted e-mails to others or to review your signed messages, you will need your public key. Public keys can be stored on a public PGP key server such as www.pgp.net.

Signing Messages

Create your messages as usual. Before sending the message, click the second-to-last icon in the tool panel of the window. Then send the message. To sign it, KMail must know your PGP password. However, if you have already specified password, KMail will sign the message without requesting any further information. You can review the results of the PGP signing process in the `Sent Messages` folder (or in the outbox if you did not use ‘Send now’). There, your e-mail should be marked with the label that it was signed by you.

Sending Public Keys

Create a message for the person who should receive your public key. Choose ‘Attach Public Key’ in the ‘Attach’ menu. The mail can now be sent. There is no guarantee that the recipient of a signed message will get the correct key. It can happen that the mail is intercepted on the way to the recipient and signed with another key. Therefore, the recipient should check the attached key by comparing the finger print with a previously received value. Further information on this can be found in the PGP and GnuPG documentation.

Decoding Encrypted Messages

In KMail, you only need to click the message. Enter your password when prompted. KMail will attempt to decode the message, if it was encoded with your public key, and display it in clear text. If not, you will not be able to read the e-mail. KMail saves the e-mails as encrypted messages to prevent anyone from reading them without your password.

Receiving a Public Key

You can receive a public key as attachment, over FTP, or on a floppy disk. Before using it to encrypt an E-Mail going to the person who has the key, check the key (look over the fingerprint or look for a reliable signature). Add the key to your public key ring by entering the command `pgp -ka <filename>` or `gpg --import <filename>` in a command line. If the key does not have a reliable signature, you will not be able to use it to encode in KMail (use `pgp -ks <identity>`).

Using Other People's Public Keys — Encoding your Own Messages

To send an encoded message to a recipient for whom you have a public key, write the message in the 'Create Message' window. Before sending the message, click the red key icon in the toolbar in the Create Message window. Now, the message can be sent. If KMail cannot find a single key for the recipient, a list will appear with all the available keys. Select the appropriate one from the list or cancel the action. KMail will also inform you if errors occur during the encryption process. As already mentioned, you will not be able to read encrypted mails if you did not click on 'Always encrypt to self' in the 'Security' tab.

Sound in Linux

Currently, Linux provides a wide variety of impressive, high-performance sound applications. The following chapter assists your entry into the world of Linux multimedia and gives an overview of some of the especially powerful applications.

Mixer Applications	66
Audio CD, MP3, MOD, and WAV Players	68
aRts — The KDE Sound Server	70
Broadcast2000 — The Cutting Studio	70

The following mailing list

`suse-multimedia-e@suse.de` (English)

was created to provide a discussion forum for questions pertaining to sound and multimedia. Subscribe to this list by e-mailing `susedomo@suse.de`. The first line of the e-mail must contain the command `subscribe` followed by the name of the mailing list and your e-mail address. The „Subject“ can be left empty.

Hinweis

Some of the applications described in this chapter are not included in the standard installation. Install them with YAST2 later. Every section begins with a list of the required packages.

If you have a **Personal Edition**, the print version of the Reference manual cited in this chapter is only included in the package for the Professional Edition. Both editions, however, include the Reference manual in HTML format on the distribution in Paket `suselinux-reference_en`, Serie `doc`. After installation, it can be found in `/usr/share/doc/suse/reference-en/html/index.html`.

Hinweis

Mixer Applications

Serie `snd`, package `alsa`, `alsamixer` `gui`

If your sound card was successfully configured by YAST2, the ALSA driver will run as a kernel module. The driver represents the interface between the sound applications and the sound card. Its available features depend on the sound card used. Normally, however, there is a stereo channel for each input and output. These PCM channels enable the recording and playback of WAV files, among other things.

Tipp

Not all sound cards can support simultaneous access of multiple applications to the PCM devices. This can cause an application to freeze when attempting to access a PCM device already being used by another application.

Tipp

Before launching sound applications, it is best to use a mixer application to test and, if necessary, correct the control settings for the inputs and outputs of the sound card.

alsamixer and alsamixergui

alsamixer is a pseudo-graphical mixer for the text mode. It is operated using the cursor keys. The sliders can also be controlled with (Q), (W), (E), (Y), (X), and (C). Use these keys to make various settings for the right and left channels.

Hinweis

alsamixer's appearance and functionality depend on the type of sound card. The following description pertains to the popular AC97 standard for mixer features. If your sound card does not meet these specifications, there may be some discrepancies. The envy24control mixer described in the Reference manual should be used for sound cards with the Envy24 (ice1712) chip.

Hinweis

The main sliders for the sound output are 'Master', 'PCM' and 'CD'. 'Master' regulates the master volume, while 'PCM' and 'CD' set the emphasis of the different PCM and audio CD channels.

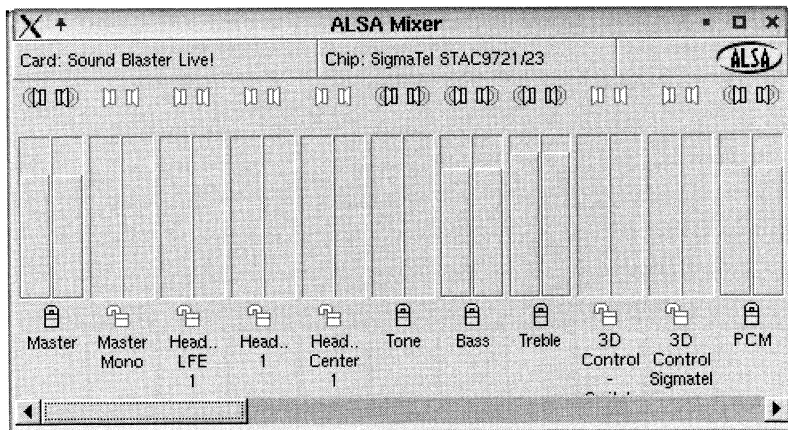


Abbildung 5.1: The alsamixergui Mixer

Use (M) to mute individual channels. When mute is activated, 'MM' will be shown above the slider. Use (Space) to specify the recording source. The 'Capture' slider for input amplification and the 'Line' and 'MIC' (according to the recording source) all function as important recording controls.

Exit alsamixer with (Esc) key. Find out more information by entering `man alsamixer`

Also try the alsamixergui application. This is a mouse-operated variation of alsamixer with a complete graphical interface.

Audio CD, MP3, MOD, and WAV Players

Serie k2de, package kdemultimedia

Serie snd, package alsaplayer

Serie snd, package xmms (xmms base package)

Serie snd, package xmms-plugins (numerous plug-ins)

Serie k2de, package xmms-kde (KDE applet and aRts plug-in)

This section introduces some simple applications for playing audio CDs, MP3, MOD, and WAV files.

kscd — Audio CD Playback



Abbildung 5.2: The kscd Interface

Use `kscd` to play audio CDs. `kscd` can be found under 'Multimedia' → 'CD Player'. If you have an Internet connection, activate the option 'CDDb Internet access' by first clicking the tool button to open the dialog window 'KSCD Configuration'. If CDDb access is activated, `kscd` will send the CD label to the CDDb server. If the CD is stored in the database, the CDDb server subsequently sends the title of the CD and its tracks back to `kscd`.

alsaplayer — An MP3, Audio CD, MOD, and WAV Player

You may remember the good old record player, where there was a switch for the rotation rate. In this age of the CD, for those who miss the ability to play records at various speeds and pitches, `alsaplayer` is just the right solution. It even allows you to play back CDs in reverse. Enter `alsaplayer --help` at the command line for an overview of the various parameters. If you have problems with clicking noises in the background, raise the fragment size to 16384, for example, using the `-f` option. Also try the echo effect using the `--reverb` option.

The rest of the application is self-explanatory. The light-blue CD button opens a menu to start the CD player along with a series of nice visualization plug-ins ('Scope' then double-click the name of the plug-in). Especially worth noting is the plug-in 'Synaescopé', which combines the sound spectrum with a stereo panorama. Open a window containing a playback panel with MP3, WAV, and MOD files by clicking the corresponding button.

xmms — A User-Friendly MP3 Player with Many Plug-ins

xmms is easy to use. The button for opening the menus is somewhat obscured, but you can find it in the upper left-hand corner of the application window.

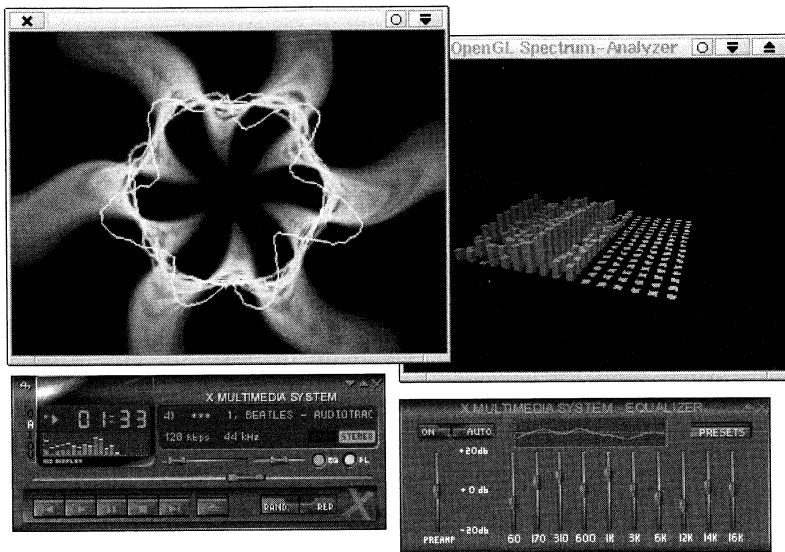


Abbildung 5.3: xmms with Equalizer and the „OpenGL Spectrum-Analyzer“ and „Infinity“ Plug-Ins.

The output plug-in can be configured under 'Options' → 'Settings' → 'Audio I/O Plug-ins'. If you have the package `xmms-kde` installed, configure your aRts sound server here (refer to Section *aRts — The KDE Sound Server* auf der nächsten Seite).

Hinweis

If `xmms` does not detect a configured sound card, the output will automatically be rerouted to the 'Disk Writer Plug-In'. If this happens, the playback files will be written to disk as WAV files. The clock display then runs faster than if it were being played via the sound card.

Hinweis

Start the various visualization plug-ins under 'Options' → 'Preferences' → 'Visualization Plug-ins'. If you have a graphics card with enabled 3D acceleration, select, for example, the OpenGL Spectrum Analyzer here. If you have the package `xmms-plugins` installed, try the new Infinity plug-in.

Just as obscured as the button for opening the menus are five more letter buttons located to the left below the menu button. These buttons can be used to open more menus and dialog windows and for configuring additional settings. Open the play list with the 'PL' button and activate the equalizer by clicking 'EQ'.

aRts — The KDE Sound Server

Serie `k2de` package `kdelibs.rpm`, `kdemultimedia`

Suppose you want to play a multimedia game on your computer and simultaneously listen to MP3 files in the background. To do this, you just need a sound server that can properly process the audio streams of the various clients before sending them to the ALSA driver. In KDE, this feature is provided by the `artsd` daemon. Configure the sound server in the KDE Control Center under 'Sound' → 'Sound Server'. The options 'Start aRts soundserver on KDE startup' and 'Run soundserver with realtime priority' should be activated here. The reaction time recommended is 250 ms. If you experience any problems, deactivate the option 'Enable full duplex operation'.

Broadcast2000 — The Cutting Studio

Serie `gra`, package `broadcast2000`

With Broadcast2000, you can record and edit audio and video data. This section is limited to audio data, but video data is processed similarly. If you are interested in video editing, it should be an easy task after reading this section. Detailed documentation on Broadcast2000 is available in HTML format under `/usr/share/doc/packages/broadcast2000`. The following section should make it easier to get started.

Four windows appear the first time you run `bcast2000`. Because only audio data is dealt with here, close the 'Video out' window. This leaves the main window, the 'Console' window, and the 'Levels' window. The main window already contains two blank audio tracks. To the left of the tracks, find check boxes for both 'Play' and 'Record'. The 'Play' check box activates or deactivates playback. Use 'Record' to specify whether the track should be writable. This applies to recording and all editing commands.

Tipp

The track data is only shown if the check box 'D' is activated. Click 'Fit' after checking this. This will cause the tracks to be redrawn.

Tipp

Broadcast2000 differs from many other editing programs in that the audio data is neither loaded to memory or edited directly on the hard disk. Edits, crossfades, and other effects are saved to a text file in HTAL format („hypertext audio language“). The source files used for a project remain unchanged. Even very large files can be processed efficiently. Once the processing is complete, the results can be saved as WAV files with the 'Render' function.

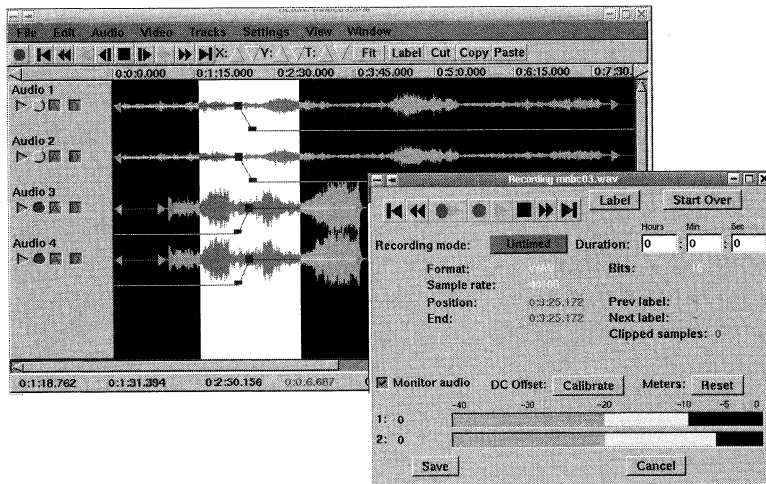


Abbildung 5.4: The Broadcast2000 Screen with the Recording Dialog Box

Configuring the Application

In Broadcast2000, the configuration dialog is accessed with 'Settings' → 'Preferences'. Numerous parameters can be entered here. Fortunately, you can simply use the preset values. If you are interested in what each parameter means, read the `installation.html` file in the `/usr/share/doc/packages/broadcast2000` directory.

Recording Audio Files

Click the red 'Record' button in the toolbar to open the 'Record' dialog. Enter a file name under which to save your recorded music data. This is necessary because Broadcast2000 will write the recorded data straight to the file. The default WAV format should be used as the file format. To record 16-bit audio data, you will not need to make any more changes under 'Options'. Because video data cannot be recorded using the „WAV“ format, disable 'Record video tracks'. Click the 'Do it' button to complete the settings. A new window labeled 'Recording' opens. Now start `alsamixer` (see Section „`alsamixer` and `alsamixerGUI`“) to specify the recording source. Start the playback of the audio source to test it. Set the input volume with `alsamixer`. Do not turn the control too high.

Under 'Recording mode', select the recording mode. In 'Untimed' mode, the recording must be stopped manually. In 'Timed' mode, recording stops automatically after a specified time. Use the 'Start over' button to delete recording mistakes. Once you are satisfied with your recording, save it with 'Save'. An index file (with the `.idx` ending) is added in `~/bcast`. If the option 'Paste output into project' was activated in the 'Record' dialog (the default setting), the recorded audio data will be copied to the two audio tracks in the main window. Click 'Fit' to see a display of the entire recording.

Editing Audio Data

If you have proceeded as in the previous section, the audio tracks contain the recorded music data. Any WAV or MP3 file can be loaded to the tracks. Use 'File' → 'Load' to start a new project from a file. Existing data will be deleted. Load data into an existing project with 'File' → 'Append'. Additional tracks are created for this data. Extra empty tracks can be added either with ① or with 'Audio' → 'Add track'. Create a completely new project with 'File' → 'New'.

Selecting Segments and Zooming

Select regions using the mouse. To adjust the left or right margins, press $\left(\uparrow\right)$ at the same time. Alternatively, enter the beginning and the length or end of the desired segment in the entry fields at the bottom of the main window. The entry field to the left defines the beginning of the range. Define either the length in the entry field located in the middle or the end of the segment in the one to the right. Press $\left(\downarrow\right)$ for the changes to take effect.

The time value highlighted in red shows the current position of the mouse cursor along the time axis. To the right of this, find the display for the current zoom. This shows the length of the screen canvas and the scale of amplitude display. Change the zoom using the arrow buttons located in the tool panel. ‘X’ refers to the time, ‘Y’ refers to amplitude, and ‘T’ represents the track intervals. Click ‘Fit’ to adjust the zoom automatically so the currently selected segment or, if no segment is selected, the entire project is shown sized to the width of the window.

The ‘Label’ button sets the cut at the current position of the selected range or its boundaries. Double-clicking any point between the two cuts on the time scale selects the entire region. Edits are automatically marked by arrows on the time axis of each track. The regions between edit marks can be selected by double-clicking them.

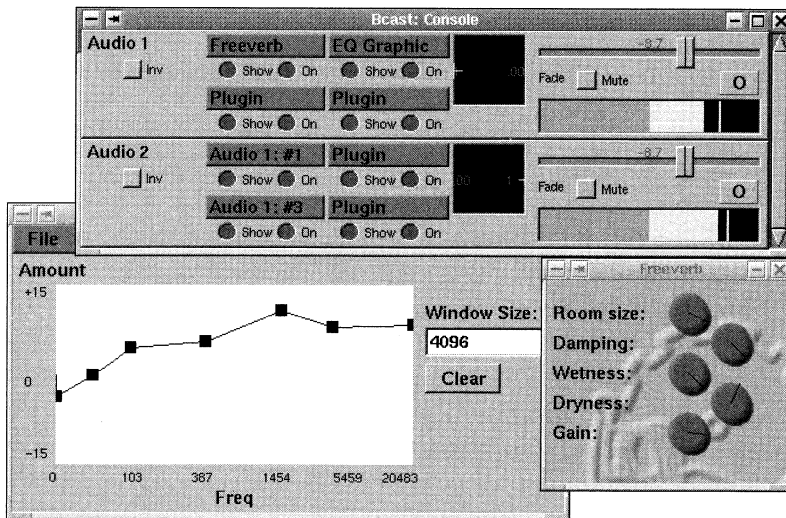
Copy, Paste, and Other Editing Commands

Broadcast2000 provides the customary editing commands such as ‘Cut’, ‘Copy’, and ‘Paste’. Editing commands can only be applied to tracks for which the ‘Record’ check box is activated. This mechanism is necessary, because a segment can only be selected for all tracks simultaneously. To copy a segment from Track 1 to Track 3, for example, activate ‘Record’ for Track 1 and deactivate it for all other tracks. Click ‘Copy’ then the position from which to copy the data. Now enable the ‘Record’ check box for Track 3 and deactivate it for Track 1. Insert the data with ‘Paste’.

Delete a selected segment with $\left(\text{Del}\right)$ or ‘Edit’ \rightarrow ‘Clear’. This moves the data to the right of the deleted segment into its position. To prevent the range from shifting, use the ‘Mute region’ function or $\left(\text{M}\right)$ instead. If you select a segment then ‘Paste silence’, the audio data is shifted to the right by an amount corresponding to its length. The segment will subsequently be filled with zeroes. Try moving the edit marks yourself and see what happens. Revert your experiments at any time using ‘Edit’ \rightarrow ‘Undo’.

Playing and Saving

Broadcast2000 does not modify the source files in a project. Set whether the file names should be displayed in the tracks in 'View' → 'Show titles'. Initially, only information about the changes, such as cuts, crossfades, and effects, is saved. During playback, the source files are read from the hard disk and played according to this information. To review a region more carefully, play the selected segment in a loop with 'Settings' → 'Loop Playback' or $\text{⏮} + \text{⏭}$. Save the project as a text file in HTAL format with 'File' → 'Save' or 'Save as'. This file does not contain the actual audio data. The audio data remains in the source files associated with the project. View a list of these files under 'File' → 'Assets'. To play back the results of your editing outside of Broadcast2000, save them as a WAV file with 'File' → 'Render'. If a region is selected, the output and 'Render' only apply to it. If the 'Overwrite project with output' option is activated under 'Render', the project will be overwritten with the output. To continue using the edited tracks, create two new tracks and check 'Recordable' only for them.



*Abbildung 5.5: The Plug-In Console of Broadcast2000
with the Plug-Ins „EQ Graphic“ and „Freeverb“*

Automating Fade and Pan

In each track, several automation lines can be activated. The automation lines consist of line segments drawn with the mouse. The most important line is the 'Fade' line, which represents an amplitude envelope. Activate this line with 'View' → 'Fade autos' or by pressing ③. Then activate the 'Record' check box for the track for which to draw a 'Fade' line. Move the mouse pointer to the track's time axis. Use the left mouse button to mark a point on the 'Fade' line then drag this line parallel to the time axis. The amplitude is simultaneously displayed in decibels. Define and move further points on the 'Fade' line, drawing an arbitrary volume envelope.

In most cases, you want to define the same automation line for both stereo channels. Fortunately, copying automation lines is simple. For example, to copy a line from the left to the right channel, proceed as follows. Activate the 'Record' check box only in the left channel. Press ① to select the entire project then ② + ③ or 'Edit' → 'Copy Auto'. Next, activate the 'Record' check box only in the right channel and insert the line with ② + ④ or 'Edit' → 'Paste Auto'. Enable or disable automation for each track with the check box 'A'.

Enable additional automation lines in the 'View' menu. 'Pan autos' is particularly useful, which you can use to influence the position of the track in the stereo panorama. Use the 'Plugin autos' together with the effect plug-ins of the console.

Adding Effects with the Plug-In Console

The console provides a real-time signal processor for each track. If your console disappears, reopen it with 'Window' → 'Show Console'. Up to four effects plug-ins can be used per track. During playback or rendering, the audio signal runs through these plug-ins one after another in the order set.

To add a plug-in, proceed as follows. Click 'Plugin' in the desired channel. A menu opens with the items 'Attach', 'Send', 'Receive', and 'Detach'. If 'Send' is activated, the plug-in receives audio data from tracks connected to it. If 'Receive' is activated, the plug-in sends the modified audio data back to the tracks. Clicking 'Attach' opens the plug-in dialog box where the plug-in's channel and number are shown. Select a plug-in in the 'Plugins' list either by double-clicking or by selecting 'Attach' and 'Do it'. Select, for example, the plug-in 'EQ Graphic'. In this plug-in, draw the frequency pattern of a filter with the mouse. Once playback has started, hear your changes in real time. Activate 'Spectrogram' as a second plug-in. Here, view a visual display of the changes in the sound spectrum.

In most cases, you will want to use the same plug-in for both stereo channels. Plug-ins can be shared by several channels. If 'EQ Graphic' is activated in the left channel, for instance, this plug-in will appear in the 'Shared plugins' list in every plug-in dialog box for the right channel.

To remove a plug-in, click 'Plugin' → 'Detach'. Plug-ins labeled as 'Automated' (e.g., 'Pitch' and 'Gain') can be driven by a plug-in automation line.

As well as plug-ins, the console provides other elements. Use 'Inv' to invert the signal. Use 'Mute' to silence a channel. A black field is located to the left of the volume controls. Here, define the channel position in the stereo panorama. A two-dimensional button is used as Broadcast2000, in principle, supports more than two output channels. In the default setting, all odd channels are output to the left channel and all even channels are output to the right channel. With the '0' button, reset the controls after an overdrive.

TV, Video, Radio, and Webcam

This chapter introduces applications with which to watch TV, listen to the radio, and access your webcam in Linux. As not all the applications described in this section are included in a basic installation with YcST2, install them manually with YcST2. Package names and series for applications described in this section can be found in the table below.

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Required Packages

Package	Series	Description
motv	xap	TV application with OpenMotif interface
xawtv	xap	TV application with Athena interface
alevt	gra	Video text decoder
nxtvepg	xap	The TV magazine for your PC
kradio	kde	Radio application
bttv	doc	bttv module documentation

The configuration of TV cards is integrated into the configuration tool YvST2. If your card has been correctly identified, it can be autoconfigured. Otherwise, enter the card settings by hand.

If you are interested in editing videos, also refer to the section on Broadcast2000 in the ‘Sound’ chapter. The following sections focus on the `motv` application, created by the author of the BTTV driver. Another TV application is KWinTV. If you prefer KWinTV, it should be easy to use after reading this chapter.

Watching TV with motv

`motv` is an improved successor to `xawtv`. It incorporates all essential functions into the user interface. The application can be found in the menus ‘SuSE’ → ‘Multimedia’ → ‘Video’. Start it at the command line with `motv`. Initially, only a TV window appears after the application starts. Open a menu window by right-clicking it.

Achtung

If you have an ATI Rage 128 graphics card, deactivate the 3D hardware support (DRI) before starting `motv`. Instead, use ‘Mesa Software Rendering’. Find out more in the „OpenGL — 3D“ chapter in the *Reference* manual.

Achtung

Video Source and Network Search

In the ‘Settings’ → ‘Input’ menu, select the video source. If you select ‘Television’ here, set up the broadcasting network before starting the application. This will automatically take place with the network search, also found under the ‘Settings’ menu. If you click ‘Save settings’, the network found will be entered into the `.xawtv` file in your home directory and will be available the next time you start the application.

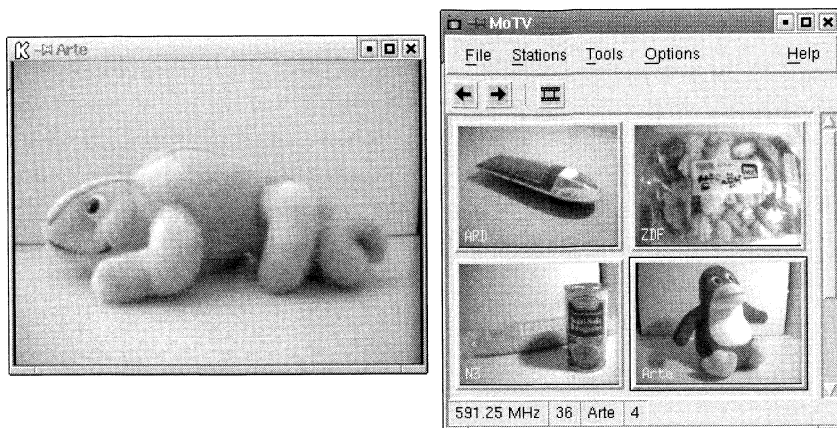


Abbildung 6.1: The TV Application motv

Tipp

If you do not want to browse for all available channels, find the next channel with **Ctrl** + **↑**. You may need to subsequently adjust the broadcast frequency with **←** or **→**.

Tipp

From Silent Film to Sound Film

The audio output of the sound card is connected to the line input of your sound card, to the speakers, or to an amplifier. In the case of some TV cards, the volume of the audio output can be changed. Set the volume in the slider that appears if you select 'Settings' → 'Slider'. Also find sliders for brightness, contrast, and color here.

To use your sound card for audio playback, check the mixer settings using `gamix` (see Section „gamix“ in the Chapter „Sound in Linux“). For sound cards meeting AC97 specifications, set 'Input-MUX' to 'Line'. The volume can then be adjusted with the 'Master' and 'Line' sliders.

Screen Proportions and Full-Screen Mode

Most television images have height and width dimensions of 4:3. With 'Tools' → 'Screen Dimensions', set these proportions. If '4:3' is selected here (this is the default setting), the screen dimensions will be retained automatically, even when the display size is changed.

With **F** or 'Tools' → 'Fullscreen', switch to full-screen mode. If the TV image in full-screen mode is not scaled up to the full monitor size, some fine-tuning is required. Many graphics cards can scale the full-screen mode television image to the full monitor size without changing the graphical mode. If your card does not support this function, the graphics mode will have to be switched to 640x480 pixels for the full-screen mode. Create the related configurations in 'Settings' → 'Configuration'. After restarting `motv`, the monitor mode is also changed if you have switched to full-screen mode.

Tipp

The `.xawtv` file will be created automatically and updated by clicking 'Settings' → 'Save settings'. Here, the broadcasters will be saved along with the configuration. More information pertaining to the configuration file can be found in the man page on `xawtvrc`.

Tipp

The Launcher Menu

Use the launcher menu to directly start other applications to use together with `motv`. Start the audio mixer `gamix` and the video text application `alevt`, for example, using a keyboard shortcut. Applications to launch from `motv` must be entered in the `.xawtv` file. The entries should look like this:

```
[launch] Gamix = Ctrl+G, gamix AleVT = Ctrl+A, alevt
```

The shortcut then the command used to start the application should follow the application name itself. Start the applications entered under [launch] via the 'Tool' menu.

Looking at Video Text with `alevt`

Use `alevt` to browse video text pages. Either start the application via 'SuSE' → 'Multimedia' → 'Video' → '`alevt`' or at the command line with `alevt`. The application saves all the pages of the broadcasting network just activated with `motv`. Browse these sites by either entering the page number to view or by clicking a page number with the mouse. Move forward or backward through the pages by clicking '<' or '>', located in the lower window margin.

Webcams and motv

If your webcam is already supported by Linux, access it with `motv`. Find a summary of the supported USB devices at <http://www.linux-usb.org>. If you have already used `motv` to access the TV card prior to accessing the webcam, the `bttv` driver is loaded. The webcam driver will be loaded automatically when your webcam is connected to the USB. Start `motv` at the command line with the parameter `-c /dev/video1` to access the webcam. Access the TV card with `motv -c /dev/video0`.

Hinweis

When connecting the webcam to the USB before the `bttv` driver has been automatically loaded (this normally occurs when you call up a TV application), the `/dev/video0` command will be reserved for the webcam. In this case, if you start `motv` with the `-c /dev/video1` parameter to access the TV card, you might get an error message, because the `bttv` driver will not be automatically loaded. Deal with this problem by loading the driver separately with `modprobe bttv` as the user `root`. An overview of the configurable video devices on your system can be viewed with `motv -hwscan`.

Hinweis

Listening to the Radio with kradio

The `kradio` application can be found in the 'SuSE' → 'Multimedia' menu. To start the channel search, click the buttons with the double arrows. Use the buttons with the single arrows to change the frequency in 50 kHz intervals. Engage the six broadcasting network buttons by right-clicking them. Then enter the name of the network. This will be saved, along with the frequency just set, to the `~/.kde2/share/config/kradiorc` file.

The volume cannot be changed for every TV card. If you have connected the TV card's audio output with the line in input of your sound card, set your volume with the mixer `gamix`.

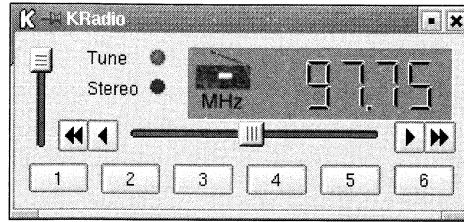


Abbildung 6.2: The Radio Application kradio

nxtvepg — The TV Magazine for Your PC

From some broadcasters, an EPG signal (Electronic Program Guide) is transmitted along with the video text signal. Easily view this electronic guide using the program `nxtvepg`. To do this, however, you must have a TV card supported by the `bttv` driver and be able to receive one of the channels broadcast with an EPG.

With `nxtvepg`, the broadcasts are sorted according to channel and topic, such as 'movie' and 'sport', and filtered according to criteria, such as „Live“, „Stereo“, or „Subtitle“. Either start the application via the 'SuSE' → 'Multimedia' → 'Video' menu or at the command line with `nxtvepg`.

Importing the EPG Database

To set up and update the program database via the EPG signal, set your TV card's tuner to a channel that broadcasts EPG. This can be done using a TV application, such as `motv` or `nxtvepg`. Only one application at a time can access the tuner.

If you set an EPG broadcaster in `motv`, `nxtvepg` will immediately begin importing the current list of TV programs. The progress of this loading process will be displayed.

If you have not started a TV application, let `nxtvepg` search for EPG broadcasters. To do this, use 'Configure' → 'Provider scan'. The check box 'Use .xatv' is activated by default. This indicates that `nxtvepg` is accessing the broadcasters saved in this file.

Tipp

If there are problems, check to see if the proper video source has been chosen under 'TV card input'.

Tipp

The EPG providers found can be selected in the 'Configure' → 'Select Provider' menu. 'Configure' → 'Merge Providers' even creates flexible associations between the various provider databases.

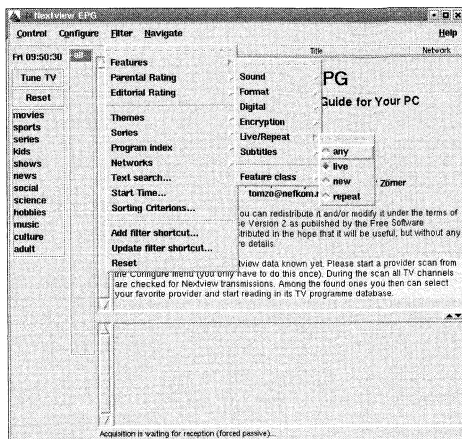


Abbildung 6.3: The Electronic TV Magazine *nxtvepg*

Order in Chaos

nxtvepg provides a convenient filter function for managing even the most extensive program offerings. Activate a network selection list with 'Configure' → 'Show networks'. The 'Filter' menu offers plenty of filter functions.

Of particular interest is the 'Navigate' menu. This is built directly from the EPG data. It will appear in the language provided by the network.

Right-click the program list to open a special filter menu in which to activate contextual filter functions.

Burning CDs with KOnCD

KOnCD is a new, easy-to-use KDE tool for writing data and audio CDs. It is included in the basic SuSE Linux installation of KDE and can be conveniently accessed via the application panel (under 'Multimedia' → 'CD' → 'KOnCD'). This chapter describes how KOnCD is used for writing and copying CDs and how to „rip“ audio CDs.

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Creating a Data CD

ISO Image or „On the Fly“

Basically, there are two ways to write a CD. The most secure method is to generate a CD „image“. This allows the data on your hard disk to be compiled to an ISO-9660-standard image file before the data is written. The second step is to burn this image onto a CD.

If you have newer hardware, the data can also be burned directly onto a CD, especially if your burner supports burnproof functionality. This procedure is called „on-the-fly“. „Burnproofing“ can be activated in KOnCD under ‘Setup’→‘KOnCD’→‘Options’. Also specify the size of the write cache here. The write cache should be at least as large as your CD burner’s internal cache. The default setting of 4 MB should normally be sufficient. It is rarely necessary to specify a cache size over 8 MB.

Tipp

Obtain an overview of the features supported by your burner with `cdrecord dev=0,0,0 -prcap`. The three numbers passed to the `dev` parameter represent the designated drive. Find out what CD burners are installed on your system and their device labels by entering `cdrecord -scanbus`. In Linux, IDE burners are also addressed as SCSI devices. This SCSI emulation enables a uniform interface.

Tipp

Now start the dialog ‘Master CD’ by clicking the corresponding button. The window panel labeled ‘Data’ is divided into several tabs. The settings for the burning method and, if needed, the name of the image file are configured under ‘Image’. Even for writing „on the fly“, define your CD’s image type. Select one of the standard types in the ‘Set image type’ dialog or set the individual options. More information on the options can be found in the Reference Guide chapter „Professional Tools for CD Burning“ or in the `mkisofs` man page. Quit this window with ‘Quit’ to apply the image type settings made.

Dragging and Dropping the Source Directories

In KOnCD, select the files to burn by directory. Either click the directories inside the KOnCD file browser itself or drag them from the Konqueror browser and drop them into the source directory window. Individual subdirectories or files stored inside the selected directories can be omitted from the burning process. Compute the amount of data selected by clicking ‘Calculate’ in the ‘Data Size’ field.

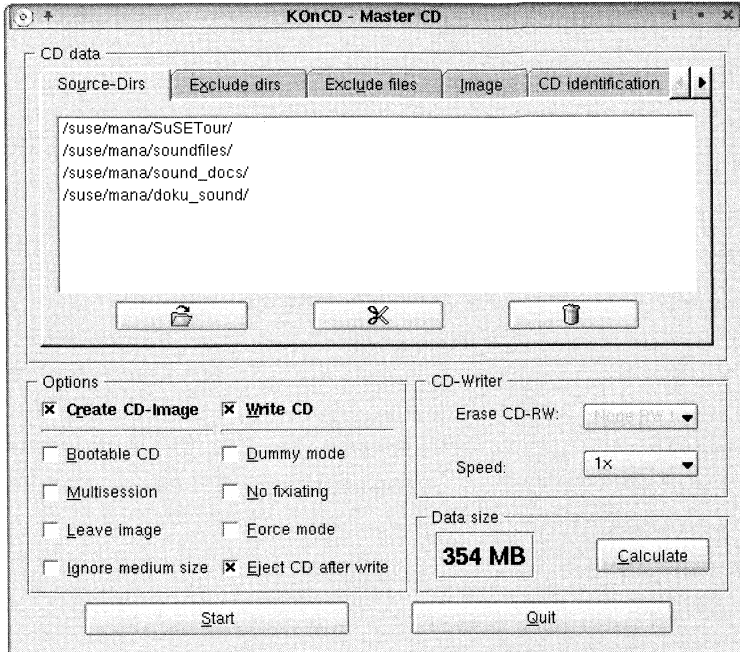


Abbildung 7.1: The CD Master Dialog in KOnCD

Writing CDs

Before pressing 'Start', review the writing options. The most important parameter is the writing speed, which can be selected in the 'CD writer' box. If you are using a CDRW as a medium, select the method for deleting the CDRW in this box before burning.

- All: Deletes the entire CDRW, taking a considerable amount of time
- Fast: Only deletes the table of contents
- Track: Deletes one track
- UnClose: Opens an already fixated CDRW

The options 'Create CD-Image' and 'Write CD' will be activated if you are using an image file. Other options will be deactivated, most notably the options 'Dummy mode' and 'Eject CD after write'. If 'Dummy mode' is activated, it will go through the write process without actually running the laser. Use it to check if your system is fast enough for the writing speed selected. If the option 'Eject CD' is activated, the CD will be ejected when writing is complete. Some burners require this option. More information on the options can be found in the Reference Guide chapter „Professional Tools for CD Burning“ or in the `cdrecord` man page.

KOnCD and Audio CDs

KOnCD (the latest version available at release) assumes that audio data already exists on your hard disk in the form of WAV, MP3, or Ogg files. KOnCD can also be used to generate audio files from scratch. To do this, open the 'Rip CD' dialog and specify the desired target directory and format for the audio files under 'Output'. To temporarily write the files to your hard disk, use the WAV format. These take up considerably more space than the compressed formats, but have the highest quality. After clicking 'Read Tracks from CD', see a list of the tracks on the inserted audio CD. Now select the desired tracks then start the readout. If you are connected to the Internet, KOnCD can automatically query a CDDb server and show the individual track titles, if they are found in the database. This option can be found in the 'Setup' → 'Audio CD' dialog. Configure your preferred error correction and compression settings there. Audio files can also simply be generated by dragging and dropping in Konqueror.

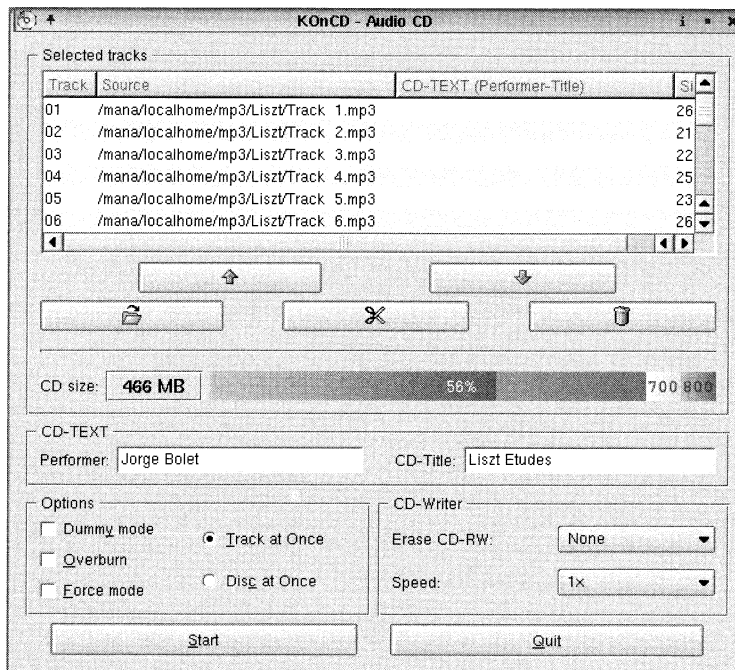


Abbildung 7.2: Generate an Audio CD from WAV, MP3, and Ogg Files with KOnCD

Ripping Audio CDs with Konqueror

By entering `audiocd:/` as an address in the Konqueror browser, all tracks on the inserted audio CD will be shown, along with several subdirectories. If you are online, Konqueror will attempt to query a CDDb server on the Internet for information about the inserted CD. If your CD is stored in the CDDb database, both the CD title and the name of the track will be relayed back to your machine.

The subdirectories displayed in Konqueror are virtual at first. The CD tracks appear in WAV-formatted files in the 'By Name' directory. These files are given the names queried from the CDDb database. The tracks appear as WAV files in the 'By Track' folder in ascending numerical order. The 'Ogg Vorbis' directory contains files in compressed Ogg format.

After copying the files from one of the virtual directories, the file's CD track will be read before being copied to the target directory in the given format. To create an audio CD, it is advisable to first create a new directory for the audio data in Konqueror by clicking 'Edit' → 'Create New' → 'Directory'. Then copy your CD tracks by dragging and dropping them into this directory.

Burning Audio CDs

Open the 'Audio CD' dialog. When adding WAV, MP3 and Ogg files to the file list, the current length of the CD will be displayed in the 'CD size' box. Click with the right mouse button to open the context menu corresponding to the file you just selected. Enter the CD text and other information here. The title sequence can be changed either by clicking the blue arrow key or simply by „dragging“ with the mouse.

The 'CD-Writer' box and the 'Dummy mode' option have the same functions, as described in Section 7. 'Track at Once' and 'Disc at Once' are especially important for audio CDs. If the CD is burned 'Track at Once', two seconds pause will be inserted between tracks. If your burner supports it, write your CD using the 'Disc at Once' option instead.

Tipp

The option 'Use padding' can add up to 88 seconds more music to a CD than is officially specified. This trick takes advantage of the fact that the „lead out“ on the CD is quite generously sized to 90 seconds even though most CD players make do with just two seconds of lead out space. 'Use padding' does not work with all burners and mostly only works in 'Disc at Once' mode.

Tipp

Copying CDs

The options in the 'Copy CD' dialog are probably familiar from previous the sections. If your burner can manage the 'Disc at Once' mode, this option should always be enabled. The 'No fixation' option is used for audio CDs. If it is activated, the CD will not be closed after copying, which allows you to add more tracks later.

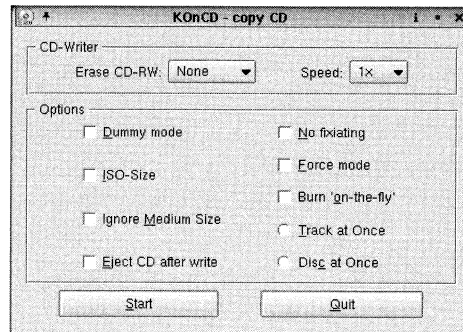


Abbildung 7.3: The Dialog for Copying CDs

Graphics with The GIMP

The GIMP (GNU Image Manipulation Program) is a very powerful program for the processing of pixel graphics. The GIMP is the first choice for retouching or modifying photographs and other image files. Once you are familiar enough with the program, you will even be able to create entire images from scratch. An average user, however, will not need all of the powerful functions of The GIMP. It can even be used for free-style painting. All tools, such as brush, pencil, or airbrush, are available (see Figure 8.1 auf der nächsten Seite). Frequent users of these features should definitely consider acquiring a graphics tablet.

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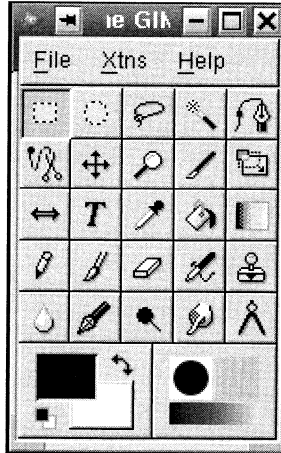


Abbildung 8.1: The GIMP Toolbox — The Default Window

Taking into account the power and performance of The GIMP and the prices for commercial ‘professional’ graphics programs, it soon becomes evident that the GNU Image Manipulation Program is a phenomenal gift to the Linux community. As with so many Linux programs, The GIMP is under constant development. This introduction cannot cover the whole range of features. The „official GIMP manual“ has 924 pages and is available on the Internet at <http://manual.gimp.org>. Unfortunately, some of its descriptions and illustrations are outdated, because The GIMP has undergone extensive development since the manual was written. The internal help system, still under development, also provides valuable assistance to the new user.

Hinweis

The version included in this distribution and discussed in this manual is the most recent release of the stable 1.2 series. The unstable GIMP 1.3 series is not intended for regular users. It is only intended for those involved in developing The GIMP itself.

Hinweis

Image Processing and Graphics Formats

Before entering a detailed discussion of the possibilities of working with The GIMP, we will give a brief introduction to the differences between pixel and vector images together with a short list of some file formats.

Pixel Images

The GIMP has been designed for processing pixel graphics. These images consist of small blocks of color which together create the entire image. A full-screen image on a monitor of 800×600 resolution has exactly that number of pixels. It contains 480,000 individual pixels. Considering this, it is not surprising that image files are generally quite bulky. In addition to the coordinates of each pixel, the color information is stored. With an image of 800×600 pixels, it is easy to get more than one MB of data. From the outset, therefore, much time and energy has been invested in developing compression procedures which squeeze the amount of information together. Some well-known graphics file formats for pixel images include:

- XCF** The native GIMP format. It supports the layer technique discussed later and other specific GIMP functions. If you have created an image using the GIMP-specific settings and save it in a different file format, information is lost.
- BMP** A format without compression used by Microsoft Windows. An advantage of this format is that graphics can be loaded and saved very quickly, but this positive aspect is outweighed by the file size.
- GIF** The „Graphics Interchange Format“ has been specially developed for data transfer on the Internet and has special features to support this. For licensing reasons, many programs are no longer able to support this format. One special feature of GIF is the animated Gif, a GIF file in which several images are stored. In an Internet browser, these individual images are displayed so quickly one after the other that the impression of a moving image is created. GIF, despite its limitations, is popular predominantly because it allows transparency.
- PNG** The „Portable Network Graphics“ is a popular replacement for the GIF format. It can generate the same quality of compressed files without loss of information and is freely available. It allows a better form of transparency, but is not yet fully supported by all Internet browsers.
- PSD** This format is used by the professional Adobe Photoshop application and supports the multilayer technique.
- TIFF** The „Tagged Image File Format“ is yet another method of saving files in the professional arena. It is particularly popular in the printing business.

JPEG The compression method of the „Joint Photographic Experts Group“ allows a highly efficient reduction of image files. Depending on the compression factor, image information will be lost. Nevertheless, it is an ideal file format for images that are to be displayed on the Internet.

Tipp

Always save an XCF version of images you create. This makes future modifications much easier.

Tipp

Vector Graphics

In contrast to pixel graphics, vector graphics do not store information on all individual pixels. Instead they store information on how image points, lines, or areas are grouped together. A line that runs horizontally across the screen, representing a total of 800 pixels, only needs four information units: the coordinates of the starting point, the coordinates of the end point, the information that these two points are connected by a line, and, possibly, the color of the line. With four coordinates and four lines connecting them, you can easily create a rectangle. The fact that this rectangle is filled with a specific color basically requires just one more information unit. In this way, even complex images can be represented with relatively little basic information. Among others, StarDraw, the drawing application in StarOffice, uses this format.

Using The GIMP

Installation

In the standard installation of SuSE Linux, The GIMP is already included. If, for any reason, The GIMP is not installed on your system, you will find the installation files as `gimp` package in the SuSE series `gra` (graphics packages). Refer to the Update chapter for information on installing packages with YaST or YaST2.

Starting The GIMP

The easiest way to start The GIMP is via the SuSE short menu of the task bar or, with an additional couple of steps, via the KDE start button with ‘SuSE’ → ‘Multimedia’ → ‘Graphics’ → ‘GIMP’. The GIMP can also be started in any desktop environment by typing `gimp` in a command line.

When The GIMP is newly installed, some postinstallation procedures are conducted when it is first started for a user. The left button in the bottom part of dialog box that opens is the 'Install' button. Click this button and then, in the following dialog box, click 'Continue'. The GIMP will now be correctly installed and set up.

Since many files need to be loaded when it first starts, The GIMP takes some time to load. By default, a window is displayed after each start showing the 'Tip of the Day' (see Figure 8.2). If desired, deactivate it by unchecking the 'Show tip next time' box on the left.

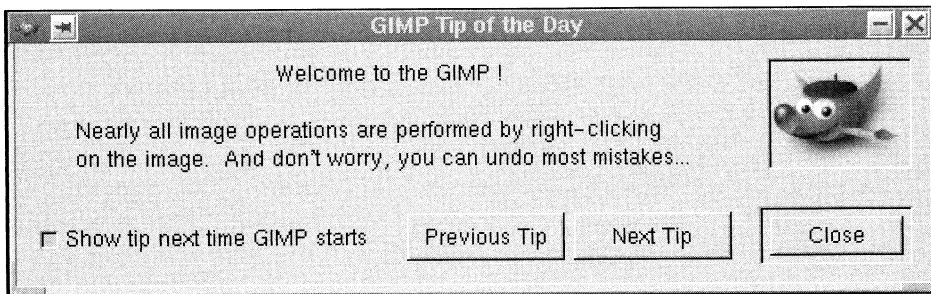


Abbildung 8.2: GIMP Tips

The Toolbox

Initially, The GIMP appears on screen in a rather unspectacular way. It opens a relatively small window containing the toolbox. The buttons of this window are the main functions needed for powerful image manipulation. The following is a description of the icons and their functions.

Tipp

If you have no previous experience with image processing programs, carefully reading the following text will help you acquire some background knowledge. After this basic introduction to image manipulation, you will be ready to edit your first image.

Tipp

The GIMP toolbox window can be subdivided into three parts: the menu bar with the 'File', 'Xtns' (Extensions), and 'Help' menus; the tool icons; the color, pattern, and brush selection icons.

The Menu Bar

In Figure 8.1 auf Seite 92, you can easily see the menu bar. The main items under 'File' are:

1. Creating a new graphics file
2. Loading an existing image with the The GIMP file manager
3. Creating screenshots (screenshots are image sections of your screen that can be stored)
4. Setting basic options
5. Quick access to the most recently processed files

The main items under the 'Xtns' menu are:



1. Modules
2. Plug-ins — additional programs linked into The GIMP that implement a specific graphical functionality
3. Scripts
4. The GIMP web pages

The 'Help' menu contains various ways of accessing help information.

The Tool Icons

Each graphic in the toolbox represents a specific function. The toolbox can be resized both in width and height. Overall, a distinction can be made between three or four function areas.

Selection Tools

In image processing, you will want to process either the whole image or only a specific section of it. The GIMP needs know to which area the following actions should be applied. Several selection tools will help define a specific area. Once a selection has been made, it can be processed without affecting other parts of the image. Selection areas can also be increased or decreased in size with the aid of  (additive selection) and  (subtractive selection). The cursor will change and show a plus or a minus sign.

Transform Tools

These functions are used to modify selections. Many functions are available, including crop, flip, and transform.

Paint Tools

The paint tools represent pencil, paintbrush, airbrush, pen, and finger (smudge) and try to emulate their real-world properties on the PC.

A fourth functional area to be classed with these three areas might include the color, fill, and brush options, which specify the paint color or the tip of the painting tool.

Tipp

One click on a tool icon activates the tool. A double-click opens an additional window with the option settings for the specific tool. Some settings are simple and immediately understandable, others are quite complicated. Don't hesitate to play around a bit with these settings.

Tipp

The Selection Tools



Rectangular select is the simplest selection tool. By keeping the left mouse button depressed and dragging the mouse at the same time, a rectangular area is marked. When you release the mouse button, a frame indicates the selected area. If you press **Ctrl** after you begin drawing the selection, only perfect squares can be selected.



This tool works like rectangular select, except that it selects a circular or elliptical area. It is used in the same way, except that pressing **Ctrl** after you begin selecting limits the selection to perfect circles.



This is the first usable selection tool for photographs. The lasso allows a free-hand selection of an irregular shape. Press the left mouse button and follow the shape as required. When you release the mouse button, start point and end point are joined with a straight line. An accurate selection is difficult, so working with an enlarged image is recommended.



The magic wand fuzzy selection tool selects an image area through color similarity of adjacent pixels. If the default settings are not suitable, either change the threshold value in the option box or combine several selections using **Ctrl**. The magic wand is ideal when you want to select irregular areas of similar color.



With a bit of effort, the Bezier Curves tool allows you to capture specific areas or objects of an image. With the aid of anchor points which you set with mouse clicks, draw clean, curved lines. One advantage of this technique is that you can change the selection with the aid of control points. Once you have marked the area required, just click inside it and it will be selected. This tool requires some practice to master, but is invaluable for more advanced work. Selections made with this tool can also be saved and manipulated with the 'Paths' tab of the Layers, Channels, and Paths dialog.



As you click, Intelligent Scissors tries to draw a selection along color or brightness edges. Sometimes it works quite well. You can modify the settings in the option box.

Transformation Tools



When Move is activated, grab and move your selection with the mouse.



The magnifier is not a true transformation tool because it only zooms the screen representation in or out. The image itself is not changed. To use the zoom out function, which reduces the image on the screen by a certain percentage, press and hold (Ctrl) while clicking with the mouse.

For a true enlargement of your image, open the context menu with a right-click in your image and select 'Image' → 'Scale Image'. In the dialog box that opens, change the height and width of the image by percentages or by pixel values.



Crop and resize your image. For an aesthetically pleasant impression for landscape photographs, for example, it is recommended to assign the sky one-third and the landscape two-thirds of the image height. Using the mouse, click and drag to open a rectangle. A click inside this rectangle crops the surrounding area. You can always undo this immediately by (Ctrl) + (Z). Take your time to experiment with this tool. You can also change the size of this rectangle. Resize the section by grabbing and moving the top left or bottom right corners. The whole rectangle can be moved by grabbing and moving the bottom left or top right corners.



This icon hides a multitude of functionalities that might confuse a beginner. However, the tool has a high fun factor so it is worth playing around with it. You can either process the whole image by clicking the tool icon first then the image or a portion by first making a selection then clicking the tool icon.

Four functions available: rotate the image or the selection around an arbitrary rotation point, enlarge or reduce (Scaling), convert a rectangle into a trapezoid (Shearing), or distort the perspective of an area. The default setting is Rotation. Other functions can be specified in the option box opened by double-clicking on the tool icon.



A simple tool that flips (mirrors) the selected area horizontally or vertically.

Once you have modified your whole image or a selection with the aid of a transformation tool, you need to reconnect this floating selection to the image. Prior to this integration, you can still modify the result of your transformations. There are several possibilities for integrating the changes into the image. Use the anchor layer keyboard shortcut ((**Ctrl**) + (**H**)), click in the image somewhere outside the selection, or choose a different selection tool and apply it.

Paint Tools

The first few tools in the following list are somewhat different from the other paint tools. They are included in this section, however, because they are used to add colors or text rather than modify it. The main paint tools provided by The GIMP have particular properties in the real world that are emulated by The GIMP. Set the appropriate options to simulate various pencils or to adjust the paintbrush to your personal requirements. In the option boxes of the paint tools, find the slider 'Opacity'. This is used to set the opacity of the color employed. With the 'Mode' drop-down box, specify how your painted lines or surfaces should be integrated into the image. Depending on the tool, the different modes have different effects.



The T stands for text input. In The GIMP, text input is done in two ways and many options are available. A double-click on the tool opens the option box. By activating or deactivating the 'Use Dynamic Text' button, select multiline text input with alignment or single line text input. A click in the image with the T tool activated opens the corresponding dialog box in which to enter text and select font, size, and other parameters.

Achtung

If you do not save the text in a separate layer, you will later be unable to modify it because it is integrated into your image in pixel form. See Section *Layers* auf Seite 107 for more information.

Achtung

The GIMP provides a relatively simple text tool. Many text effects, such as shadows or gradients, must theoretically be input by hand. In practice, however, 'Script-Fu' or the 'Filters' submenu provide many automatic modification procedures which have, in part, been specifically designed for use with text. Have a look at the Script-Fu menu in the context menu and don't hesitate to experiment.



The color picker allows a controlled selection of a color from your image and transfers it to the color selection box. When you click on a specific color in the image with the color picker tool, this color is selected. With it, you can quickly find, for example, a specific skin tone needed to retouch a photograph.



With the paint bucket, fill a selected area with color. Instead of a color, it can also fill with a pattern. Prior to the filling action, activate 'Pattern Fill'. Everything in the selection is then painted over with the selected settings.



The icon represents a color or grayscale gradient. The GIMP has several predefined gradients you can use to fill the selected area. This tool, too, is relatively complicated and requires some practice, especially if you want to overlay an image with transparent color gradients.



The pencil is a painting tool with which every user is familiar. With the virtual pencil — as with a real pencil — draw free-hand lines. The type of line — the width and shape of the pencil point — is selected with the brush dialog. Either double-click the brush icon in the bottom right corner of the toolbox or select 'File' → 'Dialogs' → 'Brushes'. Pencil points are available that do not actually exist in the real world. Make your pencil point extra-fine or extra-thick or select one of the special shapes.



The paintbrush draws with a softer, more liquid effect than the pencil. In the appropriate option box, set a fade out (the color intensity slowly diminishes while painting) or a gradient (selection via the gradient setting options). When the fade out option is activated, you need — as in reality — to release the paintbrush and begin again to apply more color.




The eraser erases. It also unerases. When you use the above-mentioned brush selection to choose a specific brush, you also set the shape of the eraser.



The airbrush allows you to work in the same way as with a real airbrush. You can change the „Pressure“ and use the many different brush settings. This tool is ideal for use with a pressure-sensitive graphics tablet.



The clone tool (the icon represents a rubber stamp) is the ultimate instrument for photo retouching. It can be used to specify parts of images that are then cloned. In practice, this means that you specify very precisely which part of the image is to be copied where and in what form. This has relatively little to do with the ‘Cut’ and ‘Paste’ functions. It uses the paint functionality, allowing you to set shape and opacity of your imaginary rubber stamp. Things become interesting, for example, if you have an old photograph with white stains. Activate the Clone tool and, if needed, its option box. Keep  held down and click on the image area to be used as a model for the copy. Then release the mouse button and place the cursor on the damaged image area. If you now press the left mouse button and move the mouse, the image area that you have marked in the first step of the procedure will be inserted. When you move the mouse upwards, the area being copied moves upwards too. The point is marked by a crosshair. Depending on the brush settings, a small or a large radius is copied and, depending on the tool settings, copying is carried out in a translucent or opaque manner. You will need this quite frequently to retouch photographs. You can, for example, eliminate unwanted text from scanned images or even skin blemishes from portraits.



The Convolver tool (the icon shows a drop of water) is used for precise manual blurring or sharpening of image parts. Which of the two actions is active is set in the option box. Again, the brush selection determines size and borders of the manipulation area. Blurring lays a kind of haze over the image or, as when using a drop of water on a water color painting, blurs the „painted“ areas. Sharpening is the opposite. Here the program attempts to increase the contrast and make a neater separation of edges. Sharpening works very well if you later look at your image from a distance. It also means a loss of information, however. Seen from very close up, the images look extremely pixellated.



The pen can be used not only for drawing, but also for calligraphy. Writing well, however, can only be achieved with the aid of a graphics tablet. In the tool settings, adapt the shape of the pen to your own requirements.



The tool icon that looks like a pin is, in reality, a thin wooden stick with a glued-on opaque cardboard circle. Such an instrument is needed in a photographic laboratory for the perfect exposure of a manual paper copy. Since only a small part of the negatives (or positives) is exposed perfectly, this instrument is moved over the areas that would otherwise become too dark while the paper is being exposed. Thus, the exposure of specific problem areas can be adjusted individually. The opposite is a piece of cardboard with a little hole in it for postexposure. Both functions are fulfilled by this GIMP tool. You can dodge (make lighter) individual image areas or burn (make darker) them. To create soft transitional borders, use a diffuse brush shape.



The finger shown in this tool icon moves over the color just applied to the paper and smudges it. This can be used to create very interesting effects.



With the calipers, measure distances and angles. In the associated option box, activate the 'Use Info Window' button.

Color, Brush, Pattern, and Gradient Selection

The icons shown Figure 8.3 auf der nächsten Seite show a value set in The GIMP.

The color selection functions are on the left. On the right are the currently active brush shape, the active pattern, and the active gradient. A click on each of these opens a dialog window for individual configuration.

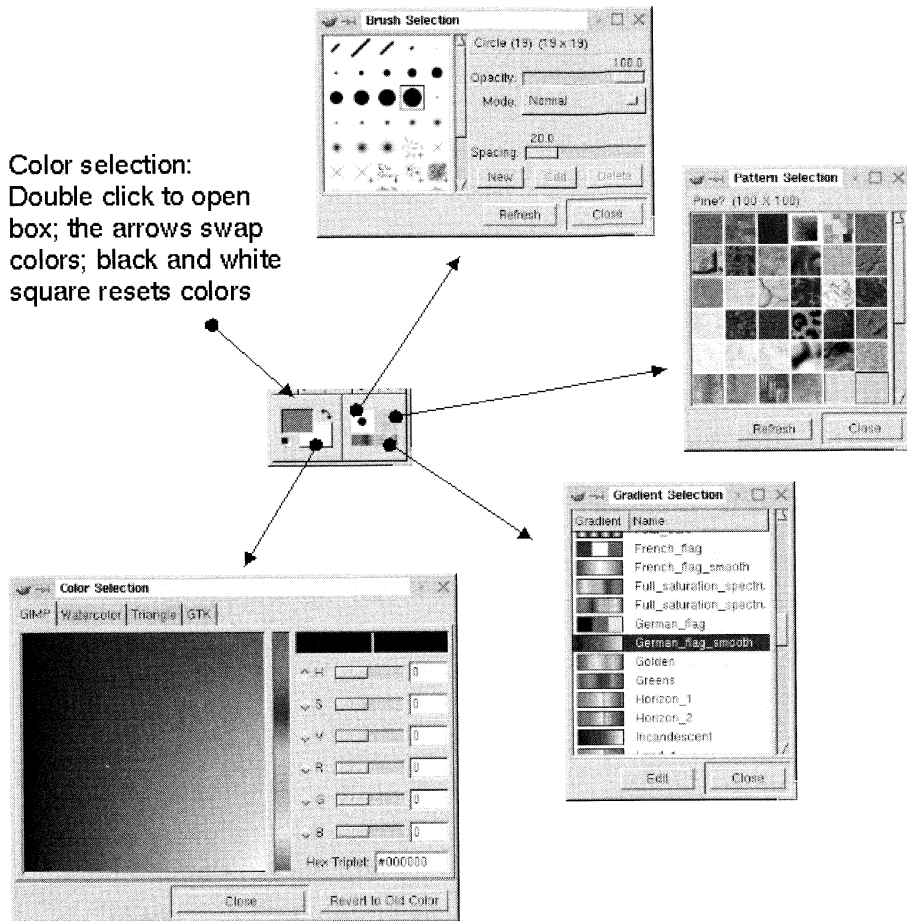


Abbildung 8.3: Color, Brush, Pattern, and Gradient Selection in GIMP

Working with The GIMP

Opening Images

You have, for example, stored a scanned image or an image from the Internet on your hard disk and want to work on it with The GIMP. Click 'File' → 'Open' (keyboard shortcut: (Ctrl) + (O)) and The GIMP file manager dialog will open (see Figure 8.4 auf der nächsten Seite).

On the left-hand side, change to a different directory by double-clicking. On the right-hand side, the files are listed. The file list is sorted alphabetically. Individual sorting by file type or date is not possible. A handy feature is the small integrated preview window. If The GIMP recognizes the file format, you can see a thumbnail picture of the currently selected file. A double-click on the file name or a click on 'OK' opens the image.

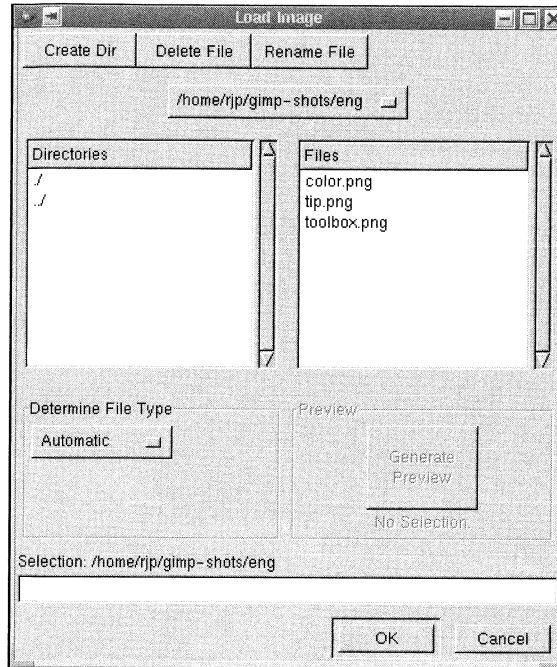


Abbildung 8.4: Load Images

For convenience, The GIMP works with an image in a separate image window completely independent from the window containing the tool icons. You can move the image window around on your screen and, if needed, change its size and zoom settings independently.

Creating a New Image

To create a new image, select 'File' → 'New' or press **(Ctrl) + (N)**. A dialog box will open where you need to specify several image attributes (see Figure 8.5 auf der nächsten Seite). The most important ones are width and height, usually represented in pixels, image type, and fill type. If you specify a width of 800 and a height of 600 pixels and your screen resolution has the same value, you can use your painted image later as a full-size background image. In the Fill Type selection area, select the type of fill to use in the new image: the current foreground or background color, white, or transparent. By default, transparent areas are rendered with gray checks.

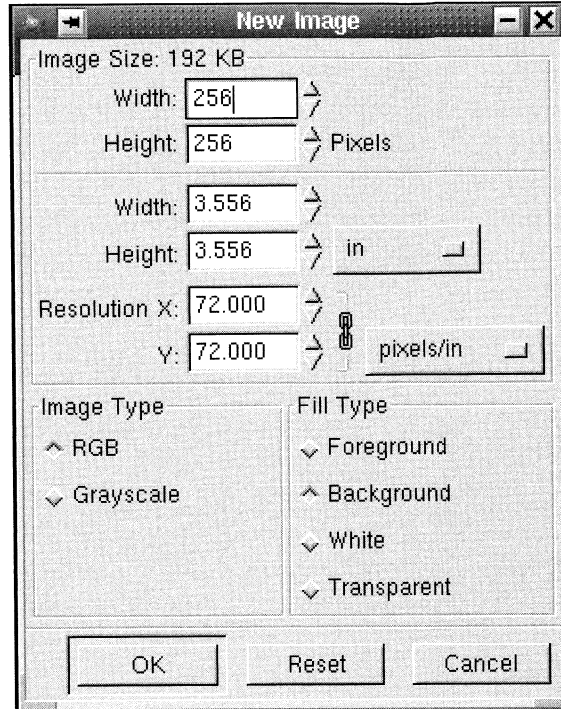


Abbildung 8.5: Creating a New Image

Saving Images

As with many other functions, save with the mouse or **(Ctrl) + (S)**. When using the mouse, right-click inside the image to open the context menu of the image. To save your image, activate the function 'File' → 'Save'. If you have already assigned a name to the image, it is saved under that name. If not, The GIMP file manager will open and let you specify the required file name and, if needed, a different directory. With the 'Determine file type' option, specify which image format The GIMP should use for saving. Use a correct file extension. In theory, it is no problem to save a GIF file with a .TIF extension. If the file type is set to 'By Extension', The GIMP saves in the file type identified by the file extension in the file name.

Printing Images

To print out your images, open the context menu with the right mouse button. With 'File' → 'Print', open the print dialog. Make sure that you select the correct print queue (printer), media size (default setting „Letter“), orientation (auto, portrait, landscape), and output type (black-and-white or color). Use a raw queue because GIMP-Print produces printer-specific data. Scale the image and, if needed, specify its position on the page. With the 'Print' button, send the print job to the printer.

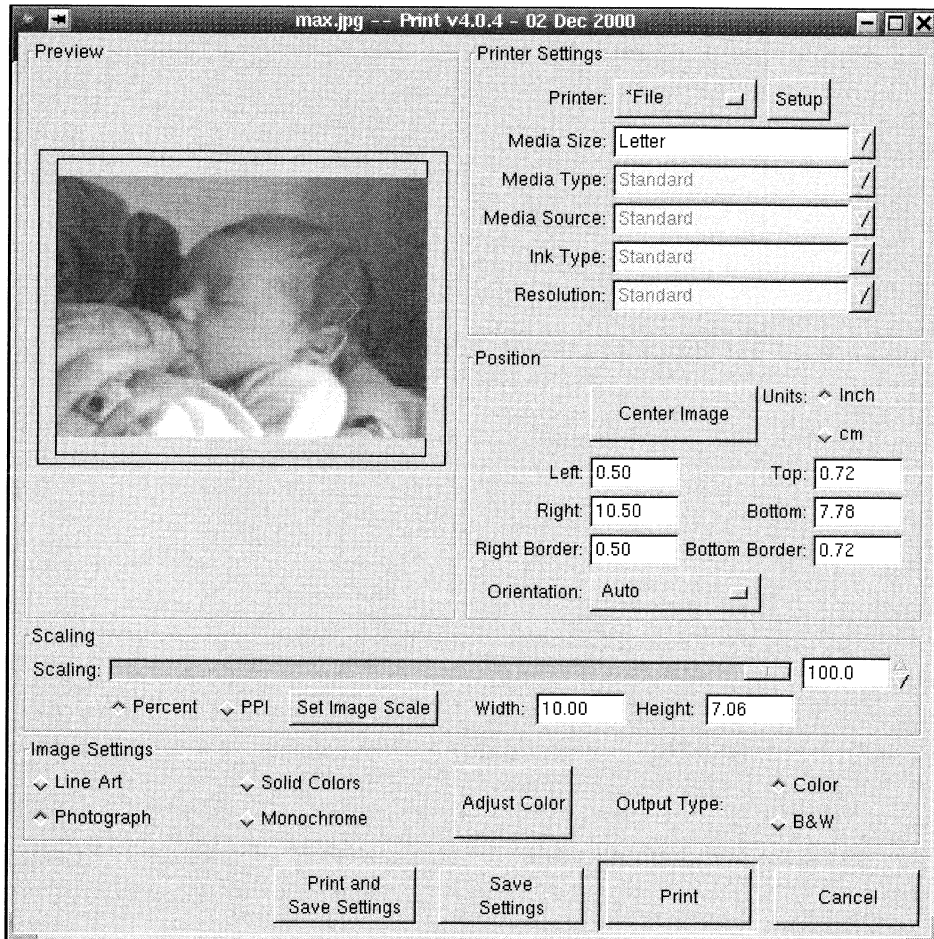


Abbildung 8.6: Printing Dialog in GIMP

Configuring The GIMP

The GIMP provides some simple setting options for fast and efficient work. Explore 'File' → 'Preferences' to see the range of options available. Once you are more familiar with The GIMP, experiment with the various settings. Refer to the internal help system for advice.

An important setting is the multilevel Undo, used to undo your last actions. To use it, select 'Edit' and then 'Undo' in the context menu or press (Ctrl) + (Z). It is important to set how many levels of changes The GIMP should save. Set this in the 'Environment' category of the 'Preferences' dialog mentioned previously. If you memorize the keyboard shortcuts, The GIMP is much easier to work with. Change the shortcuts to your individual requirements. Right-click the required menu item and keep the mouse button pressed. Then type the required key combination — it is immediately assigned. Avoid repeating shortcuts, as that is possible and will confuse the program.

Tipp

Many functions or tool settings have their own windows which you can open and close as needed. On a larger screen, leave frequently needed dialog windows open without any problem.

Tipp

Tear-off menus are another outstanding feature of The GIMP. Whenever a menu shows a dotted line on top, click on this line, detaching the menu from the larger context menu. The menu is then displayed on your desktop in its own window.

Layers

Layers are crucial to using The GIMP effectively. They allow you to arrange image contents and more easily edit and modify your image. To store layer information when saving a file, save in GIMP's native format, .XCF. As well as preserving layer information, it also saves The GIMP features such as the location of guides.

To understand how layers work, imagine an image created from a stack of transparent sheets. Different parts of the image are drawn on different sheets. The stack can be rearranged, changing which pieces are on top. Individual or groups of layers can shift position, moving sections of the image to other locations. New sheets can be added and others set aside. This is very much how the layers work in The GIMP.

By drawing parts of your image on separate layers, you can manipulate, change, or delete those parts without damaging the other parts of the image. Using separate layers for text is the most common usage, but the possibilities are much more extensive.

The GIMP includes a layer manager. Access it via 'Layers' → 'Layers, Channels & Paths...' in the context menu then under the 'Layers' tab in the dialog that opens (see Figure 8.7). Here you can create, copy, and delete layers or anchor a layer in the background image. In addition, the eye icon in the layer manager can be used to make layers invisible without losing their information. The icon with four arrows indicates linked layers. Layers showing this icon will be moved as a group.

Under the 'Channels' tab, view the three color channels — red, green, and blue — individually or in any combination. The 'Paths' tab provides information about paths which have been drawn with the Bezier selection tool.

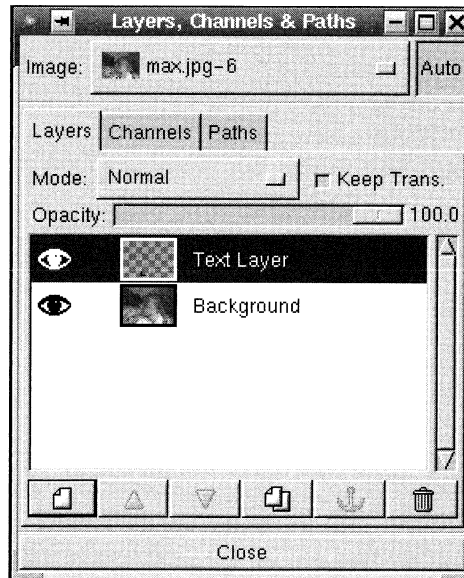


Abbildung 8.7: Layers, Channels, and Paths Dialog

Image Modes

The GIMP has three basic image modes — RGB, grayscale, and indexed. RGB is the main color mode usually used in The GIMP. Grayscale is for black, white, and gray images. Indexed is used almost exclusively for converting images to the GIF file format. There are a few things to remember when working with image modes:

- Only RGB mode has all the filters available. Most, however, are available in grayscale mode. To run filters on an indexed image, convert to RGB first.
- Convert to indexed only right before saving to image formats that require it, such as GIF. Never work with an image in indexed mode.
- Regardless of any color used on a grayscale image, the color will be desaturated and applied in a shade of gray.
- Study the internal help system for more information about image modes.

Introduction to Image Manipulation

After a lot of general information on the use of The GIMP in the previous section, the present section will be dedicated to more practical hints and tips. We will, however, limit ourselves to the description of simple image manipulation, which is needed most often:

- Preparing an image for an optimal print output
- Integrate a special filter effect into the image
- Insert text into an image
- Retouch an image

Preparing Photographs for Printing

You have, for example, an image of your kids and want to produce a perfect printout on your color printer. Unfortunately, the first printout was not what you expected. The colors were quite bleak and there is a point in the image which is quite dark. What can be done?

There is a fundamental problem when printing color images. Color and contrast of the image as seen on screen do not correspond to what comes out of your printer. The images on screen are often richer in contrast and more brilliant. Only in professional systems are all components adjusted in such a way that screen representation and future print output match to a high degree. To improve an image, the following manipulations are recommended:

Before you start, create a backup copy of your image. Once you have saved your manipulation, you can no longer recreate the original state. Although these corrections can be made using 'Image' → 'Colors' → 'Brightness-Contrast', better results are obtained through the Levels dialog found in the context menu under 'Image' → 'Colors' → 'Levels'.

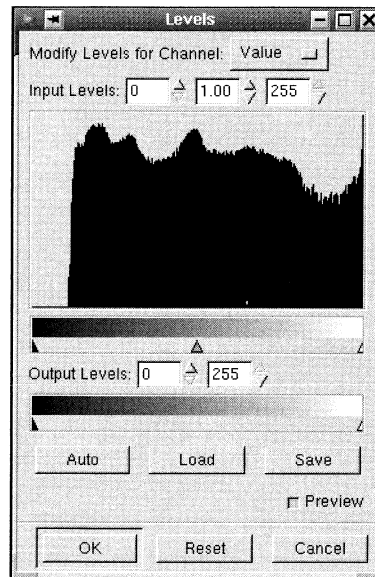


Abbildung 8.8: The Levels Dialog

The Levels Dialog shows how the color values and colors are spread throughout the image (see figure 8.8). By adjusting the end sliders to where the black areas begin and end, you redistribute them over the entire range of values. This means that somewhere in the image will become completely black, somewhere will be completely white, and the rest of the range will be spread accordingly. Usually clicking 'Auto' will give acceptable results, but sometimes manual adjustment is needed. To adjust manually, drag the end sliders to where the black area in the graph begins and ends. Do this in each of the channels (select from the drop-down box showing Value as default). This should correct both brightness and contrast problems.

Occasionally you may need to sharpen the whole image in order to obtain a good quality printout. During sharpening, edges and color transitions are emphasized. Right-click and, in the context menu, select 'Filters' → 'Enhance' → 'Sharpen'. Watch the effect in the small preview window and even undo it with **Ctrl** + **Z**.

To make individual image areas brighter or darker, use the 'Dodge or Burn' tool from the toolbox. For the best results, select a brush tip with a diffuse border in the brush selection dialog.

Finally, cut the image to size with the 'Crop or resize' tool and print it out.

Special Effects

In the context menu (right-click in the image to call up the menu), many different manipulation tools are under 'Filter' or 'Script-Fu' (see Figure 8.9 auf der nächsten Seite). These include some easy-to-apply effects. Usually, clicking on the filter in the menu will open an option box in which you can control the effects of such filters. Refer to the internal help system for descriptions of the filters. Don't be afraid to experiment.

Inserting Text

You can easily integrate text into your images with The GIMP. First determine the text color with the aid of the color selection icon in the toolbox. Then activate text input with the T icon and click on the image. A dialog box as in Figure 8.10 auf Seite 113 will open, in which you can specify your text and the font settings. Depending on which fonts are available on your system, you can specify a font family in the first selection column while the second column determines style and weight (medium, bold, or italic) and the third column sets the type size. Click on 'OK' to add the text to your image. As long as dotted lines surround your lettering, you can move the text. However, once the text is anchored in your image, you can only remove it with 'Undo' — as long as you have not saved the image. Put text on its own layer for easy modifications later.

In the option box of the text tool, select between a single line of text and a text window with several lines and text alignment. When you activate the 'Use Dynamic Text' button, a click inside the image opens option box in which to enter and align multiline text.

Retouching Images

The most suitable tool for this purpose is the clone tool. It is represented by a rubber stamp in the tool window. Since we have already explained earlier how this tool functions, some brief hints will be sufficient at here:

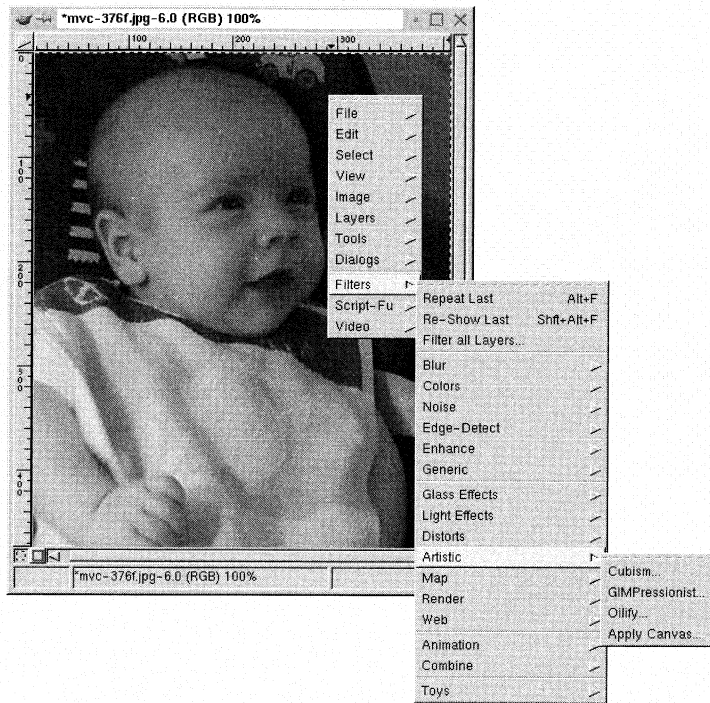


Abbildung 8.9: The Context Menu in GIMP

- Set the brush to a medium size with a diffuse border area.
- Work on an enlarged representation of your image.
- Open a second view of the image with 'View' → 'New View' and zoom to 1:1 to see how the changes look.
- Save your work from time to time under a different file name. If you do not like one of your modifications, revert to a previous stage.

Retouching may take some time because you will often need to change brushes and redefine the image section to be copied. Working with the clone tool requires some experience.

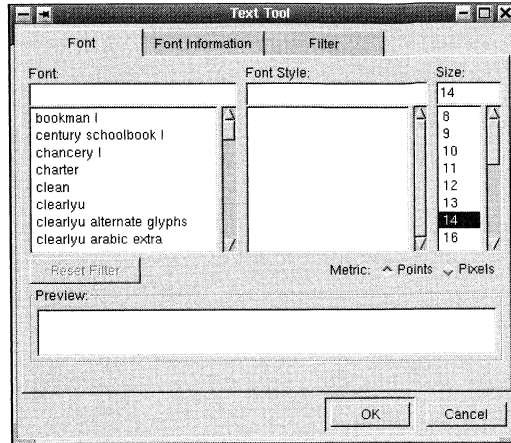


Abbildung 8.10: Entering Text

For More Information

There is a very good The GIMP web site at <http://www.gimp.org>.

There you can find and download documentation, plug-ins, and more. Also, under 'Important Links', there is an impressive collection of links for The GIMP.

Kooka — The New Scanning Application

The new graphical scanning application Kooka has appeared on the scene alongside the customary scanner tools XSane and xscanimage. Kooka is a KDE application with integrated SANE system libraries. For this reason, the SANE package must be installed to run Kooka. SANE is in the Serie `gra`. Kooka is in Serie `k2de`.

This chapter consists of two parts. The first part includes a short description of the Kooka application. The second part outlines some general scanning tips.

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Hinweis

Configuring your scanner and installing the scanner software is not the subject of this chapter. For information about configuring your scanner in Linux, read the chapter „**Scanning in Linux**“ in the Basics Manual.

Hinweis

The web site <http://www.mostang.com/sane> has information about which scanners are supported in Linux and the development status of their drivers. If possible, review this information before purchasing a scanner.

About Kooka

Kooka combines the simplicity of operating xscanimage with the functional breadth of XSane, incorporating the easy and user-friendly operation common in KDE applications. Functions such as faxing, e-mailing, and copying were intentionally left out for the sake of exploring new methods of storing images. The integrated gocr application enables text recognition. To use this tool, install gocr from the Serie gra. After the text is recognized, a single click is enough to open it in the Kate editor, where you can edit it (see also Section *Character Recognition with gocr*).

Start Window

Start Kooka from a console with the command `kooka`. If desired, create a link to the application on your KDE desktop. When Kooka starts, it first opens a three-part window with a menu bar and an icon panel. Use the mouse to enlarge or reduce the three windows as needed. In the upper left window, choose between a preview with 'Preview' or an image directory view with 'Gallery'. The gallery is a small file browser that allows you to easily store the scanned images. Make your scanner-dependent settings in the lower left section. At the very bottom, see buttons for generating a preview and for generating the final image. The previews appear in miniature in the upper left part of the window. The finalized image for scanning is shown in the large window.



Abbildung 9.1: The Control Window for Kooka

The Preview

To the upper left above in Figure 9.1, see the preview window next to the size and orientation settings. 'Preview Scan' (lower right) scans a preview. This preview scan does not generate a file. After making individual settings, scan the image by clicking 'Final Scan'. Information regarding the size and memory requirements of your image can be found in the upper left section under the document's size and orientation information. Use preview window to define the scanning range and for adjusting the gamma value, brightness, and contrast. Do not assume that the printout will look exactly like the preview display. Correctly adjusting the monitor, scanner, and printer is a difficult procedure.

Scanning the Preview

Before scanning a preview, set the mode for generating the preview in the lower window. 'Color' and 'Gray' are self-explanatory. 'Binary' means that only black and white will be recognized, without any gray tones. This option only makes sense for the preview if only pure text or black-and-white graphics are involved. It is especially necessary if you are performing a final scan of an image or text for the purpose of text recognition (see Chapter *The Final Scan*). The resolution as well as other setting criteria in the window below are irrelevant to the preview.

Scan size and orientation can also be defined in the upper left section, if 'Preview' is selected. The size is given below in both mm and KB or MB. If you select 'User defined' as your scan size, you cannot choose the orientation. Mark the display window after the preview scan to define the area to scan. This is usually the most sensible mode. After all settings are adjusted, press 'Preview Scan' to scan the image preview. A miniature of the image then appears in the preview window to the upper left.

The Final Scan

If you selected 'User defined' for the scanning size, use the mouse to highlight the rectangular area to scan. The selected area is marked with dotted borders. To generate the final image, select the scanning mode and resolution. You will be presented with further options, such as gamma values, contrast, and brightness. These options are specified by the scanner model itself. After configuring all your settings, click 'Final Scan' to scan the actual image.

Select the format in which to create the image. To generate future scans in the same format without confirmation, mark 'Don't ask again' then click 'OK'. Reconfigure this under 'Settings' → 'Configure Kooka' → 'Image Saving'.

The image appears in full size in the image window to the right. The size shown varies depending on the scanning area and resolution selected. If you selected a higher resolution, you will probably only see part of the image displayed to the right. In the right-hand window, scale the displayed area to your preferences.

The Menus

The icon panel functions can be found under the 'File' and 'Image Canvas' menus. Modify some of the default Kooka settings under 'Settings' → 'Configure Kooka'. Under 'File', find 'Print...', which opens a print assistant, and 'Quit'. The option 'Open image in graphic application' is located under the 'Image Canvas'. A description of these menu items follows.

Open image in graphic application

Choose an application using a file browser, or at the command line, for viewing the scanned image. The GIMP is very useful for this purpose, but it is not included in the default installation. Find it in the Serie gra.

Character Recognition (OCR) image...

Open a window for optical character recognition (OCR). If you have gocr installed, the application should be located in the path line `/usr/bin/gocr`. This application then allows you to start the character recognition for the preview image or for the selection highlighted in the preview image.

OCR on selection...

Opens the character recognition window only for the area already marked in the final scan (see Section *Character Recognition with gocr*).

Scale to Width

Use this option to scale the image in the main image display to fit the width of the window.

Scale to Height

Scale the image to the full height of the image display.

Original Size

Reset the image in the display to its original scanned size.

Hinweis

Access more possibilities for scaling the image display by right-clicking the image. The options include the three options previously mentioned along with options for enlarging it to your own specifications. You can also do the same in the preview window.

Hinweis

Create from selection

If you did not accurately select the area for the image, use this tool crop your image permanently by marking the large image display to the right then clicking this option. See the results to the right. You may already be familiar with this functionality from the crop tool in The GIMP.

Mirror image vertically

Flips the image vertically.

Mirror image horizontally:

Flips the image horizontally.

Mirror image both directions

Flips the image horizontally and vertically at the same time.

Rotate image clockwise

Rotates the image ninety degrees clockwise.

Rotate image counter-clockwise:

Rotates the image ninety degrees counter-clockwise.

Rotate 180 degrees:

Rotates the image 180 degrees.

Save

Saving images in Kooka is somewhat different from methods to which you may be accustomed. After clicking the 'Gallery' tab in the upper left window, see a small file browser depicting the `~/ .kde/share/apps/ScanImages/` directory. In the lower half of the upper left window, view the current subdirectory of the gallery.

This is where all scanned images are initially saved as files. `ScanImages` is the only directory that exists when you first start Kooka. Subfolders can be created by right-clicking this main folder. The selected folder (highlighted in blue) is the first location to which scanned images are saved. The images will be named and numbered, as in `kscan_0001` and `kscan_0002`.

To save the image, click the name using the left mouse button. Now, give it a new name and assign the correct file ending — the format in which the image was scanned. If you specified the wrong ending, you will receive an error message notifying you that the ending does not correspond to the format in which the image was scanned. You can still save the image under this name, but it will retain its original format. Kooka does not yet offer an option for conversion when saving.

If you do not want to manage your images under `~/.kde/share/apps/ScanImages/`, save your images to another location. To do this, right-click the image name and select 'Save'. Then enter an arbitrary path here. Also close or permanently delete the image here.

Bring external images into the gallery using Konqueror's drag and drop feature. Start Konqueror, go to the directory containing the images wanted for your gallery, then simply drag them with the mouse and drop them in the Kooka gallery directory.

Character Recognition with gocr

Install the `gocr` application from the `Series gra`. Scan a preview of your document using either gray or color mode. You can also scan in binary mode, but only if you are working with black print on white paper. In the preview window, mark the area of the text to have recognized. Choose binary mode for the final scan with 'Final Scan'.

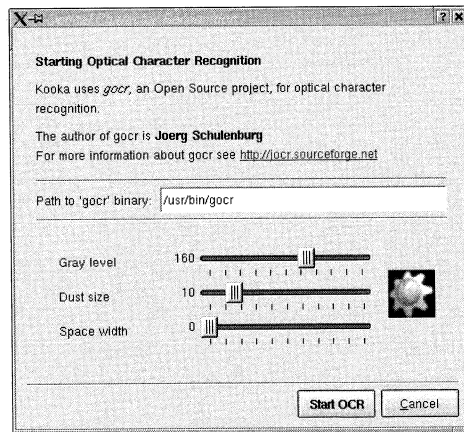


Abbildung 9.2: The gocr Window

Click the second icon from the left inside the panel, 'Character recognition image...', or select this menu item from the 'Image Canvas' menu. Leave the default settings in the OCR window that opens unchanged, at least for the first trial run (Figure 9.2). These settings suit most users' needs.

Now click 'Start character recognition'. You will see a window showing the results of the character recognition (Figure 9.3). If you only want to submit part of the text or image for scanning in binary mode, mark your selection in the image display to the right. Then click the third button from the right inside the panel or select 'Image Canvas' → 'Character recognition on selection'. Open the document by clicking on the Kate editor. The quality depends strongly on that of the document itself.

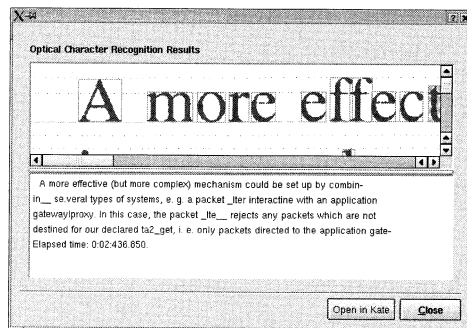


Abbildung 9.3: Character Recognition Results

Some Scanning Tips

Although Kooka is very easy to use, scanning can be very tricky, especially with scanners featuring numerous setting options or when using poor copies of documents. As a beginner, expect to do some experimenting until the results meet your satisfaction. Keep this in mind: a perfect color printout of your favorite pictures will need time and practice.

Hardware

Scanning in Linux is outlined in more detail in the *Basics* Manual. Your scanning equipment and PC are probably far removed from those of a professional graphic design agency. Unfortunately, price is also a factor in the performance of these devices.

Good hardware is required for successful and convenient scanning. 36-bit scanners provide richer colors and gray scales than 24-bit scanners. SCSI scanners and, more recently, an increasing number of USB scanners are supported by SANE in Linux. Because of their overall better quality, purchasing a SCSI device is recommended. Some companies also offer Linux drivers for parallel port scanners. However, we cannot offer information about their quality and functionality. You may need a basic SCSI card for a SCSI scanner, since the card supplied with the scanner only offers minimal features.

Take a look at the SANE project Internet pages if you are considering buying a scanner. Consider the developmental phase of the drivers available when selecting a scanner. YdST2 has made configuring USB scanners via plug-and-play a snap!

Large graphic images — manipulated or in their original format — may, under certain circumstances, require extensive memory space. Therefore, your computer should have at least 64 MB RAM, preferably 128 MB or more. The faster the CPU, the quicker your data can be processed. However, you do not need a high-end device. A middle-of-the-road one should do for household use. For an adequate display of the images on your desktop, you will also need a graphics card capable of depicting the right color depth in high resolutions.

Resolutions

A scanner resolution of 75 to 100 dpi is sufficient for scanning a simple photograph and viewing it on your desktop. Desktops typically have a default resolution of 75 dpi. A higher dpi here only means that it uses more memory.

If you are not yet sure how you want to manipulate your image later or if you simply want to create an image file, scan with a resolution from 300 to 600 dpi. A higher resolution most often leads to immense memory consumption. There may be times when you would want to scan a section of an image with a higher resolution, but it is not needed in normal use. Most graphics applications can save an image with lower resolution if needed. To generate images for display on the Internet, the default resolution of 75 dpi is sufficient.

To scan an image to a ratio of 1:1 for a printout, setting the scanning resolution to 1.6 times the printer resolution is generally recommended. If your printer produces 300-dpi printouts, for example, set the resolution to at least 480 dpi for scanning. To use your printer to enlarge pictures, you will need an extremely high dpi setting. When making the enlargements, the dpi of the printer should be multiplied by 1.6 and by the enlargement factor. Using the example above, a 5-times enlargement would require a dpi setting of 2400. Scanners usually cannot obtain such high dpi values, at least not physically. These values are generated by the software instead, resulting in an interpolated resolution.

Adjusting Brightness and Contrast

Keep in mind that the desktop display does not necessarily reflect the actual print results, but is only an approximation. It is generally recommended to set slightly higher brightness and contrast values for a black-and-white or color printout. You do not have to specify these values when scanning unless you want to print the scanned image directly. Otherwise, wait to make these settings later in The GIMP.

Strange Patterns in the Image

When scanning documents from print (books, magazines, newspapers), the individual pixels that comprise the image may produce a „Moiré pattern“. Kooka cannot remove this pattern. In The GIMP, find a filter for removing the Moiré pattern under 'Filter' → 'Enhance' → 'Despeckle'. It works at the cost of a certain degree of clarity.

Tipp

If your scan produces in a repeating pattern, try rotating the document five to ten degrees and scanning it again. Later, reset the image to its original orientation in The GIMP. Often, this gives better results than using the enhancement filter to despeckle.

Tipp

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