



The Rockbox Manual for Ipod 4G

rockbox.org
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Rockbox

<http://www.rockbox.org/>
Open Source Jukebox Firmware

Rockbox and this manual is the collaborative effort of the Rockbox team and its contributors. See the appendix for a complete list of contributors.

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1 Introduction

1.1 Welcome

This is the manual for Rockbox. Rockbox is an open source firmware replacement for a growing number of digital audio players. Rockbox aims to be considerably more functional and efficient than your device's stock firmware while remaining easy to use and customisable. Rockbox is written by users, for users. Not only is it free to use, it is also released under the GNU General Public License (GPL), which means that it will always remain free both to use and to change.

Rockbox has been in development since 2001, and receives new features, tweaks and fixes each day to provide you with the best possible experience on your digital audio player. A major goal of Rockbox is to be simple and easy to use, yet remain very customisable and configurable. We believe that you should never need to go through a series of menus for an action you perform frequently. We also believe that you should be able to configure almost anything about Rockbox you could want, pertaining to functionality. Another top priority of Rockbox is audio playback quality – Rockbox, for most models, includes a wider range of sound settings than the device's original firmware. A lot of work has been put into making Rockbox sound the best it can, and improvements are constantly being made. All models have access to a large number of plugins, including many games, applications, and graphical “demos”. You can load different configurations quickly for different purposes (e.g. a large font for in your car, different sound settings for at home). Rockbox features a very wide range of languages, and all supported models also have the ability to talk to you – menus can be voiced and filenames spelled out or spoken.

1.2 Getting more help

This manual is intended to be a comprehensive introduction to the Rockbox firmware. There is, however, more help available. The Rockbox website at <http://www.rockbox.org/> contains very extensive documentation and guides written by members of the Rockbox community and this should be your first port of call when looking for further help.

If you cannot find the information you are searching for on the Rockbox website there are a number of support channels you should have a look at. You can try the Rockbox forums located at <http://forums.rockbox.org/>. The mailing lists are another option, and can be found at <http://www.rockbox.org/mail/>. From that page you can subscribe to the lists and browse the archives. To search the list archives simply use the search field that is located on the left side of the website. Furthermore, you can ask on IRC. The

main channel for Rockbox is `#rockbox` on <irc://irc.freenode.net>. Many helpful developers and users are usually around. Just join and ask your question (don't ask to ask!) – if someone knows the answer you'll usually get an answer pretty quickly. More information including IRC logs can be found at <http://www.rockbox.org/irc/>. We also have a web client so that you can join the Rockbox IRC channel without needing to install additional software onto your computer.

If you think you have found a bug please make sure it actually is a bug and is still present in the most recent version of Rockbox. You should try to confirm that by using the above mentioned support channels first. After that you can submit that issue to our tracker. Refer to section ?? (page ??) for details on how to use the tracker.

1.3 Naming conventions and marks

We have some conventions (especially for naming) that are intended to be consistent throughout this manual.

Manufacturer and product names are formatted in accordance with the standard rules of English grammar, e.g. “Ipod playback is currently unsupported”. Manufacturer and model names are proper nouns, and thus are written beginning with a capital letter.

This manual has some parts that are marked with icons on the margin to help you finding important parts or parts you could skip. The following icons are used:

Note: This indicates a note. A note starts always with the text “Note”. In order to make finding notes easier each one is accompanied by an icon in the margin as here. Notes are used to mark useful information that may help you to get the most out of Rockbox.





Warning: This is a warning. In contrast to notes mentioned above, a warning should be taken more seriously. Whereas ignoring notes will not cause any serious damage, ignoring warnings *could* cause serious damage to your player. You really should read the warnings, especially if you are new to Rockbox.



This icon marks a section that is intended especially for the blind and visually impaired. As they cannot read the manual in the same way sighted people do we have added some additional descriptions. If you are not blind or visually impaired you can probably completely skip these blocks. To make this easier, there is an icon shown in the margin on the right.



Links to the wiki are abbreviated by the name of the wiki page. Those names are still linked so you can simply follow them like any other link in this manual. If you want to access a wiki page manually go to  <http://www.rockbox.org/wiki/> and type the page name in the “Go” box at the top of the page. Links to wiki pages are also indicated by the symbol  in front of the page name.

2 Installation

Installing Rockbox is generally a quick and easy procedure. However before beginning there are a few important things to know.

2.1 Before Starting

USB connection. To transfer Rockbox to your player you need to connect it to your computer. For manual installation/uninstallation, or should autodetection fail during automatic installation, you need to know where to access the player. On Windows this means you need to know the drive letter associated with the player. On Linux you need to know the mount point of your player. On Mac OS X you need to know the volume name of your player.

If you have Itunes installed and it is configured to open automatically when your player is attached (the default behaviour), then wait for it to open and then quit it. You also need to ensure the “Enable use as disk” option is enabled for your player in Itunes. Your player should then enter disk mode automatically when connected to a computer via USB. If your computer does not recognise your player, you may need to enter disk mode manually. Disconnect your player from the computer. Hard reset the player by pressing and holding the **Menu** and **Select** buttons simultaneously. As soon as the player resets, press and hold the **Select** and **Play** buttons simultaneously. Your player should enter disk mode and you can try reconnecting to the computer.

Administrator/Root rights. Installing the bootloader portion of Rockbox requires you to have administrative (Windows) or root (Linux) rights. Consequently when doing either the automatic or manual bootloader install, please ensure that you are logged in with an administrator account or have root rights.

File system format. Rockbox only works on Ipods formatted with the FAT32 filesystem (i.e. Ipods initialised by Itunes for Windows). It does not work with the HFS+ filesystem (i.e. Ipods initialised by Itunes for the Mac). More information and instructions for converting an Ipod to FAT32 can be found on the [IpodConversionToFAT32](#) wiki page on the Rockbox website. Note that after conversion, you can still use a FAT32 Ipod with a Mac.

2.2 Installing Rockbox

There are two ways to install Rockbox: automated and manual. The automated way is the preferred method of installing Rockbox for the majority of people. Rockbox Utility is a graphical application that does almost everything for you. However, should you encounter a problem, then the manual way is still available to you.

There are three separate components, two of which need to be installed in order to run Rockbox:

The Ipod bootloader. The Ipod bootloader is the program that tells your player how to load and start the original firmware. It is also responsible for any emergency, recovery, or disk modes on your player. This bootloader is stored in special flash memory in your Ipod and comes factory-installed. It is not necessary to modify this in order to install Rockbox.

The Rockbox bootloader. The Rockbox bootloader is loaded from disk by the Ipod bootloader. It is responsible for loading the Rockbox firmware and for providing the dual boot function. It directly replaces the Ipod firmware in the player's boot sequence.

The Rockbox firmware. Similar to the Ipod firmware, most of the Rockbox code is contained in a "build" that resides on your player's drive. This makes it easy to update Rockbox. The build consists of a directory called `.rockbox` which contains all of the Rockbox files, and is located in the root of your player's drive.

Apart from the required parts there are some addons you might be interested in installing.

Fonts. Rockbox can load custom fonts. The fonts are distributed as a separate package and thus need to be installed separately. They are not required to run Rockbox itself but a lot of themes require the fonts package to be installed.

Themes. The appearance of Rockbox can be customised by themes. Depending on your taste you might want to install additional themes to change the look of Rockbox.

2.2.1 Automated Installation

To automatically install Rockbox, download the official installer and housekeeping tool ROCKBOX UTILITY. It allows you to:

- Automatically install all needed components for using Rockbox ("Minimal Installation").
- Automatically install all suggested components ("Complete Installation").
- Selectively install optional components.

- Install additional fonts and themes.
- Install voice files and generate talk clips.
- Uninstall all components you installed using Rockbox Utility.

Prebuilt binaries for Windows, Linux and Mac OS X are available at the  [RockboxUtility](#) wiki page.

When first starting ROCKBOX UTILITY run “Autodetect”, found in the configuration dialog (File → Configure). Autodetection can detect most player types. If autodetection fails or is unable to detect the mountpoint, make sure to enter the correct values. The mountpoint indicates the location of the player in your filesystem. On Windows, this is the drive letter the player gets assigned, on other systems this is a path in the filesystem.

Choosing a Rockbox version

There are three different versions of Rockbox available from the Rockbox website: Release version, current build and archived daily build. You need to decide which one you want to install and get the appropriate version for your player. If you select either “Minimal Installation” or “Complete Installation” from the “Quick Start” tab, then Rockbox Utility will automatically install the release version of Rockbox. Using the “Installation” tab will allow you to select which version you wish to install.


Release. The release version is the latest stable release, free of known critical bugs.

For a manual install, the current stable release of Rockbox is available at <http://www.rockbox.org/download/>.

Development Build. The development build is built at each change to the Rockbox source code repository and represents the current state of Rockbox development.

This means that the build could contain bugs but most of the time is safe to use. For a manual install, you can download the current build from <http://build.rockbox.org/>.

Archived Build. In addition to the release version and the current build, there is also an archive of daily builds available for download. These are built once a day from the latest source code in the repository. For a manual install, you can download archived builds from <http://www.rockbox.org/daily.shtml>.

Note: Because current and archived builds are development versions that change frequently, they may behave differently than described in this manual, or they may introduce new (and potentially annoying) bugs. Unless you wish to try the latest and greatest features at the price of possibly greater instability, or you wish to help with development, you should stick with the release. 


Please now go to section 2.2.3 (page 12) to complete the installation procedure.

2.2.2 Manual Installation

The manual installation method is still available to you, should you need or desire it by following the instructions below. If you have used Rockbox Utility to install Rockbox, then you do not need to follow the next section and can skip straight to section 2.2.3 (page 12)

Installing the firmware


1. Download your chosen version of Rockbox from the links in the previous section.
2. Connect your player to the computer via USB or Firewire as described in the manual that came with your player.
3. Take the .zip file that you downloaded and use the “Extract all” command of your unzip program to extract the files onto your player.

Note: The entire contents of the .zip file should be extracted directly to the root of your player’s drive. Do not try to create a separate directory on your player for the Rockbox files! The .zip file already contains the internal structure that Rockbox needs. 


If the contents of the .zip file are extracted correctly, you will have a directory called .rockbox, which contains all the files needed by Rockbox, in the main directory of your player’s drive.


Installing the bootloader

Bootloader installation from Windows

1. Download ipodpatcher.exe from <http://download.rockbox.org/bootloader/ipod/ipodpatcher/win32/ipodpatcher.exe> and run it whilst logged in with an administrator account.
2. If all has gone well, you should see some information displayed about your player and a message asking you if you wish to install the Rockbox bootloader. Press i followed by ENTER, and ipodpatcher will now install the bootloader. After a short time you should see the message “[INFO] Bootloader installed successfully.” Press ENTER again to exit ipodpatcher.
3. **Note:** If ipodpatcher fails to install the bootloader for you, please be certain that you do indeed have a supported iPod model and are logged in as an administrator. If you do, run ipodpatcher once more and try again. If you don’t, then do not attempt to install again. 

Bootloader installation from Mac OS X


1. Attach your player to your Mac and wait for its icon to appear in Finder.
2. Download and open ipodpatcher.dmg from <http://download.rockbox.org/bootloader/ipod/ipodpatcher/macosx/ipodpatcher.dmg> and then double-click on the ipodpatcher icon inside. You can also drag the ipodpatcher icon to a location on your hard drive and launch it from the Terminal.
3. If all has gone well, you should see some information displayed about your player and a message asking you if you wish to install the Rockbox bootloader. Press `i` followed by `ENTER`, and ipodpatcher will now install the bootloader. After a short time you should see the message “[INFO] Bootloader installed successfully.” Press `ENTER` again to exit ipodpatcher and then quit the Terminal application.
4. **Note:** If ipodpatcher fails to install the bootloader for you, please be certain that you do indeed have a supported iPod model. If you do, run ipodpatcher once more and try again. If you don’t, then do not attempt to install again. 
5. Your player will now automatically reconnect itself to your Mac. Wait for it to connect, and then eject and unplug it in the normal way.

Note: You should unplug your ipod immediately after ejecting it to prevent Rockbox immediately rebooting your player into disk mode when it detects that your player is attached to a computer. 

Bootloader installation from Linux

1. Download ipodpatcher from <http://download.rockbox.org/bootloader/ipod/ipodpatcher/linux32x86/ipodpatcher> (32-bit x86 binary) or <http://download.rockbox.org/bootloader/ipod/ipodpatcher/linux64amd64/ipodpatcher> (64-bit amd64 binary). You can save this anywhere you wish, but the next steps will assume you have saved it in your home directory.
2. Attach your player to your computer.
3. Open up a terminal window and type the following commands:

```
_____ CODE _____
```

Note: You need to be the root user in order for ipodpatcher to have sufficient permission to perform raw disk access to your player. 

4. If all has gone well, you should see some information displayed about your player and a message asking you if you wish to install the Rockbox bootloader. Press `i` followed by `ENTER`, and ipodpatcher will now install the bootloader. After a short time you should see the message “[INFO] Bootloader installed successfully.” Press `ENTER` again to exit ipodpatcher.

2.2.3 Finishing the install

Safely eject / unmount the USB drive, unplug the cable and restart.

2.2.4 Enabling Speech Support (optional)

If you wish to use speech support you will also need a voice file. Voice files allow Rockbox to speak the user interface to you. Rockbox Utility can install an English voice file, or you can download it from <http://www.rockbox.org/daily.shtml> and unzip it to the root of your player. Rockbox Utility can also aid you in the creation of voice files with different voices or in other languages if you have a suitable speech engine installed on your computer. Voice menus are enabled by default and will come into effect after a reboot. See section ?? (page ??) for details on voice settings. Rockbox Utility can also aid in the production of talk files, which allow Rockbox to speak file and folder names.

2.3 Running Rockbox

Hard reset the Ipod by holding **Menu** and **Select** simultaneously for a couple of seconds until the player resets. Now Rockbox should load.

Note: If you have loaded music onto your player using Itunes, you will not be able to see your music properly in the FILE BROWSER. This is because Itunes changes your files' names and hides them in directories in the `Ipod_Control` directory. Files placed on your player using Itunes can be viewed by initialising and using Rockbox's database. See section 4.2 (page 23) for more information.



2.4 Updating Rockbox

Rockbox can be easily updated with Rockbox Utility. You can also update Rockbox manually – download a Rockbox build as detailed above, and unzip the build to the root directory of your player as in the manual installation stage. If your unzip program asks you whether to overwrite files, choose the “Yes to all” option. The new build will be installed over your current build.

The bootloader only changes rarely, and should not normally need to be updated.

Note: If you use Rockbox Utility be aware that it cannot detect manually installed components.



2.5 Uninstalling Rockbox

Note: The Rockbox bootloader allows you to choose between Rockbox and the original firmware. (See section 3.1.3 (page 15) for more information.)



2.5.1 Automatic Uninstallation

You can uninstall Rockbox automatically by using Rockbox Utility. If you installed Rockbox manually you can still use Rockbox Utility for uninstallation but will not be able to do this selectively.

2.5.2 Manual Uninstallation

To uninstall Rockbox and go back to using just the original Ipod software, connect the player to your computer and follow the instructions to install the bootloader but, when prompted by ipodpatcher, enter `u` for uninstall instead of `i` for install.

If you wish to clean up your disk, you may also wish to delete the `.rockbox` directory and its contents. Turn the Ipod off. Turn the player back on and the original Ipod software will load.

2.6 Troubleshooting

Bootloader install problems If you have trouble installing the bootloader, please ensure that you are either logged in as an administrator (Windows), or you have root rights (Linux)

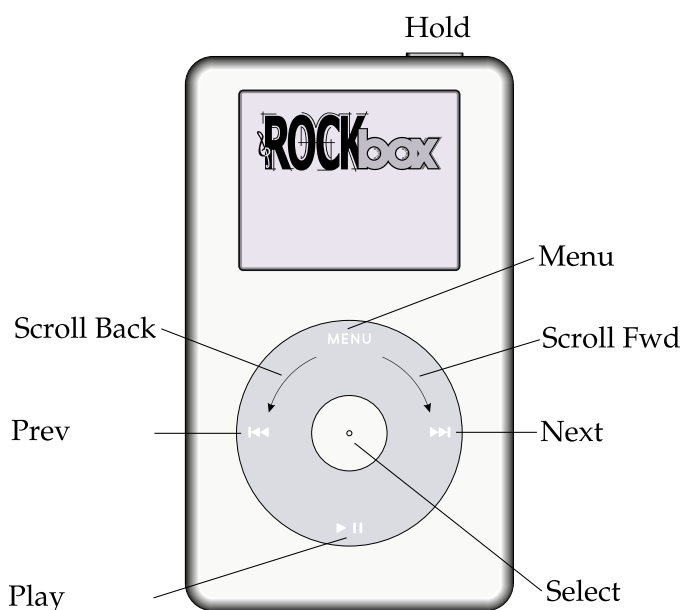
“File Not Found” If you receive a “File Not Found” from the bootloader, then the bootloader cannot find the Rockbox firmware. This is usually a result of not extracting the contents of the `.zip` file to the proper location, and should not happen when Rockbox has been installed with Rockbox Utility.

To fix this, either install Rockbox with the Rockbox Utility which will take care of this for you, or recheck the Manual Install section to see where the files need to be located.

3 Quick Start

3.1 Basic Overview

3.1.1 The player's controls



Throughout this manual, the buttons on the player are labelled according to the picture above. Whenever a button name is prefixed by “Long”, a long press of approximately one second should be performed on that button. The buttons are described in detail in the following paragraph. Additional information for blind users is available on the Rockbox website at [BlindFAQ](#). ▶

The main controls on the player are a slightly indented scroll wheel with a flat round button in the center. Hold the player with these controls facing you.

The top of the player will have the following, from left to right: remote connector, headphone socket, **Hold** switch.

The dock connector that is used to connect your player to your computer is on the bottom panel of the player.

The button in the middle of the wheel is called **Select**. You can operate the wheel by pressing the top, bottom, left or right sections, or by sliding your finger around

it. The top is **Menu**, the bottom is **Play**, the left is **Prev**, and the right is **Next**. When the manual says to **Scroll Forward**, it means to slide your finger clockwise around the wheel. **Scroll Backward** means to slide your finger counterclockwise. Note that the wheel is sensitive, so you will need to move slowly at first and get a feel for how it works.

Note that when the **Hold** switch is pushed toward the center of the player, hold is on, and none of the other controls do anything. Be sure **Hold** is off before trying to use your player.

3.1.2 Turning the player on and off

To turn on and off your Rockbox enabled player use the following keys:

| Key | Action |
|----------------------|------------------|
| Menu / Select | Start Rockbox |
| Long Play | Shutdown Rockbox |

On shutdown, Rockbox automatically saves its settings.

If you have problems with your settings, such as accidentally having set the colours to black on black, they can be reset at boot time. See the Reset Settings in section ?? (page ??) for details.

In the unlikely event of a software failure, hardware poweroff or reset can be performed by holding down **Menu** and **Select** simultaneously until the player shuts off or reboots.

3.1.3 Starting the original firmware

Rockbox has a dual-boot feature. To boot into the original firmware, shut down the device as described above. Turn on the **Hold** switch immediately after turning the player on. The Apple logo will display for a few seconds as Rockbox loads the original firmware.

You can also load the original firmware by shutting down the device, then clicking the **Hold** switch on and connecting the iPod to your computer.

Regardless of which method you use to boot to the original firmware, you can return to Rockbox by pressing and holding **Menu** and **Select** simultaneously until the player hard resets.

3.1.4 Putting music on your player

Note: Due to a bug in some OS X versions, the player can not be mounted, unless



the USB HID feature is disabled. See section ?? (page ??) for more information.

With the player connected to the computer as an MSC/UMS device (like a USB Drive), music files can be put on the player via any standard file transfer method that you would use to copy files between drives (e.g. Drag-and-Drop). Files may be placed wherever you like on the player, but it is strongly suggested *NOT* to put them in the `/.rockbox` folder and instead put them in any other folder, e.g. `/`, `/music` or `/audio`. The default directory structure that is assumed by some parts of Rockbox (album art searching, and missing-tag fallback in some WPSes) uses the parent directory of a song as the Album name, and the parent directory of that folder as the Artist name. WPSes may display information incorrectly if your files are not properly tagged, and you have your music organized in a way different than they assume when attempting to guess the Artist and Album names from your filetree. See section ?? (page ??) for the requirements for Album Art to work properly. See section ?? (page ??) for a list of supported audio formats.

3.1.5 The first contact

After you have first started the player, you'll be presented by the MAIN MENU. From this menu you can reach every function of Rockbox, for more information (see section 5.1 (page 36)). To browse the files on your player, select FILES (see section 4.1 (page 19)), and to browse in a view that is based on the meta-data¹ of your audio files, select DATABASE (see section 4.2 (page 23)).

3.1.6 Basic controls

When browsing files and moving through menus you usually get a list view presented. The navigation in these lists are usually the same and should be pretty intuitive. In the tree view use **Scroll Forward** and **Scroll Backward** to move around the selection. Use **Select** or **Next** to select an item. Note that the scroll speed is accelerating the faster you rotate the wheel. When browsing the file system selecting an audio file plays it. The view switches to the “While playing screen”, usually abbreviated as “WPS” (see section 4.3 (page 26)). The dynamic playlist gets replaced with the contents of the current directory. This way you can easily treat directories as playlists. The created dynamic playlist can be extended or modified while playing. This is also known as “on-the-fly playlist”. To go back to the FILE BROWSER stop the playback with the Long **Play** button or return to the file browser while keeping playback running using **Select**. In list views you can go back one step with **Prev**.

¹ID3 Tags, Vorbis comments, etc.

3.1.7 Basic concepts

Playlists

Rockbox is playlist oriented. This means that every time you play an audio file, a so-called “dynamic playlist” is generated, unless you play a saved playlist. You can modify the dynamic playlist while playing and also save it to a file. If you do not want to use playlists you can simply play your files directory based. Playlists are covered in detail in section 4.4 (page 31).

Menu

From the menu you can customise Rockbox. Rockbox itself is very customisable. Also there are some special menus for quick access to frequently used functions.

Context Menu

Some views, especially the file browser and the WPS have a context menu. From the file browser this can be accessed with Long **Select**. The contents of the context menu vary, depending on the situation it gets called. The context menu itself presents you with some operations you can perform with the currently highlighted file. In the file browser this is the file (or directory) that is highlighted by the cursor. From the WPS this is the currently playing file. Also there are some actions that do not apply to the current file but refer to the screen from which the context menu gets called. One example is the playback menu, which can be called using the context menu from within the WPS.

3.2 Customising Rockbox

Rockbox’ User Interface can be customised using “Themes”. Themes usually only affect the visual appearance, but an advanced user can create a theme that also changes various other settings like file view, LCD settings and all other settings that can be modified using `.cfg` files. This topic is discussed in more detail in section ?? (page ??). The Rockbox distribution comes with some themes that should look nice on your player.

Note: Some of the themes shipped with Rockbox need additional fonts from the fonts package, so make sure you installed them. Also, if you downloaded additional themes from the Internet make sure you have the needed fonts installed as otherwise the theme may not display properly.



3.3 USB Charging

To charge your player over USB, hold any button while plugging it in. This will prevent it from connecting to your computer and let you continue to use it normally. Your player must already be in Rockbox for this to function.

Note: Be aware that this button may still perform its normal function, so it is recommended to use a button without harmful side effects, such as **Menu**.



4 Browsing and playing

4.1 File Browser



Figure 4.1: The file browser

Rockbox lets you browse your music in either of two ways. The FILE BROWSER lets you navigate through the files and directories on your player, entering directories and executing the default action on each file. To help differentiate files, each file format is displayed with an icon.

The DATABASE BROWSER, on the other hand, allows you to navigate through the music on your player using categories like album, artist, genre, etc.

You can select whether to browse using the FILE BROWSER or the DATABASE BROWSER by selecting either FILES or DATABASE in the MAIN MENU. If you choose the FILE BROWSER, the SHOW FILES setting lets you select what types of files you wish to view. See section ?? (page ??) for more information on the SHOW FILES setting.

Note: The FILE BROWSER allows you to manipulate your files in ways that are not available within the DATABASE BROWSER. Read more about DATABASE in section 4.2 (page 23). The remainder of this section deals with the FILE BROWSER.



4.1.1 File Browser Controls

| Key | Action |
|--------------------------------|---|
| Scroll | Go to previous/next item in list. If you are on the first/last entry, the cursor will wrap to the last/first entry. |
| Backward/Scroll Forward | Go to the parent directory. |
| Prev | Execute the default action on the selected file or enter a directory. |
| Select or Next | If there is an audio file playing, return to the WHILE PLAYING SCREEN (WPS) without stopping playback. |
| Play | Stop audio playback. |
| Long Play | Enter the CONTEXT MENU. |
| Long Select | Enter the MAIN MENU. |
| Menu | Switch to the QUICK SCREEN (see section 5.13 (page 44)). |
| Long Menu | Activate the HOTKEY function (see section 4.5 (page 35)). |

4.1.2 Context Menu

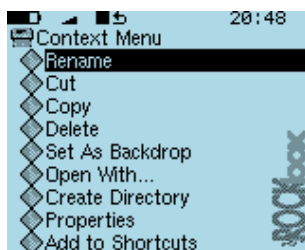


Figure 4.2: The Context Menu

The CONTEXT MENU allows you to perform certain operations on files or directories. To access the CONTEXT MENU, position the selector over a file or directory and access the context menu with Long **Select**.

Note: The CONTEXT MENU is a context sensitive menu. If the CONTEXT MENU is invoked on a file, it will display options available for files. If the CONTEXT MENU is invoked on a directory, it will display options for directories.



The CONTEXT MENU contains the following options (unless otherwise noted, each option pertains both to files and directories):

Playlist. Enters the PLAYLIST SUBMENU (see section 4.4.3 (page 33)).

Playlist Catalogue. Enters the PLAYLIST CATALOGUE SUBMENU (see section 4.4.2 (page 32)).

Rename. This function lets the user modify the name of a file or directory.

Cut. Copies the name of the currently selected file or directory to the clipboard and marks it to be ‘cut’.

Copy. Copies the name of the currently selected file or directory to the clipboard and marks it to be ‘copied’.

Paste. Only visible if a file or directory name is on the clipboard. When selected it will move or copy the clipboard to the current directory.

Delete. Deletes the currently selected file. This option applies only to files, and not to directories. Rockbox will ask for confirmation before deleting a file. Press **Play** to confirm deletion or any other key to cancel.

Delete Directory. Deletes the currently selected directory and all of the files and subdirectories it may contain. Deleted directories cannot be recovered. Use this feature with caution!

Set As Backdrop. Set the selected **bmp** file as background image. The bitmaps need to meet the conditions explained in section ?? (page ??).


Open with. Runs a viewer plugin on the file. Normally, when a file is selected in Rockbox, Rockbox automatically detects the file type and runs the appropriate plugin. The OPEN WITH function can be used to override the default action and select a viewer by hand. For example, this function can be used to view a text file even if the file has a non-standard extension (i.e., the file has an extension of something other than **.txt**). See section ?? (page ??) for more details on viewers.

Create Directory. Create a new directory in the current directory on the disk.

Properties. Shows properties such as size and the time and date of the last modification for the selected file. If used on a directory, the number of files and subdirectories will be shown, as well as the total size.

Set As Recording Directory. Save recordings in the selected directory.

Start File Browser Here. This option allows users to set the currently selected directory as the default start directory for the file browser. This option is not available for files.

Note: If you have **AUTO-CHANGE DIRECTORY** and **CONSTRAIN AUTO-CHANGE**  enabled, the directories returned will be constrained to the directory you have chosen here and those below it. See section ?? (page ??)

Add to Shortcuts. Adds a link to the selected item in the `shortcuts.link` file. If the file does not already exist it will be created in the root directory. Note that if you create a shortcut to a file, Rockbox will not open it upon selecting, but simply bring you to its location in the FILE BROWSER.

4.1.3 Virtual Keyboard

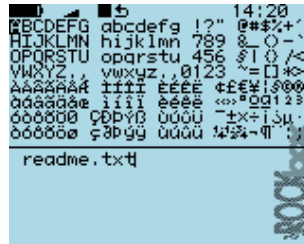


Figure 4.3: The virtual keyboard

This is the virtual keyboard that is used when entering text in Rockbox, for example when renaming a file or creating a new directory. The virtual keyboard can be easily changed by making a text file with the required layout. More information on how to achieve this can be found on the Rockbox website at [LoadableKeyboardLayouts](#).

Also you can switch to Morse code input mode by changing the USE MORSE CODE INPUT setting or by pressing Long **Menu** in the virtual keyboard.

Note: When the cursor is on the input line, **Select** deletes the preceding character



| Key | Action |
|---|--|
| Prev / Next | Move the cursor on the virtual keyboard. If you move out of the picker area, you get the previous/next page of characters (if there is more than one). |
| Scroll Backward / Scroll Forward | Move the cursor on the virtual keyboard. If you move out of the picker area you get to the line edit mode. |
| Select | Insert the selected keyboard letter at the current line cursor position. |
| Play | Exit the virtual keyboard and save any changes. |
| Menu | Exit the virtual keyboard without saving any changes. |
| Long Menu | Toggle keyboard input mode and Morse code input mode. |
| Select | Tap to select a character in Morse code input mode. |

4.2 Database

4.2.1 Introduction

This chapter describes the Rockbox music database system. Using the information contained in the tags (ID3v1, ID3v2, Vorbis Comments, Apev2, etc.) in your audio files, Rockbox builds and maintains a database of the music files on your player and allows you to browse them by Artist, Album, Genre, Song Name, etc. The criteria the database uses to sort the songs can be completely customised. More information on how to achieve this can be found on the Rockbox website at [DataBase](#).

4.2.2 Initializing the Database

The first time you use the database, Rockbox will scan your disk for audio files. This can take quite a while depending on the number of files on your player. This scan happens in the background, so you can choose to return to the Main Menu and continue to listen to music. If you shut down your player, the scan will continue next time you turn it on. After the scan is finished you may be prompted to restart your player before you can use the database.


Ignoring Directories During Database Initialization

You may have directories on your player whose contents should not be added to the database. Placing a file named `database.ignore` in a directory will exclude the files in that directory and all its subdirectories from scanning their tags and adding them to the database. This will speed up the database initialization.

If a subdirectory of an ‘ignored’ directory should still be scanned, place a file named `database.unignore` in it. The files in that directory and its subdirectories will be scanned and added to the database.


4.2.3 The Database Menu

Load To RAM The database can either be kept on hard disk (to save memory), or loaded into RAM (for fast browsing). Setting this to YES loads the database to RAM, allowing faster browsing and searching. Setting this option to NO keeps the database on the hard disk, meaning slower browsing but it does not use extra RAM and saves some battery on boot up.


Note: If you browse your music frequently using the database, you should load to RAM, as this will reduce the overall battery consumption because the disk will not need to spin on each search. 

Auto Update If AUTO UPDATE is set to ON, each time the player boots, the database will automatically be updated.

Initialize Now You can force Rockbox to rescan your disk for tagged files by using the INITIALIZE NOW function in the DATABASE MENU.

Warning: INITIALIZE NOW removes all database files (removing runtime db data also) and rebuilds the database from scratch. 

Update Now UPDATE NOW causes the database to detect new and deleted files

Note: Unlike the AUTO UPDATE function, UPDATE NOW will update the database regardless of whether the DIRECTORY CACHE is enabled. Thus, an update using UPDATE NOW may take a long time. 

Unlike INITIALIZE NOW, the UPDATE NOW function does not remove runtime database information.

Gather Runtime Data When enabled, rockbox will record how often and how long a track is being played, when it was last played and its rating. This information can be displayed in the WPS and is used in the database browser to, for example, show the most played, unplayed and most recently played tracks.


Export Modifications This allows for the runtime data to be exported to the file `/.rockbox/database_changelog.txt`, which backs up the runtime data in

ASCII format. This is needed when database structures change, because new code cannot read old database code. But, all modifications exported to ASCII format should be readable by all database versions.

Import Modifications. Allows the `/.rockbox/database_changelog.txt` backup to be conveniently loaded into the database. If `AUTO UPDATE` is enabled this is performed automatically when the database is initialized.

4.2.4 Using the Database

Once the database has been initialized, you can browse your music by Artist, Album, Genre, Song Name, etc. To use the database, go to the MAIN MENU and select DATABASE.

Note: You may need to increase the value of the `MAX ENTRIES IN FILE BROWSER` setting (`SETTINGS` → `GENERAL SETTINGS` → `SYSTEM` → `LIMITS`) in order to view long lists of tracks in the ID3 database browser. 

There is no option to turn off database completely. If you do not want to use it just do not do the initial build of the database and do not load it to RAM.

| Tag | Type | Origin |
|----------------------|---------|-----------------|
| filename | string | system |
| album | string | id tag |
| albumartist | string | id tag |
| artist | string | id tag |
| comment | string | id tag |
| composer | string | id tag |
| genre | string | id tag |
| grouping | string | id tag |
| title | string | id tag |
| bitrate | numeric | id tag |
| discnum | numeric | id tag |
| year | numeric | id tag |
| tracknum | numeric | id tag/filename |
| autoscore | numeric | runtime db |
| lastplayed | numeric | runtime db |
| playcount | numeric | runtime db |
| Pm (play time – min) | numeric | runtime db |
| Ps (play time – sec) | numeric | runtime db |
| rating | numeric | runtime db |
| commitid | numeric | system |
| entryage | numeric | system |
| length | numeric | system |
| Lm (track len – min) | numeric | system |
| Ls (track len – sec) | numeric | system |

4.3 While Playing Screen

The While Playing Screen (WPS) displays various pieces of information about the currently playing audio file. The appearance of the WPS can be configured using WPS configuration files. The items shown depend on your configuration – all items can be turned on or off independently. Refer to section ?? (page ??) for details on how to change the display of the WPS.

- Status bar: The Status bar shows Battery level, charger status, volume, play mode, repeat mode, shuffle mode and clock. In contrast to all other items, the status bar is always at the top of the screen.
- (Scrolling) path and filename of the current song.
- The ID3 track name.

- The ID3 album name.
- The ID3 artist name.
- Bit rate. VBR files display average bitrate and “(avg)”
- Elapsed and total time.
- A sidebar progress meter representing where in the song you are.
- Peak meter.

See section ?? (page ??) for details of customising your WPS (While Playing Screen).

4.3.1 WPS Key Controls

| Key | Action |
|---|--|
| Scroll Forward / Scroll Backward | Volume up/down. |
| Prev | Go to beginning of track, or if pressed while in the first seconds of a track, go to the previous track. |
| Long Prev | Rewind in track. |
| Next | Go to the next track. |
| Long Next | Fast forward in track. |
| Play | Toggle play/pause. |
| Long Play | Stop playback. |
| Select | Return to the FILE BROWSER / DATABASE. |
| Long Select | Enter WPS CONTEXT MENU. |
| Menu | Enter MAIN MENU. |
| Long Menu | Switch to the QUICK SCREEN (see section 5.13 (page 44)). |
| Select+ Play | Activate the HOTKEY function (see section 4.5 (page 35)). |
| Short Next + Long Next | Skip to the next directory. |
| Short Prev + Long Prev | Skip to the previous directory. |

4.3.2 Peak Meter


The peak meter can be displayed on the While Playing Screen and consists of several indicators. For a picture of the peak meter, please see the While Recording

Screen in section 5.8.1 (page 40).

The bar: This is the wide horizontal bar. It represents the current volume value.

The peak indicator: This is a little vertical line at the right end of the bar. It indicates the peak volume value that occurred recently.

The clip indicator: This is a little black block that is displayed at the very right of the scale when an overflow occurs. It usually does not show up during normal playback unless you play an audio file that is distorted heavily. If you encounter clipping while recording, your recording will sound distorted. You should lower the gain.

Note: Note that the clip detection is not very precise. Clipping might occur without being indicated. 

The scale: Between the indicators of the right and left channel there are little dots. These dots represent important volume values. In linear mode each dot is a 10% mark. In dBFS mode the dots represent the following values (from right to left): 0 dB, -3 dB, -6 dB, -9 dB, -12 dB, -18 dB, -24 dB, -30 dB, -40 dB, -50 dB, -60 dB.

4.3.3 The WPS Context Menu

Like the context menu for the FILE BROWSER, the WPS CONTEXT MENU allows you quick access to some often used functions.

Playlist

The PLAYLIST submenu allows you to view, save, search, reshuffle, and display the play time of the current playlist. These and other operations are detailed in section 4.4 (page 31). To change settings for the PLAYLIST VIEWER press Long Select while viewing the current playlist to bring up the PLAYLIST VIEWER MENU. In this menu, you can find the PLAYLIST VIEWER SETTINGS.

Playlist Viewer Settings

Show Icons. This toggles display of the icon for the currently selected playlist entry and the icon for moving a playlist entry

Show Indices. This toggles display of the line numbering for the playlist

Track Display. This toggles between filename only and full path for playlist entries

Playlist catalogue

View catalogue. This lists all playlists that are part of the Playlist catalogue. You can load a new playlist directly from this list.

Add to playlist. Adds the currently playing file to a playlist. Select the playlist you want the file to be added to and it will get appended to that playlist.

Add to new playlist. Similar to the previous entry this will add the currently playing track to a playlist. You need to enter a name for the new playlist first.

Sound Settings

This is a shortcut to the SOUND SETTINGS MENU, where you can configure volume, bass, treble, and other settings affecting the sound of your music. See section ?? (page ??) for more information.

Playback Settings

This is a shortcut to the PLAYBACK SETTINGS MENU, where you can configure shuffle, repeat, party mode, skip length and other settings affecting the playback of your music.

Rating

The menu entry is only shown if GATHER RUNTIME INFORMATION is enabled. It allows the assignment of a personal rating value (0 – 10) to a track which can be displayed in the WPS and used in the Database browser. The value wraps at 10.

Bookmarks

This allows you to create a bookmark in the currently-playing track.

Show Track Info

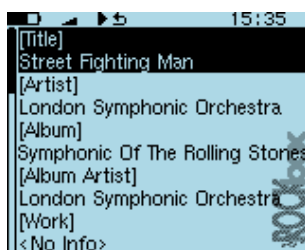


Figure 4.4: The track info viewer

This screen is accessible from the WPS screen, and provides a detailed view of all the identity information about the current track. This info is known as meta data and is stored in audio file formats to keep information on artist, album etc. To access this screen, press Long **Select** to access the WPS CONTEXT MENU and select SHOW TRACK INFO.

Open With...

This OPEN WITH function is the same as the OPEN WITH function in the file browser's CONTEXT MENU.

Delete

Delete the currently playing file. The file will be deleted but the playback of the file will not stop immediately. Instead, the part of the file that has already been buffered (i.e. read into the player's memory) will be played. This may even be the whole track.

Pitch

The PITCH SCREEN allows you to change the rate of playback (i.e. the playback speed and at the same time the pitch) of your player. The rate value can be adjusted between 50% and 200%. 50% means half the normal playback speed and a pitch that is an octave lower than the normal pitch. 200% means double playback speed and a pitch that is an octave higher than the normal pitch.

The rate can be changed in two modes: procentual and semitone. Initially, procentual mode is active.

If you've enabled the TIMESTRETCH option in SOUND SETTINGS and have since rebooted, you can also use timestretch mode. This allows you to change the playback speed without affecting the pitch, and vice versa.

In timestretch mode there are separate displays for pitch and speed, and each can be altered independently. Due to the limitations of the algorithm, speed is limited to be between 35% and 250% of the current pitch value. Pitch must maintain the same ratio as well as remain between 50% and 200%.

The value of the rate, pitch and speed is not persistent, i.e. after the player is turned on it will always be set to 100%. However, the rate, pitch and speed information will be stored in any bookmarks you may create (see section ?? (page ??)) and will be restored upon playing back those bookmarks.

| Key | Action |
|---|--|
| Play | Toggle pitch changing mode (cycle through all available modes). |
| Scroll Forward / Scroll Backward | Increase / Decrease pitch by 0.1% (in percentual mode) or 0.1 semitone (in semitone mode). |
| Long Scroll Forward / Long Scroll Backward | Increase / Decrease pitch by 1% (in percentual mode) or a semitone (in semitone mode). |
| Prev / Next | Temporarily change pitch by 2% (beatmatch), or modify speed (in timestretch mode). |
| Menu | Reset pitch and speed to 100%. |
| Select | Leave the PITCH SCREEN. |

4.4 Working with Playlists

4.4.1 Playlist terminology

Some common terms that are used in Rockbox when referring to playlists:

Directory. A playlist! One of the keys to getting the most out of Rockbox is understanding that Rockbox *always* considers the song that it is playing to be part of a playlist, and in some situations, Rockbox will create a playlist automatically. For example, if you are playing the contents of a directory, Rockbox will automatically create a playlist containing all songs in it. This means that just about anything that is described in this chapter with respect to playlists also applies to directories.

Dynamic playlist. A dynamic playlist is a playlist that is created “On the fly.” Any time you insert or queue tracks using the PLAYLIST SUBMENU (see section 4.4.3 (page 33)), you are creating (or adding to) a dynamic playlist.

Insert. In Rockbox, to INSERT an item into a playlist means putting an item into a playlist and leaving it there, even after it is played. As you will see later in this chapter, Rockbox can INSERT into a playlist in several places.


Queue. In Rockbox, to QUEUE a song means to put the song into a playlist and then to remove the song from the playlist once it has been played. The only difference between INSERT and QUEUE is that the QUEUE option removes the song from the playlist once it has been played, and the INSERT option does not.

4.4.2 Creating playlists

Rockbox can create playlists in four different ways.

By selecting (“playing”) a song from the File Browser

Whenever a song is selected from the FILE BROWSER with **Select** or **Next**, Rockbox will automatically create a playlist containing all of the songs in that directory and start playback with the selected song.


Note: If you already have created a dynamic playlist, playing a new song will *erase* the current dynamic playlist and create a new one. If you want to add a song to the current playlist rather than erasing the current playlist, see the section below on how to add music to a playlist. 

By using Insert and Queue functions

If playback is stopped, the INSERT and QUEUE functions can be used as described in 4.4.3 to create a new playlist instead of adding to an existing one. This will *erase* any dynamic playlist.

By using the Playlist catalogue

The PLAYLIST CATALOGUE makes it possible to modify and create playlists that are not currently playing. To do this select PLAYLIST CATALOGUE in the CONTEXT MENU. There you will have two choices, ADD TO PLAYLIST adds the selected track or directory to an existing playlist and ADD TO A NEW PLAYLIST creates a new playlist containing the selected track or directory.

Note: All playlists in the PLAYLIST CATALOGUE are stored by default in the /Playlists directory in the root of your player’s disk and playlists stored in other locations are not included in the catalogue. It is however possible to move existing playlists there (see section 4.1.2 (page 20)). 

By using the Main Menu

To create a playlist containing all music on your player, you can use the CREATE PLAYLIST command in the PLAYLISTS menu found in the MAIN MENU. The created playlist will be named `root.m3u8` and saved in the root of your player’s disk.

4.4.3 Adding music to playlists

Adding music to a dynamic playlist

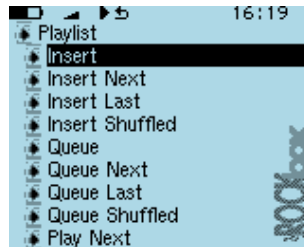


Figure 4.5: The Playlist Submenu

The `PLAYLIST SUBMENU` is a submenu in the `CONTEXT MENU` (see section 4.1.2 (page 20)), it allows you to put tracks into a “dynamic playlist”. If there is no music currently playing, Rockbox will create a new dynamic playlist and put the selected track(s) into it. If there is music currently playing, Rockbox will put the selected track(s) into the current playlist. The place in which the newly selected tracks are added to the playlist is determined by the following options:

Insert. Add track(s) immediately after any tracks added via the most recent `INSERT` operation. If no tracks have yet been added via an `INSERT`, new tracks will be added immediately after the current playing track. If playback is stopped a new dynamic playlist will get created with the selected tracks.

Insert Next. Add track(s) immediately after current playing track, no matter what else has been inserted.

Insert Last. Add track(s) to end of playlist.

Insert Shuffled. Add track(s) to the playlist in a random order.

Insert Last Shuffled. Add tracks in a random order to the end of the playlist.

Queue. Queue is the same as Insert except queued tracks are deleted immediately from the playlist after they have been played. Also, queued tracks are not saved to the playlist file (see section 5.10 (page 42)).

Queue Next. Queue track(s) immediately after current playing track.


Queue Last. Queue track(s) at end of playlist.

Queue Shuffled. Queue track(s) in a random order.


Queue Last Shuffled. Queue tracks in a random order at the end of the playlist.

Play Next. Replaces all but the current playing track with track(s). Current playing track is queued.

The PLAYLIST SUBMENU can be used to add either single tracks or entire directories to a playlist. If the PLAYLIST SUBMENU is invoked on a single track, it will put only that track into the playlist. On the other hand, if the PLAYLIST SUBMENU is invoked on a directory, Rockbox adds all of the tracks in that directory to the playlist.

Note: You can control whether or not Rockbox includes the contents of subdirectories when adding an entire directory to a playlist. Set the SETTINGS → GENERAL SETTINGS → PLAYLIST → RECURSIVELY INSERT DIRECTORIES setting to YES if you would like Rockbox to include tracks in subdirectories as well as tracks in the currently-selected directory. 

Dynamic playlists are saved so resume will restore them exactly as they were before shutdown.

Note: To view, save, reshuffle, or display the play time of the current dynamic playlist use the PLAYLIST sub menu in the WPS context menu or in the MAIN MENU. 

4.4.4 Modifying playlists

Reshuffling

Reshuffling the current playlist is easily done from the PLAYLIST sub menu in the WPS, just select RESHUFFLE.

Moving and removing tracks

To move or remove a track from the current playlist enter the PLAYLIST VIEWER by selecting VIEW CURRENT PLAYLIST in the PLAYLIST submenu in the WPS context menu or the MAIN MENU. Once in the PLAYLIST VIEWER open the context menu on the track you want to move or remove. If you want to move the track, select MOVE in the context menu and then move the blinking cursor to the place where you want the track to be moved and confirm with **Select** or **Next**. To remove a track, simply select REMOVE in the context menu.

4.4.5 Saving playlists

To save the current playlist either enter the PLAYLIST submenu in the WPS CONTEXT MENU (see section 4.3.3 (page 28)) and select SAVE CURRENT PLAYLIST or enter the PLAYLIST OPTIONS menu in the MAIN MENU and select SAVE CURRENT PLAYLIST. Either method will bring you to the VIRTUAL KEYBOARD (see section 4.1.3 (page 22)), enter a filename for your playlist and accept it and you are done.

4.4.6 Loading saved playlists

Through the File Browser

Playlist files, like regular music tracks, can be selected through the FILE BROWSER. When loading a playlist from disk it will replace the current dynamic playlist.

Through the Playlist catalogue

The PLAYLIST CATALOGUE offers a shortcut to all playlists in your player's specified playlist directory. It can be used like the FILE BROWSER.

4.5 Hotkeys

Hotkeys are shortcut keys for use in the FILE BROWSER and WPS screen. To use one, press **Select+ Play** within the FILE BROWSER or **Select+ Play** within the WPS screen. The assigned function will launch with reference to the current file or directory, if applicable. Each screen has its own assignment. If there is no assignment for a given screen, the hotkey is ignored.

The default assignment for the File Browser hotkey is OFF, while the default for the WPS hotkey is VIEW PLAYLIST.

The hotkey assignments are changed in the Hotkey menu (see section ?? (page ??)) under GENERAL SETTINGS.

5 The Main Menu

5.1 Introducing the Main Menu

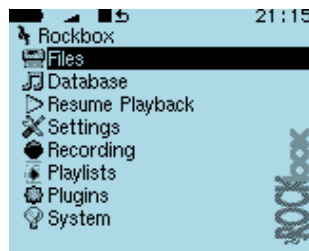


Figure 5.1: The main menu

The MAIN MENU is the screen from which all of the Rockbox functions can be accessed. This is the first screen you will see when starting Rockbox. To return to the MAIN MENU, press the **Menu** button.

All settings are stored on the unit. However, Rockbox does not access the hard disk solely for the purpose of saving settings. Instead, Rockbox will save settings when it accesses the hard disk the next time, for example when refilling the music buffer or navigating through the FILE BROWSER. Changes to settings may therefore not be saved unless the player is shut down safely (see section 3.1.2 (page 15)).

5.2 Navigating the Main Menu

| Key | Action |
|-------------------|--|
| Scroll Forward | Select the next option in the menu. Inside a setting, increase the value or choose next option. |
| Scroll Backward | Select the previous option in the menu. Inside a setting, decrease the value or choose previous option. |
| Select or Next | Select option. |
| Prev or Long Play | Exit menu or setting, or move to parent menu. |

5.3 Recent Bookmarks

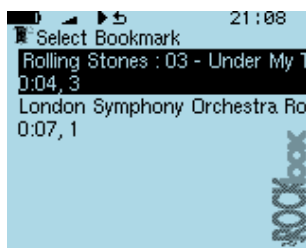


Figure 5.2: The list bookmarks screen

If the `SAVE A LIST OF RECENTLY CREATED BOOKMARKS` option is enabled then you can view a list of several recent bookmarks here and select one to jump straight to that track.

Note: Bookmarking only works when tracks are launched from the file browser, and does not currently work for tracks launched via the database. In addition, they do not currently work with dynamic playlists.



| Key | Action |
|---------------------------------|---|
| Scroll Forward | Select the next bookmark. |
| Scroll Backward | Select the previous bookmark. |
| Select or Next | Resume from the selected bookmark. |
| Prev or Long Play | Exit Recent Bookmark menu. |
| Long Menu | Delete the currently selected bookmark. |
| Long Select | Enter the context menu for the selected bookmark. |

There are two options in the context menu:

RESUME will commence playback of the currently selected bookmark entry.

DELETE will remove the currently selected bookmark entry from the list.

This entry is not shown in the MAIN MENU when the option is off (the default setting). See section ?? (page ??) for more details on configuring bookmarking in Rockbox.

5.4 Files

Browse the files on your player (see section 4.1 (page 19)).

5.5 Database

Browse by the meta-data in your audio files (see section 4.2 (page 23)).

5.6 Now Playing/Resume Playback

Go to the WHILE PLAYING SCREEN and resume if music playback is stopped or paused and there is something to resume (see section 4.3 (page 26)).

5.7 Settings

The SETTINGS menu allows you to set or adjust many parameters that affect the way your player works. There are many submenus for different parameter areas. Every time you are setting a value of a parameter, and that value is selected from a list of some predefined available values, you can press **Long Select**, and

the selection cursor will jump to the default value for the parameter. You can then confirm or cancel the value. This is useful if you have changed the value of the parameter from the default to some other value and would like to restore the default value.

5.7.1 Sound Settings

The SOUND SETTINGS menu offers a selection of sound properties you may change to customise your listening experience. The details of this menu are covered in section ?? (page ??).

5.7.2 Playback Settings

The PLAYBACK SETTINGS menu allows you to configure settings related to audio playback. The details of this menu are covered in section ?? (page ??).

5.7.3 General Settings

The GENERAL SETTINGS menu allows you to customise the way Rockbox looks and the way it plays music. The details of this menu are covered in section ?? (page ??).

5.7.4 Theme Settings

The THEME SETTINGS menu contains options that control the visual appearance of Rockbox. The details of this menu are covered in section ?? (page ??).

5.7.5 Recording Settings

The RECORDING SETTINGS menu allows you to configure settings related to recording. The details of this menu are covered in detail in section ?? (page ??).

5.7.6 Manage Settings

The MANAGE SETTINGS option allows the saving and re-loading of user configuration settings, browsing the hard drive for alternate firmwares, and finally resetting your player back to initial configuration. The details of this menu are covered in section ?? (page ??).

5.8 Recording

5.8.1 While Recording Screen

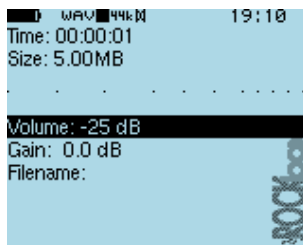



Figure 5.3: The while recording screen

Selecting the RECORDING option in the MAIN MENU enters the RECORDING SCREEN, whilst pressing Long **Select** enters the RECORDING SETTINGS (see section ?? (page ??)). The RECORDING SCREEN shows the time elapsed and the size of the file being recorded. A peak meter is present to allow you set gain correctly. There is also a volume setting, this will only affect the output level of the player and does *not* affect the recorded sound. If enabled in the peak meter settings, a counter in front of the peak meters shows the number of times the clip indicator was activated during recording. The counter is reset to zero when starting a new recording.

Note: When you start a recording, the hard disk will spin up. This will cause the peak meters to freeze in the process. This is expected behaviour, and nothing to worry about. The recording continues during the spin up. 

The frequency and channels settings are shown in the status bar.

The controls for this screen are:

| Key | Action |
|---|---|
| Scroll Backward / Scroll Forward | Select setting. |
| Prev / Next | Adjust selected setting. |
| Play | Start recording. While recording: pause recording (press again to continue). |
| Menu or Long Play | Exit RECORDING SCREEN. While recording: Stop recording. |
| Select | Start recording. While recording: close the current file and open a new one. |
| Long Select | Open RECORDING SETTINGS (see section ?? (page ??)). |

5.9 FM Radio

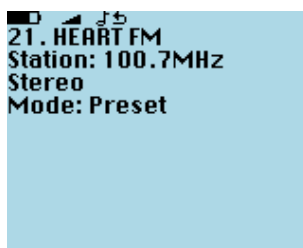


Figure 5.4: The FM radio screen

This menu option switches to the radio screen. The FM radio has the ability to remember station frequency settings (presets). Since stations and their frequencies vary depending on location, it is possible to load these settings from a file. Such files should have the filename extension `.fmr` and reside in the directory `/.rockbox/fmpresets` (note that this directory does not exist after the initial Rockbox installation; you should create it manually). To load the settings, i.e. a set of FM stations, from a preset file, just “play” it from the file browser. Rockbox will “remember” and use it in PRESET mode until another file has been selected. Some preset files are available here: [FmPresets](#).

It is also possible to record the FM radio while listening. To start recording, enter the FM radio settings menu with Long **Select** and then select RECORDING. At this point, you will be switched to the RECORDING SCREEN. Further information on RECORDING can be found in section 5.8 (page 40).

| Key | Action |
|--|--|
| Prev, Next | Change frequency in SCAN mode or jump to next/previous station in PRESET mode. |
| Long Prev , Long Next | Seek to next station in SCAN mode. |
| Scroll Forward , Scroll Backward | Change volume. |
| Menu | Leave the radio screen with the radio playing. |
| Long Play | Stop the radio and return to MAIN MENU. |
| Play | Mute radio playback. |
| Select | Switch between SCAN and PRESET mode. |
| tbd | Open a list of radio presets. You can view all the presets that you have, and switch to the station. |
| Long Select | Display the FM radio settings menu. |

Saving a preset: Up to 64 of your favourite stations can be saved as presets. Long **Select** to go to the menu, then select **ADD PRESET**. Enter the name (maximum number of characters is 32). Press **Play** to save.

Selecting a preset: **tbd** to go to the presets list. Use **Scroll Forward** and **Scroll Backward** to move the cursor and then press **Select** or **Next** to select. Use **Prev** or Long **Play** to leave the preset list without selecting anything.

Removing a preset: **tbd** to go to the presets list. Use **Scroll Forward** and **Scroll Backward** to move the cursor and then press Long **Select** on the preset that you wish to remove, then select **REMOVE PRESET**.

Note: The radio will turn off when starting playback of an audio file.



5.10 Playlists

This menu allows you to work with playlists. Playlists can be created in three ways. Playing a file in a directory causes all the files in it to be placed in a playlist. Playlists can be created manually by either using the **CONTEXT MENU** (see section 4.1.2 (page 20)) or using the **PLAYLIST** menu. Both automatically and manually created playlists can be edited using this menu.

Create Playlist: Rockbox will create a playlist with all tracks in the current directory and all sub-directories. The playlist will be created one directory level “up” from where you currently are.

View Current Playlist: Displays the contents of the playlist currently stored in memory.

Save Current Playlist: Saves the current dynamic playlist, excluding queued tracks, to the specified file. If no path is provided then playlist is saved to the current directory.

View Catalogue: Provides a simple interface to maintain several playlists (see section 4.4 (page 31)).

5.11 Plugins

With this option you can load and run various plugins that have been written for Rockbox. There are a wide variety of these supplied with Rockbox, including several games, some impressive demos and a number of utilities. A detailed description of the different plugins is to be found in section ?? (page ??).

5.12 System

Rockbox Info: Displays some basic system information. This is, from top to bottom, the amount of memory Rockbox has available for storing music (the buffer). The battery status. Hard disk size and the amount of free space on the disk.

Credits: Display the list of contributors.

Running Time: Shows the runtime of your player in hours, minutes and seconds.

Running Time: This item shows the cumulative overall runtime of your player since you either disconnected it from charging (in Rockbox) or manually reset this item. A manual reset is done through pressing any button, followed by pressing **Select** or **Next**.

Top Time: This item shows the cumulative overall runtime of your player since you last manually reset this item. A manual reset is done through pressing any button, followed by pressing **Select** or **Next**.

Debug (Keep Out!): This sub menu is intended to be used *only* by Rockbox developers. It shows hardware, disk, battery status and other technical information.

Warning: It is not recommended that users access this menu unless instructed to do so in the course of fixing a problem with Rockbox. If you think you have messed up your settings by use of this menu please try to reset *all* settings before asking for help.



5.13 Quick Screen

Although the QUICK SCREEN is accessible from nearly everywhere, not just the MAIN MENU, it is worth mentioning here. It allows rapid access to your four favourite settings. The default settings are SHUFFLE (section ?? (page ??)), REPEAT (section ?? (page ??)) and the SHOW FILES (section ?? (page ??)) options, but almost all configurable options in Rockbox can be placed on this screen. To change the options, navigate through the menus to the setting you want to add and press Long **Select**. In the menu which appears you will be given options to place the setting on the QUICK SCREEN.

Press Long **Menu** to access it and **Select** to exit. The direction buttons will modify the individual setting values as indicated by the arrow icons. Please note that the settings at opposite sides of the screen cycle through the available options in opposite directions. Therefore if you select the same setting at e.g. the top and bottom of the quickscreen, then pressing up and down will cycle through this setting in opposite directions.

5.14 Shortcuts

This menu item is a container for user defined shortcuts to files, folders or settings. With a shortcut,

- A file can be “run” (i.e. a music file played, plugin started or a .cfg loaded)
- The file browser can be opened with the cursor positioned at a specified file or folder
- A file’s or folder’s “Current Playlist” context menu item can be displayed
- A setting can be configured (any which can be added to the QUICK SCREEN)
- A debug menu item can be displayed (useful for developers mostly)
- The current time can be spoken
- The sleep timer can be configured
- The player can be turned off

Note: Shortcuts into the database are not possible



Shortcuts are loaded from the file `/.rockbox/shortcuts.txt` which lists each item to be displayed. Each shortcut looks like the following:

```

_____ EXAMPLE _____
[shortcut]
type: <shortcut type>
data: <what the shortcut actually links to>
name: <what the shortcut should be displayed as>
icon: <number of the theme icon to use (see CustomIcons)>

```

talkclip: <filename of a talk clip to speak when voice menus are enabled>

‘‘type’’ and ‘‘data’’ are required (except if type is ‘‘separator’’ in which case ‘‘ta’’ is also not required).

lable types are:

le] data is the name of the file to ‘‘run’’
owse] data is the file or the folder to open the file browser at
aylist menu] data is the file or the folder to open the
Current Playlist’’ context menu item on
tting] data is the config name of the setting you want to change
ee section ?? (page ??) for the list of the possible settings)
bug] data is the name of the debug menu item to display
parator] data is ignored; name can be used to display text,
left blank to make the list more accessible with visual gaps
me] data needs to be either ‘‘talk’’ to talk the time, or ‘‘sleep X’’
ere X is the number of minutes to run the sleep timer for (0 to disable). name
required for this shortcut type.
uttdown] data is ignored; name can be used to display text

he name/icon items are not specified, a sensible default will be used.

file shortcuts.txt can be edited with any text editor. Most items can
be added to it through their context menu item ‘‘Add to shortcuts’’.
boot is needed for manual changes to shortcuts.txt to be applied.

tcuts can be manually removed by selecting the one you wish to remove and pressing
