HELIOS

user guide

Preface

Probably you know already some applications which you can use to create your own compact discs. Helios is such a program, too. With Helios you are able to make regular compact discs (CDs) which can contain data as well as audio tracks. With Helios you are able to create all kinds of disc media used in the most cases. That means Helios is dedicated to users who want to make their own audio CDs or make some backup copies. Of course, there are more things possible to do with Helios...

The process of burning an entire disc is a more complex one. Due to a large variety of different settings there are many ways how a disc can be written. Helios tries to make this as easy as possible, but also provides the most important features of any other good disc recording program.

THE PROJECT MANAGER

Helios has an integrated project manager. This allows to save and load disc projects at any time. Such projects contain information about the used file system, volume name and about the disc type and settings. Saving your project is useful when you want to burn a disc not at the same time when you know what the disc should contain. Projects are often used, when a disc has to be created more than one time on different days or computer systems. But you do not need to create a project in order to burn a CD with Helios.

Text beside that white-orange coloured "E" describes things more detailed and goes more deeply into the system. It is nothing really important and may be ignored.

Text written in *italic* letters is exactly the same which can be found in the application (ex: *Open Project*, *Burn Now!*, ...).

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A INTRODUCTION

Which software do I need to make it work?

Since Helios is an application for the Be Operating System (BeOS) you need BeOS in order to run and use Helios. The BeOS is available at www.gobe.com.
There are two different versions of BeOS available: The Personal Edition which is for free and the Professional Edition which is the commercial version with more features. Be sure you have one of these.

Hardware requirements

- system with a working BeOS installation on a hard disk
- CD recording device
- 2MB of free space for Helios
- at least 1GB of free space for copying and writing CDs

Notes

The following folders/files must exist in your system:
- /boot/home/config/settings/
- /boot/beos/bin/cp
- mkbfs (anywhere on the disk)

Otherwise Helios will not work properly.

/boot/home/config/settings/ contains a file named "Helios.settings" after the first time Helios is launched. The copy command is needed for copying files into a BFS-image. If mkbfs cannot be found in /boot/beos/bin/ a small window does pop up at program start and searches the boot partition for it. This is done for the cdrtools, too.
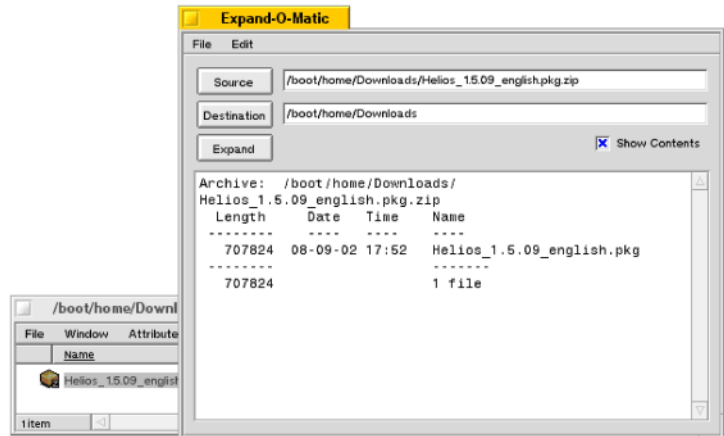
B INSTALLATION

Install Helios via SoftwareValet

GETTING HELIOS First at all, you need the package file containing the Helios application and tools. The package is available at www.bebits.com. You can use NetPositive, the BeOS browser, to download it. The original web site of Helios is home.arcor.de/moscht/BeOS/.

In your "Downloads" folder you can see a file named "Helios_x.x.pkg.zip" or similar.
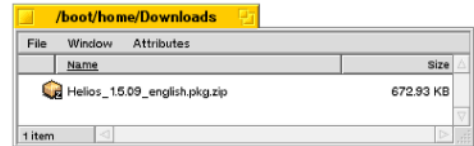
UNPACKING Launch it and an utility program will be launched, commonly this is the BeOS "Expander". Simply press the *Expand* button. A new file is created in the same folder, but in its name the ".zip" extension is missing. (The icons shown in the pictures may vary on other systems.)

INSTALLATION Now launch the new created file. The window of the SoftwareValet application appears and lets you choose a directory where you want to install Helios. If you do not know where to install, simply press *Begin* and SoftwareValet will install Helios in the user's application folder. There also may be more than one installations available as seen in the picture. In the box labelled *Group Information* you can see a description of the currently selected installation. In the top area of the window (which is empty in the picture) can be found some information about the current version of Helios which mostly applies to this version, only.
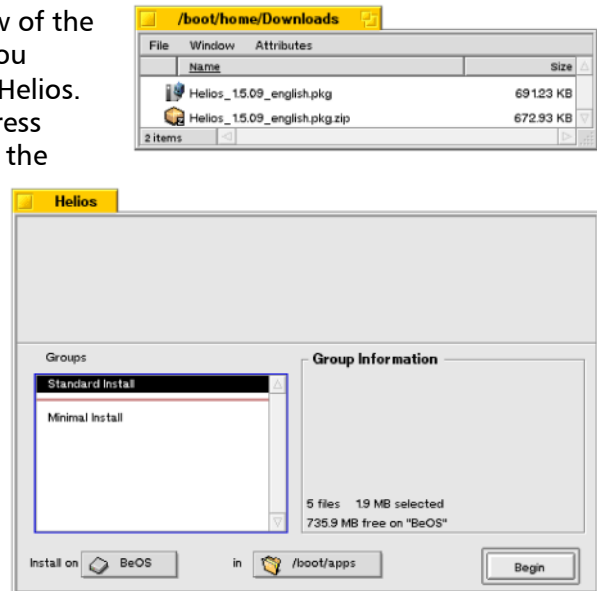
To start installation process, click the *Continue* button. The SoftwareValet program lets you know when the installation has been finished. Then, Helios is installed and ready for use...
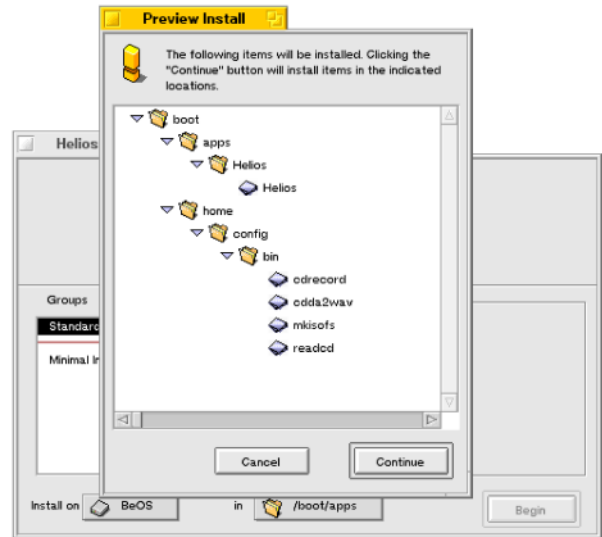
Notes

The Helios Installer does not create links neither into the Be-menu nor on the Desktop. If you prefer to have such links, you can do that manually which is very easy. The Be-menu links reside in /boot/home/config/be (and sub-folders). To create a link in there, just drag & drop the Helios icon from the Tracker's window showing the Helios folder into /boot/home/config/be or one of its sub-folders. The link appears immediately after this in the Be-menu.

Uninstall Helios

To remove Helios from the system, you can choose between a number of possible ways. But in common, these things have to be removed:
• The application folder of Helios (/boot/apps/Helios/ in the most cases)
• The project files (in /boot/Helios/ or in another folder, specified by you.)
• Any temporary files (in /boot/home/ or in another folder, specified by you.)
• The cdrtools which came with Helios (in /boot/home/config/bin/ or in other folders specified by you.)

The cdrtools could be used by other programs, too. If you are unsure whether you should remove these files, it is safe to leave them on the disk.

As an alternative, the SoftwareValet program can be used for removing, too.

C THE GRAPHICAL USER INTERFACE

The main window

After you launch Helios you can always see the main window which looks like the window at the right side. It consists of four parts: The main disc settings box at the left top, the info box below the disc settings and the file list at the right. And, of course, the menu bar at the very top of the window.
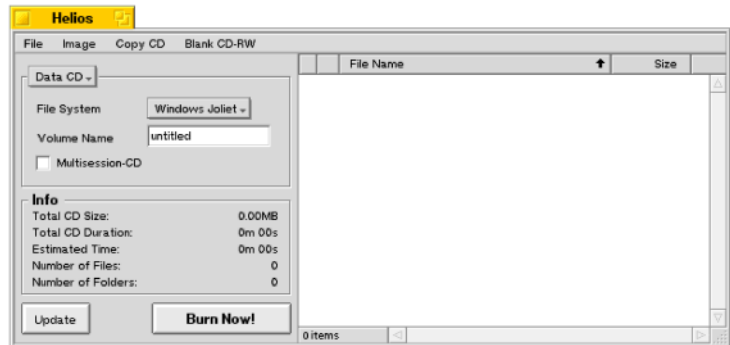
THE DISC SETTINGS BOX The disc settings box contains the most important and more often used settings for all kinds of disc modes supported by Helios. In the upper part of the box-frame a small menu is integrated (in the picture it is displaying *Data CD*). With this small menu you can select a disc type such as *Data CD*, *Audio CD* and so on. The content of the disc settings box changes as the disc type is changed to display only the necessary and for the disc type appropriate settings.

THE INFO BOX This box which is located directly below the disc settings box does contain information about the current project. The *Total CD Size* row displays always the disc size in MB. This is the size of the file system image when making data CDs. But it is the size of real audio data when you have an audio CD project loaded. The *Total CD Duration* line shows the playing time of the disc. This is more useful for audio CDs than for data CDs, since data discs do not really play on audio CD players. The line *Estimated Time* shows the time which seems to be needed for the project to burn on a disc. The value calculated is not accurate and you should not rely on this. Especially when using a fast CD recorder the estimated length of the burning process is often incorrect.

The last two lines have the simple task of counting the total number of files and folders in the project you have loaded.

The values shown in the info box are updated when you press the *Update* button. If you own a faster computer, you can also let Helios do this for you with a predefined update frequency. How to enable this feature is described more closely in chapter C The settings window in this document.

The *Update* button may by located somewhere else in later versions of Helios or even might be replaced or removed.

THE FILE LIST Probably the most used part of the program when creating CDs. It is the area of the main window where you can drop any file you want to see on your CD. Helios does not have its own file browser. But Helios accepts any file dragged from any Tracker window on the Helios main window (except when you have opened an audio project but drop a non-audio file type).

A file which is part of the project (and therefore can be displayed in the file list) is not a static item which cannot be changed. The file's name can be edited just like it is done in a

Tracker window. Removing a file is done by selecting it and pressing "Del" on your keyboard. This applies to multiple selections, too.

> Renaming does change the name of the link in the project's folder but not the real file's name itself. The same thing with removing items from the list: Only the link will be removed, not the file itself.

Items in a data CD or bootable CD file list can be right-clicked. If you do so, a small menu appears beneath the mouse cursor which contains also a *New Folder* menu item. Choose this when you want to create a sub-folder in your project.

> The folders are always created in the project folder.

The file list frame has the same features as a Tracker window. Clicking on the lower left status display brings up a list with the parent folders. Sorting can be managed through the column labels at the top of the list. These features are available when data CD type or bootable CD type has been selected in the disc settings box. Audio tracks cannot be sorted. To change their order you have to drag them to another position in the list.

The fourth part of the main window is – as mentioned above – the menu bar. It resides in the upper area of the window. As all menu bars Helios' one has several items in there. We will go from the left to the right and start with

the *File* menu item. The File menu contains all project actions like open and save.

They are almost self-explaining:

- *New Project (ALT+N)* creates a completely new project and resets all settings to its default values (which can be configured separately in the settings panel).
- *Open Project... (ALT+O)* opens a file panel where you can choose the project file directly and
- *Open Recent Project* results in a sub-menu where the ten most recently used project files are listed. The list of the recent projects may contain disabled menu items (they are colored light-grey) which are recently used, but already deleted and no more loadable.
- *Save Project (ALT+S)* saves the current project. When you save an unnamed project a file panel pops up and asks for a name of the current project.
- The *Export* menu item is a sub-menu with file formats. Select one of them and the opened project will be written to a new file containing the selected file format.
- An important item in the File menu is the *Settings... (ALT+P)* item. The settings panel will be opened when you click on this. To read more about the settings window see chapter C The settings window.
- The sub-menu *Log Window* provides access to the log windows which display the output of a command line tool. For example, the "cdrecord log window" displays the output of cdrecord which would be normally visible in a Terminal, only. More about the log windows in chapter C Log windows.
- To get information about the application (i.e. Helios) click *About...* and there will be displayed something appropriate.
- At the bottom of the list of items in the *File* menu you can find the *Exit* item which closes Helios and saves all configuration settings to disk.
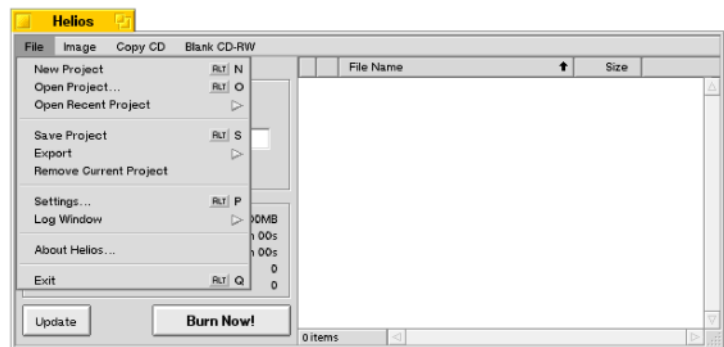
IMAGE

The *Image* menu contains all about file system images.

- *Read CD Image... (ALT+R)* simply reads the whole CD inserted in the reader device and writes it to the file which must be entered in the small window which appears after clicking this menu item.
- *Create Image File... (ALT+F)* writes the project as a file system image file. This can be useful when you want to write the CD with another CD burning application which supports image writing (CD Manager and CDBurner, for example).
- *Burn Image File... (ALT+B)* is to write an image file directly to a recordable compact disc. Just imagine you got an such an "ISO" image from the internet and want it on a CD to get a disc which is nearly the same as the original one where the "ISO" is from.
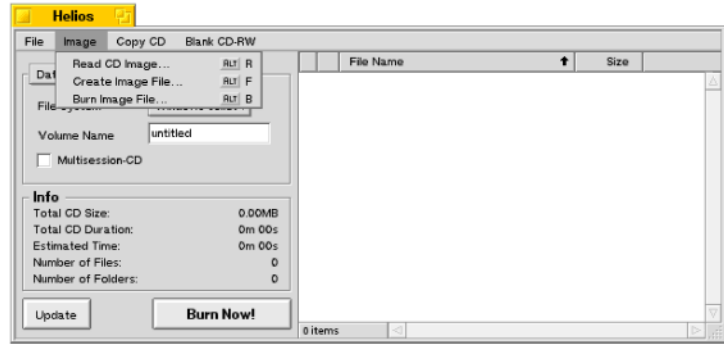
COPY CD

The third menu in the main menu bar from the left is the *Copy CD* menu. The items in this menu may vary in future versions. However, in the picture at the right you can see the two most important options.

- *Copy Audio CD* copies a audio disc but no CD Extra or any other multisession disc.
- *Copy Data CD* copies a data disc but takes no care about bootable CD's extra sessions. In common, multisession discs cannot be copied by Helios, yet.
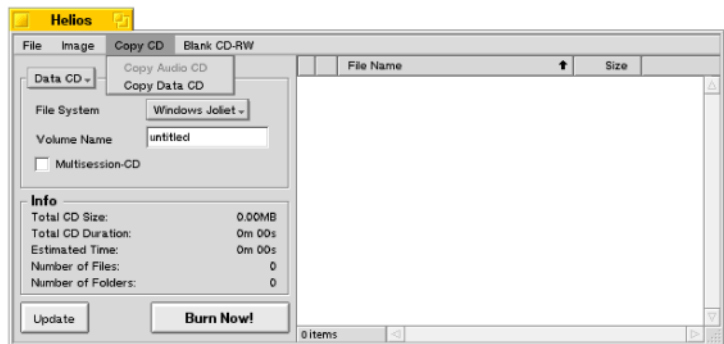
BLANK CD-RW

The last menu is the *Blank CD-RW* menu which lets you erase a rewritable disc. Four modes (out of some more supported by cdrecord) are shown in the menu list:
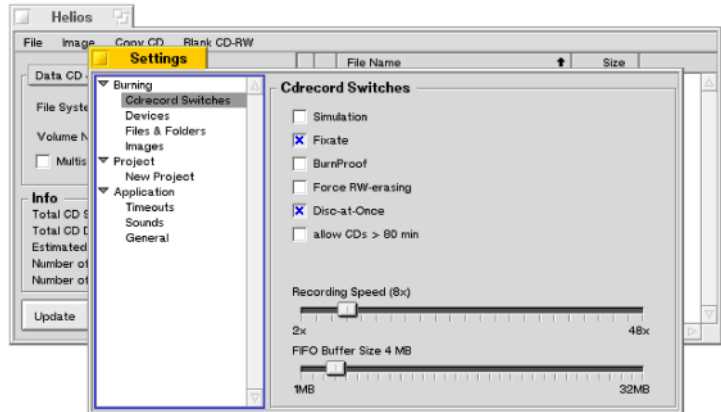
- *Entire CD (fast)* erases the table of contents of the disc. As this table is very small in comparison with the real data on the disc the erasing process lasts not very long, even when using an older CD recorder device. This is also the recommended mode for erasing CD-RW discs. All session on the disc will be erased. This process and the following three ones cannot be reverted by Helios.
- *Entire CD (complete)* erases the table of contents but does also overwrite the data of the disc.
- *Open Last Session* makes the last written session usable for new data. This is only useful for multisession discs.
- *Erase Last Session* makes the data of the last session of disc unusable and so deletes it.
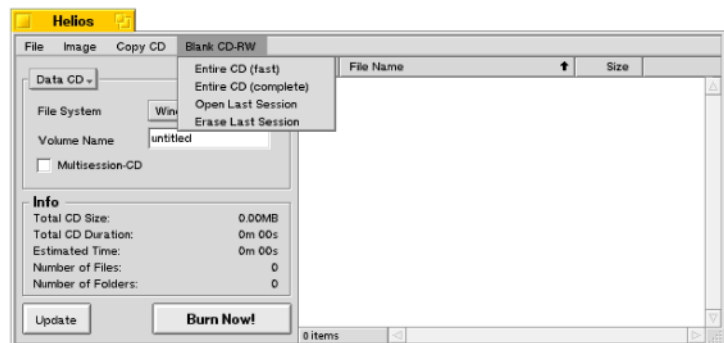
The settings window

The settings window provides access to all other configuration controls available in Helios. The window is divided into two parts: At the left you can see a list of categories and at the right the controls for the selected settings category. Control panels which appear at the right become visible when you click one of the sub-categories from the list. The top-most available control panel is labelled *Cdrecord Switches*. It

CDRECORD SWITCHES

contains only controls for modifying the options passed to cdrecord when burning or blanking a disc. In detail these controls are:

- *Simulation* turns off the laser. Nothing will be written to the disc.
- *Fixate* should be enabled since the fixation makes the disc usable.
- *BurnProof* is a <u>b</u>uffer <u>un</u>der-<u>run</u> protection developed by Sanyo. Enable this feature only if your recorder supports BurnProof. Other protection systems like JustLink are enabled automatically when using cdrecord until version 1.11a35.
- *Force RW-erasing* tries to erase inserted RW discs even if they are damaged (by laser light). Enable this when your discs are not erased with the normal (or fast) RW-erasing mode from the Blank CD-RW menu.
- *Disc-at-Once* burns every disc in DAO mode instead of using TAO. Very old recorders do not support DAO or are not supported by cdrecord.
- *allow CDs > 80 min* disables cdrecord's internal size limit for image file sizes. This will try to burn images which are even larger than 700 MB/80m.
- *Recording Speed* lets you select the speed at which your discs should be written. If you want to burn at maximum speed try to drag the slider to the right. In the example picture this would be 48x writing. The most disc recorders will use their maximum speed if a higher speed than supported is selected.
- *FIFO Buffer Size* is the size of the stream buffer of cdrecord. Changing the FIFO buffer size to higher values makes sense when using *Streaming* in the *General* panel, only. 4 MB is the default value. If you experience problems with streamed burning change the FIFO buffer size to higher or lower values.

DEVICE SETTINGS

Device specific configuration setting can be done in the *Devices* panel. It contains the following things:

- *CD Writer* contains all devices in its pop-up menu which has been found at program start-up. Here you can choose your favourite disc recording device. Mark the *Eject* check box if you want Helios to open the CD tray after it has operated on this device.
- *CD Reader* is similar to the *CD Writer* option but applies exclusively to the device you want to read from.
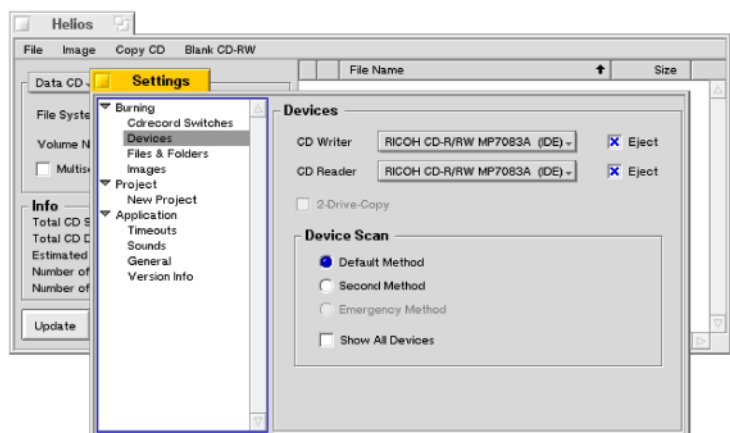
- *2-Drive-Copy*, also called "burning on the fly", tells Helios whether you want to use two drives for copying or only one drive. With two drives reading and writing is done at the same time. With only a single drive the source disc must be read and after this the destination disc is written in the device specified by the *CD Writer* control.

FILES & FOLDERS

Helios uses some special folders where it places temporary files and project files. You can change the names of the files and folders with the controls on the *Files & Folders* panel.


- The *Project Path* is the path to the folder where the open and the save panels are opened. New projects are placed always in the project path.
- For disk space management purposes you can also change the *Temporary Path* where mainly the file system images are stored. This folder should reside on a disk with at least 1 GB of free space.
- If you create an image file the name entered in the *Default Image File Name* field will be used for the file name.
- The *Default Mount Point* is a folder in the root directory where BFS image files are mounted.
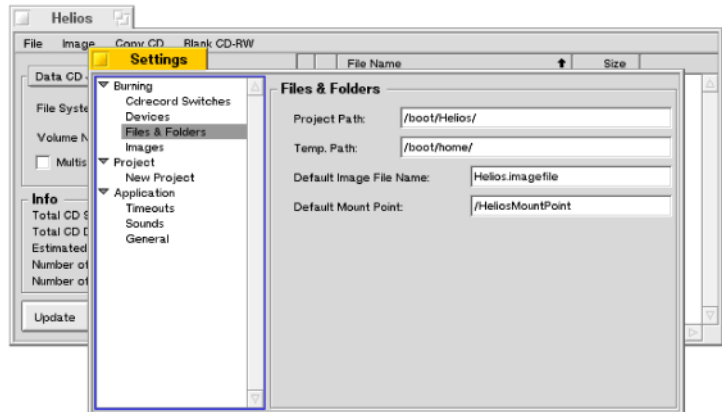
IMAGES

In every ISO9660 compliant image file there is space for information about the data it contains. The three most useful fields can be changed and entered into the fields of the *Images* panel.

- The *CD Publisher* field contains information about the publisher of the disc, which contains the image file.
- Some information about the preparer of the CD can be entered into the *CD Preparer* text field.
- The *CD Application* field contains information about the application on the CD.

Each field can hold a maximum of 128 characters. The text on this panel is project dependent and is stored into every project file. Also see chapter C The settings window/New Project.
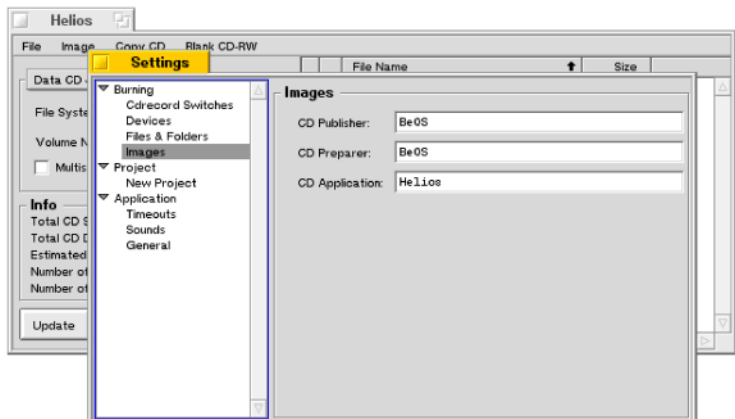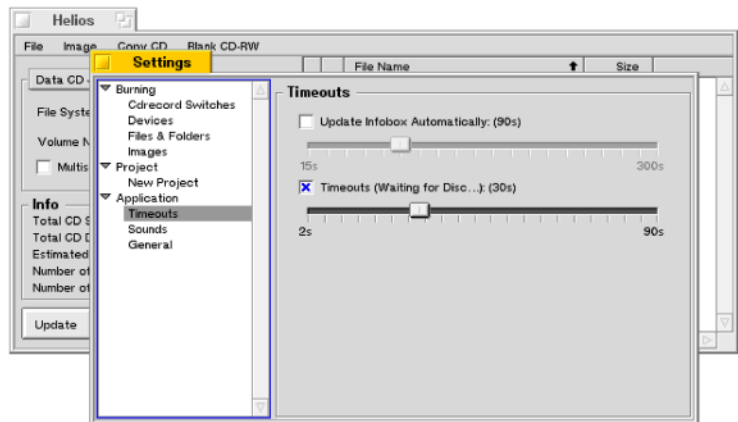
NEW PROJECT

When a new project has been created there are several values which are set by Helios for you as a standard for every new project. You can adapt these predefinitions to your personal needs. You know already the first three input fields. Their meanings are described in chapter C The settings window/Images. The *Project Path* and the *Temp. Path* are also familiar to you. The *File System* pop-up menu and the *Volume Name* text field are used for data CD and bootable CD mode, only. The *CD Type* menu contains all available disc modes. The marked mode is the one used for every new project.
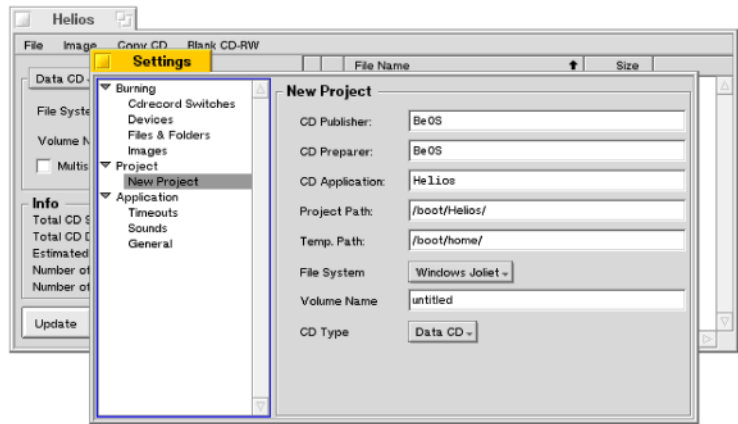
TIMEOUTS

Helios can be a very patient application. There are many processes where time outs are built in. Just think of pressing the *Burn Now!* button without having inserted a disc. To prevent an alert message in this situation, Helios waits until a disc is inserted or there is a time out. The length of the time which Helios waits can be adjusted with the slider *Timeouts* which is beneath the *Update Infobox Automatically* slider. The slider at the upper area of the settings panel can be used to change the frequency of the automatic info box refresh. The default value is 90 seconds. This means, the info box computes its displayed values every 90 seconds. If this feature is turned on and you manually refresh the content of the info box (through the *Update* button) the next automatic refresh will be 90 seconds after the button has been pressed. In other words, the "internal clock" which counts from 0 to the time out value (ex: 90s) is set back to zero when the *Update* button is pressed or any other event causes an refresh of the info box. One of these "other events" is for example when you drop a file into the main window.

The automatic info box update is suspended while Helios receives and processes a BMessage. I. e. when cdrecord or any other cdrtool is running.

Since burning a CD takes some time you might want to leave your computer alone while it is writing a disc. But how do you know when Helios has finished writing your CD?

For this reason Helios has this *Sounds* panel. It has the following controls:

- *Beep When Finished Recording Disc*: This does play the beep-sound not only after writing a disc, but also after erasing a rewritable disc. The sound sample file for the beep can be selected and changed through the Sounds preferences panel of the BeOS.
- *Beep When Finished Creating Image*: Beeps every time an image file is completely written to disk.
- *Beep When An Error Occurs*: Plays a user-defined sample every time a message box describing an error is shown.
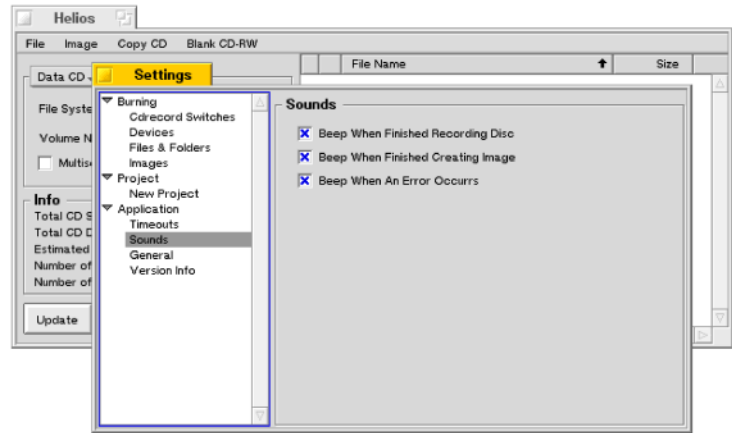
The more application specific settings can be found in the *General* panel:

- *Data Streaming*: When burning a data disc of files which are on a hard disk, there must be created an image file at first. Then this image file can be written to the disc. There are two possibilities how a CD can be recorded: Either, Helios creates the image file and stores it on a hard disk and after this Helios burns the image file. Or, Helios creates the image file but burns the image file which is just written to the disc at the same time. The first way is with *Data Streaming* disabled and is very safe. The second way is without *Data Streaming* and may cause buffer under runs on slow computers but safes very much time.
- *Remember Last Project*: When Helios is launched, it loads the last project loaded automatically if this option is enabled. If disabled, Helios starts with a new (empty) project.
- *On Exit Do...*:
  - *Save Project Without Asking*: When the Helios application is closed all changes to the current project are saved. Helios quits immediately after it has saved the project.
  - *Ask Whether Project Should Be Saved Or Not*: When Helios is closed you are asked if you want to save your project before Helios is exiting.
  - *Nothing. Just Quit.*: If selected Helios does nothing when it is closed. Nothing is saved except the configuration data. The project opened at that time is not saved.
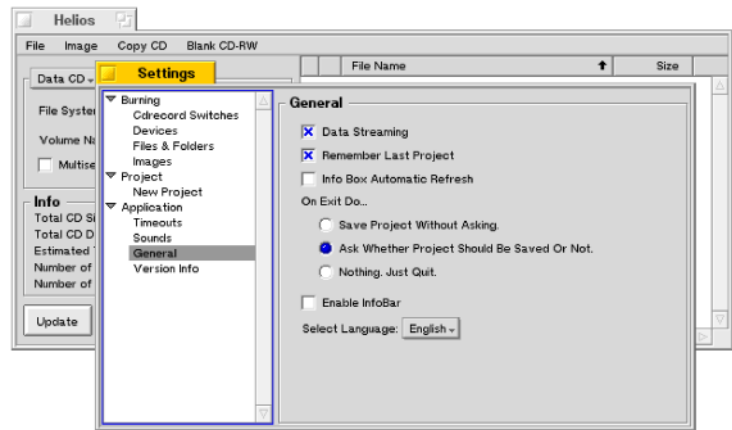
- *Enable InfoBar*: Enables support for the InfoBar application written by Jens Tinz. The InfoBar provides context sensitive help for controls where the mouse cursor is located. It is something like a replacement for a small documentation. See the picture at the right for more information about it.
- *Select Language:* This control is for changing the language which is used in Helios. After changing the language you have to restart Helios to see the changes.
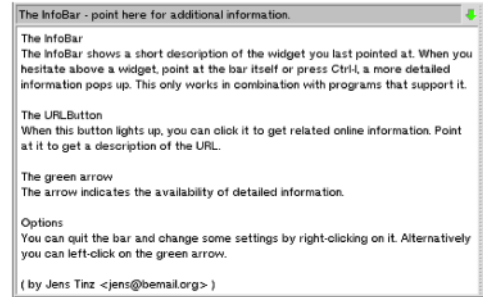
It is possible to add more languages to Helios. There is a tool which makes translation very easy: The "Helios Language Manager" application is available at www.bebits.com.

On the "version info" settings panel the version numbers of the cdrtools and Helios are shown. Sometimes it is important to know them for compatibility issues. As you can see on the picture at the right, the version information of "cdda2wav" could not be determined. The reason is that cdda2wav does not support the "--version" flag in former versions. Please keep in mind that alpha version (indicated by an "a" or "alpha" in the version number) are not tested and may not work properly. If you use older versions of cdrtools some options of Helios might not be available.
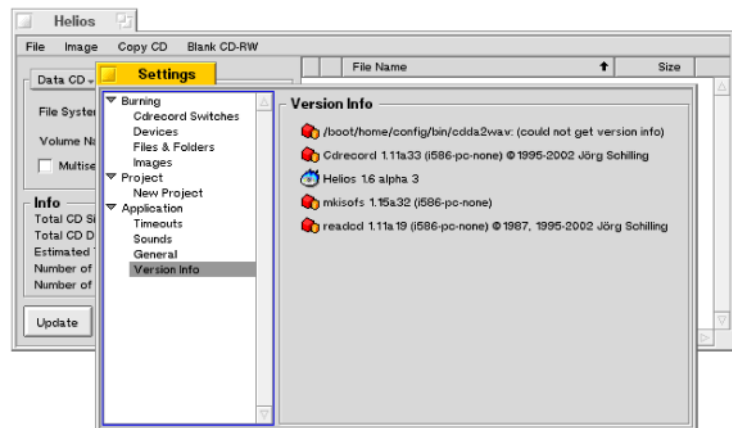
Log windows

Some problems with the cdrtools but also with Helios can sometimes be solved very easily if the output of cdrecord (and sometimes of mkisofs, too) is available. Thus, the output of these two command line applications can be accessed through Helios in a very comfortable way. The *File* menu of each window contains two functions: Firstly the *Clear* command and secondly the *Close* item. *Clear* does empty the displayed text, only. The data which is redirected to a log file is not touched by this. The file itself to which the output can be redirected can be chosen by clicking *Set File...* in the *Log File* menu. Logging to a file can be enabled and disabled with the *Log To File* option in the same menu. The file name is remembered by Helios even when logging to file is disabled. Cdrecord's log window has exactly the same behaviour as mkisofs' ones. The two log windows are shown on the next page.
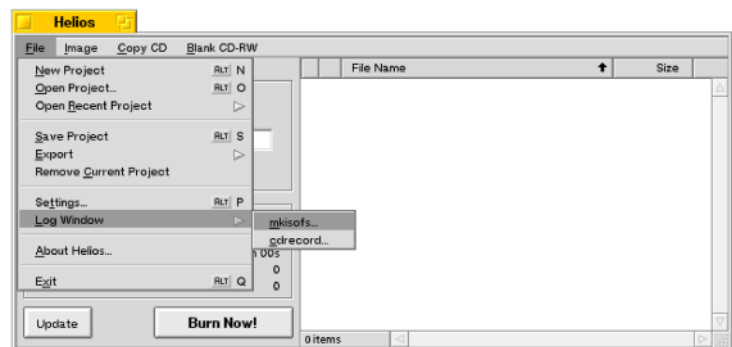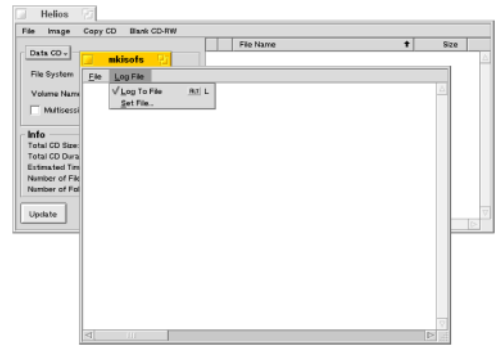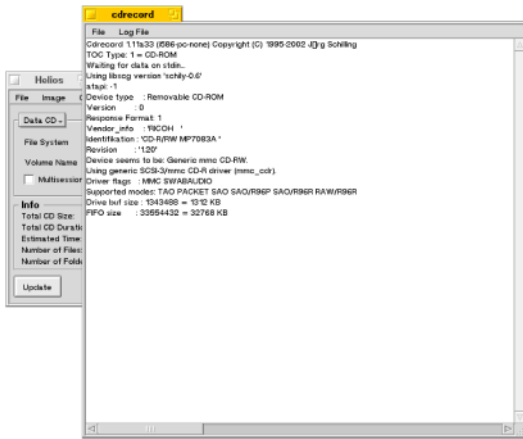
The status window

While Helios is busy a small window is visible which shows a green bar indicating the progress. The bold printed text above describes what Helios (or a tool in the background) is doing. Right between the bold text and the status bar are two small text fields: The left one is visible when burning a CD only, but the second one at the right shows some more information than the green bar could do. Usually it displays something like "x MB/s" or "12s".
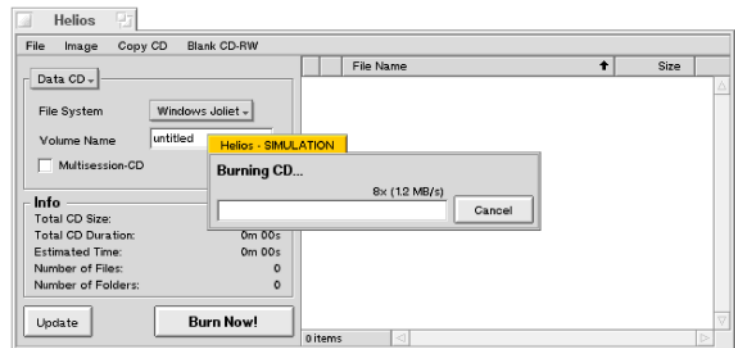
The button at the bottom right is always the *Cancel* button. To kill a running process press this button. Helios then tries to stop as soon as possible the process. While burning a CD, pressing this button may turn the disc unusable and the CD drive permanently locked.

D GLOSSARY

Be-menu
  The menu which appears when you click at the top of the DeskBar (where the BeOS logo is).

BFS
  (Be File System) A file system created by Be used by the BeOS. It is a fast and very safe file system supporting fast file search and attributes.

BurnProof
  (Buffer Underrun Proof) A function which tries to avoid an empty buffer while burning a CD. Empty buffers are caused by slow hard disks and busy busses.

CD
  (Compact Disc) A thin disc on which you can store digital data.

CD-R
  (CD-Recordable) A compact disc which can be recorded once.

CD-RW
  (CD-ReWritable) A compact disc which can be recorded and erased many times.

DAO
  (Disc-At-Once) The preferred way how a CD can be recorded. The data is written to the disc at once and cannot be written again.

FIFO
  (First-in, first-out) A buffer used for streaming data. The items which are inserted first will be the ones which can be read first (which leave the buffer).

File Allocation Table
  A table with the filenames and sector information of every file on the file system.

File System
  The way how data is stored on a disk. In common, file systems consist of a file table and a data area. The file table (also called file allocation table, FAT) contains file names and references to the area where the files are stored in the data area. Popular file systems are FAT12 (used for floppy disks), FAT16 (used by DOS), FAT32 (used by Windows), NTFS (used by Windows NT), BFS (used by BeOS), ...

Image, Image File
  A regular file on a file system which contains another file system. With BeOS and Unix-like operating systems such image files' data can be accessed easily. An image file can be written to a CD which represents the file system inside the former image file afterwards. To copy a CD, the image of a CD can be read and stored to hard disk as an image file. Then this file can be written to another disc. The source disc and the second one contain the same data and the same file system.

JustLink
  A buffer underrun protection mechanism by another manufacturer. The result is almost the same as it is with BurnProof.

to Mount

Mounting a disk means to make a disk's content readable and, if allowed, writable. Disks not mounted at a mount point cannot be accessed by applications through the operating system. All more sophisticated operating systems provide this system.

Mount Point

A folder which looks like a regular one to the user where devices can be mounted.

Multisession

Another way how a CD can be filled with data more than once. Usually, when creating a multisession disc, you write one or more sessions onto that disc. And if you think you have forgotten something, the disc can be filled with data again which is appended to the data which is already on the CD.

Sounds

An application shipped with BeOS. With Sounds you can change the system's sounds and the sounds used by applications. You can find the Sounds application in the Be-menu.

TAO

(Track-At-Once) Another way how a CD can be recorded. Single tracks are written to such a disc. Other tracks can be added afterwards.