

dvd::rip - A full featured DVD ripper

Table of Contents

<u>dvd::rip - A full featured DVD ripper for Unix</u>	1
<u>1. Installation</u>	2
<u>1.1 Binary distributions</u>	2
<u>1.1.1 Debian packages</u>	2
<u>1.1.2 SuSE packages</u>	3
<u>1.1.3 Mandrake packages</u>	3
<u>1.1.4 RedHat packages</u>	3
<u>1.1.5 gentoo packages</u>	3
<u>1.1.6 FreeBSD port</u>	3
<u>1.1.7 OpenBSD port</u>	4
<u>1.2 Source download</u>	4
<u>1.2.1 dvd::rip tarball download</u>	4
<u>1.2.2 CVS access</u>	4
<u>1.3 Requirements</u>	5
<u>1.3.1 External command line tools</u>	5
<u>1.3.2 Perl 5.6.0 or better</u>	6
<u>1.3.3 Perl modules</u>	6
<u>1.3.4 rar (for vobsub compression)</u>	7
<u>1.4 Install from source</u>	7
<u>1.4.1 Install dvd::rip</u>	7
<u>1.4.2 Update dvd::rip</u>	8
<u>1.4.3 Multiple dvd::rip versions in parallel</u>	9
<u>1.5 Uninstall dvd::rip</u>	9
<u>1.6 Download this documentation</u>	10
<u>2. dvd::rip GUI</u>	11
<u>2.1 Global preferences</u>	13
<u>2.1.1 Basic settings</u>	13
<u>2.1.2 Commands</u>	14
<u>2.1.3 Cluster options</u>	15
<u>2.1.4 Miscellaneous options</u>	15
<u>2.2 Tool dependencies</u>	17
<u>2.2.1 Mandatory tools</u>	17
<u>2.2.2 Options tools</u>	17
<u>2.3 Storage page</u>	18
<u>2.3.1 Project name / directories</u>	18
<u>2.3.2 Data source selection</u>	19
<u>2.3.3 Choose a ripping mode</u>	19
<u>2.4 Rip title page</u>	20
<u>2.4.1 Read the DVD's TOC</u>	20
<u>2.4.2 Select a title for ripping</u>	21
<u>2.4.3 Select an audio track for volume scanning</u>	21
<u>2.4.4 Select a viewing angle for ripping</u>	21
<u>2.4.5 Set subtitle preview grabbing</u>	21
<u>2.4.6 Select chapter(s)</u>	21
<u>2.4.7 Preview the movie using your options</u>	22
<u>2.4.8 Rip the selected title(s) / chapter(s)</u>	22

Table of Contents

2. dvd::rip GUI

<u>2.5 Clip & Zoom page</u>	23
<u>2.5.1 Preview frame grabbing</u>	23
<u>2.5.2 Viewing preview images</u>	24
<u>2.5.3 Show video from here</u>	24
<u>2.5.4 Using presets</u>	24
<u>2.5.5 Manual editing</u>	25
<u>2.5.6 Generate preview images</u>	26
<u>2.5.7 Calc height / width</u>	26
<u>2.5.8 Move 2nd clipping to 1st</u>	26
<u>2.5.9 Open zoom calculator</u>	26
<u>2.6 Zoom calculator</u>	27
<u>2.6.1 Resize parameters</u>	27
<u>2.6.2 Video Bitrate Calculation</u>	28
<u>2.6.3 Zoom calculations result list</u>	28
<u>2.7 Subtitles</u>	30
<u>2.7.1 Select a subtitle</u>	30
<u>2.7.2 Grab preview images</u>	31
<u>2.7.3 Render a subtitle on the movie</u>	31
<u>2.7.4 Create a vobsub from a subtitle</u>	33
<u>2.7.5 vobsub compression with rar</u>	33
<u>2.8 Transcode</u>	34
<u>2.8.1 Container options</u>	34
<u>2.8.2 Video options</u>	35
XviD variants.....	35
<u>2.8.2.2 Keyframe interval</u>	35
<u>2.8.3 Audio options</u>	37
<u>2.8.4 Video bitrate calculation</u>	39
<u>2.8.5 Calculated storage</u>	40
<u>2.8.6 General options</u>	41
<u>2.8.7 Operate</u>	42
<u>2.8.8 Create a WAV file</u>	42
<u>2.9 Filters & Preview</u>	43
<u>2.9.1 transcode's filter concept</u>	43
<u>2.9.2 Available filters</u>	44
<u>2.9.3 Used filters</u>	44
<u>2.9.4 Filter information</u>	44
<u>2.9.5 Filter options</u>	44
<u>2.9.6 Preview control</u>	45
<u>2.9.7 Select areas in the preview window</u>	45
<u>2.9.8 Preview settings</u>	46
<u>2.10 Log</u>	47
<u>2.10.1 Deleting the logfile</u>	47

3. Cluster mode..... 48

<u>3.1 Restrictions</u>	48
<u>3.2 Architecture overview</u>	48
<u>3.2.1 Security warning</u>	50

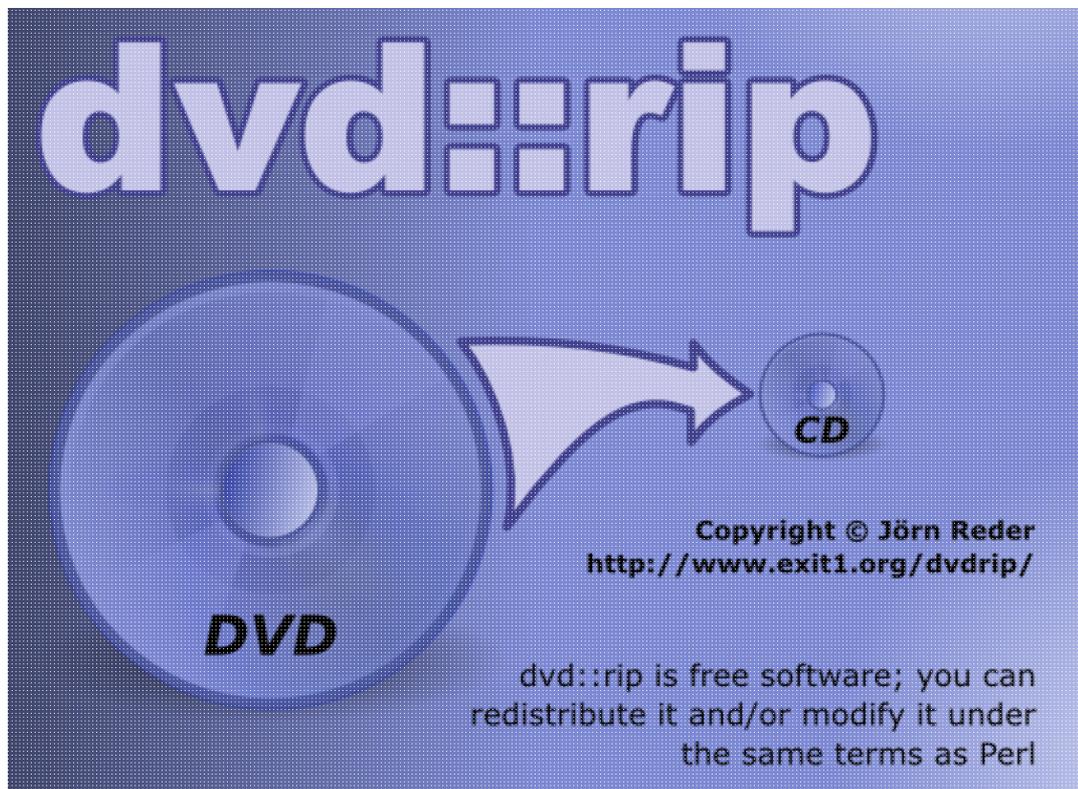
Table of Contents

3. Cluster mode	
<u>3.3 Network configuration</u>	50
3.3.1 Setup SSH	50
3.3.2 Setup NFS	51
3.4 Start cluster control daemon	52
3.5 Cluster configuration	52
3.5.1 Global preferences	52
3.5.2 Cluster control window	53
3.5.3 Add nodes	54
3.5.4 Node configuration	56
3.5.5 Node testing	57
3.6 Work with the cluster	58
3.6.1 Adding projects	58
3.6.2 Project properties	58
3.6.3 Start the project	58
3.6.4 Jobs	59
3.6.5 Node statuses	60
3.7 Webinterface	60
3.8 Some notes about internals	61
4. Command line options	63
4.1 dvdrip: main GUI program	63
4.1.1 Synopsis	63
4.1.2 Options	63
4.2 dvdrip-master: Cluster control daemon	64
4.2.1 Synopsis	64
4.2.2 Options	64
5. Important concepts	66
5.1 A dvd::rip project	66
5.2 A DVD title	66
5.3 DVD ripping modes	67
5.4 Transcode modes	67
5.4.1 Standard mode	67
5.4.2 Cluster mode	67
5.5 Chapter mode	68
5.6 Multiple audio tracks	68
5.7 Video bitrate calculation	68
5.8 Splitting	68
5.9 Volume rescaling / Audio filters	68
5.10 Subtitle formats	68
5.11 PSU core	69
5.12 Video codecs	69
5.13 Audio codecs	69
5.14 Container formats	70
5.14.1 AVI	70
5.14.2 OGG	70
5.14.3 MPEG	70

Table of Contents

5. Important concepts	
5.15 Filesystem layout.....	70
5.16 dvd::rip info file.....	71
6. FAQ.....	72
6.1 dvd::rip sometings hangs during transcoding.....	72
6.2 I have trouble with a specific DVD. What should I do?.....	72
6.3 dvd::rip can't read my DVD. I get strange error messages after ripping (movie ripped short, chapter is useless) and scrambled preview images / movies.....	72
6.4 What about encrypted DVD's?.....	73
6.5 Why complains transcode about a missing VIDEO_TS.IFO file?.....	73
6.6 DivX encoding does not work.....	73
6.7 Is dvd::rip scriptable?.....	74
6.8 dvd::rip often rips the wrong audio channel.....	74
6.9 Why is the A/V sync of my transcoded NTSC AVI's so bad?.....	74
6.10 Why are the transcoded AVI files often bigger or smaller than adjusted?.....	74
6.11 My transcoded movie has colored artefacts.....	74
6.12 Is it possible to get a WAV file from my music DVD?.....	75
6.13 Can I use different dvd::rip versions in parallel?.....	75
6.14 What about the name? dvd::rip, dvdrip and Video-DVDRip. Which one is correct?.....	75
7. TRANSLATIONS.....	76
7.1 Portuguese.....	76

dvd::rip - A full featured DVD ripper for Unix



1. Installation

- 1.1 Binary distributions
 - ◆ 1.1.1 Debian packages
 - ◆ 1.1.2 SuSE packages
 - ◆ 1.1.3 Mandrake packages
 - ◆ 1.1.4 RedHat packages
 - ◆ 1.1.5 gentoo packages
 - ◆ 1.1.6 FreeBSD port
 - ◆ 1.1.7 OpenBSD port
- 1.2 Source download
 - ◆ 1.2.1 dvd::rip tarball download
 - ◆ 1.2.2 CVS access
- 1.3 Requirements
 - ◆ 1.3.1 External command line tools
 - ◆ 1.3.2 Perl 5.6.0 or better
 - ◆ 1.3.3 Perl modules
 - ◆ 1.3.4 rar (for vobsub compression)
- 1.4 Install from source
 - ◆ 1.4.1 Install dvd::rip
 - ◆ 1.4.2 Update dvd::rip
 - ◆ 1.4.3 Multiple dvd::rip versions in parallel
- 1.5 Uninstall dvd::rip
- 1.6 Download this documentation

This chapter describes how you can get and install dvd::rip. You can try one of the several binary distributions or install it from the source.

1.1 Binary distributions

Installation of dvd::rip isn't that hard, but fulfilling the requirements actually is (simply because there are a lot ;). So you should first try a binary installation using the package manager of your Linux distribution. This should track all dependencies automatically and speed up things significantly.

1.1.1 Debian packages

Christian Marillat builds video related Debian packages and publishes them on his website <http://www.debian-multimedia.org>. You can use apt-get to install the packages if you add one of the following entries (depending on your distribution) to your /etc/apt/sources.list file:

```
deb http://www.debian-multimedia.org sarge main
deb http://www.debian-multimedia.org etch main
deb http://www.debian-multimedia.org sid main
deb http://www.debian-multimedia.org experimental main
```

dvd::rip - A full featured DVD ripper

You will find all packages to compile transcode on your own (if you need always the very latest versions), or can get binaries of reasonably recent transcode versions directly. The same applies to dvd::rip.

The dvd::rip package is called dvdrip.

1.1.2 SuSE packages

On packman.links2linux.org you find several video related RPM's, including dvd::rip and transcode:

[dvd::rip at packman.links2linux.org](http://packman.links2linux.org)
<http://packman.links2linux.org/homepage>

1.1.3 Mandrake packages

Mandrake users can get actual dvd::rip and transcode RPM's from the Penguin Liberation Front lair.

<http://plf.zarb.org/>

1.1.4 RedHat packages

Matthias Saou does a great job in building dvd::rip and other multimedia related packages. You can find them at freshrpms.net. This is a direct link the dvd::rip package:

<http://freshrpms.net/rpm/perl-Video-DVDRip>

1.1.5 gentoo packages

You can get dvd::rip and transcode from the official gentoo package repository:

<http://packages.gentoo.org/search/?sstring=dvdrip>

1.1.6 FreeBSD port

dvd::rip is available in the FreeBSD ports collection. To install from source, cd to `/${PORTSDIR}/multimedia/dvdrip` and type 'make install clean'. To install a binary package of the port, type 'pkg_add -r dvdrip'. Note however that the default installation of the transcode port which dvd::rip depends on is very minimalistic, it is recommended to look at the Makefile of the transcode port, enable all the options you need for dvd::rip and install the transcode port from source. Thanks to Michael Nottebrock, who maintains the FreeBSD port.

1.1.7 OpenBSD port

Since June 2004 we have also an official OpenBSD port of dvd::rip. You find it under graphics/dvdrip. Thanks to the maintainer Waldemar Brodkorb.

1.2 Source download

1.2.1 dvd::rip tarball download

You can download dvd::rip sources from this server or all stable releases from any CPAN mirror.

Local download of the latest stable release: (currently no unstable release available)

[dvdrip-0.98.10.tar.gz](#)

[dvdrip-0.98.10.tar.gz.asc](#) (GnuPG signature, [get key](#))

CPAN download directory: ([list of mirrors](#))

<http://www.cpan.org/modules/by-authors/id/J/JR/JRED/>

You can download older versions from here:

<http://www.exit1.org/dvdrip/dist/>

<http://www.exit1.org/dvdrip/dist/pre/>

This is a directory, which contains several user contributed files, you probably find useful:

<http://www.exit1.org/dvdrip/contrib/>

1.2.2 CVS access

This is mainly intended for developers and CVS experienced users. This CVS repository is only a read only mirror of my main repository. It's updated manually when I publish releases or pre-releases, so there is no advantage for normal users compared to downloading the tar balls (besides making it easier using "cvs update" ;)

Since development of dvd::rip is divided into two branches, you get the current (unstable) version, if you don't specify a release tag. If you want to access a stable version, add *-r rel-MAJOR-MINOR-PATCH* to your *cvs checkout* command (example: for 0.48.5 this is *-r rel-0-48-5*). If you always want to have the latest stable patch release, use *-r rel-MAJOR-MINOR-patches* (e.g. *-r rel-0-50-patches*). All subsequent updates will stay on this branch (here: 0.50). The easiest way of switching to another branch is creating a new checkout using the corresponding release tag.

Root	Module	Unstable tag	Stable tag
------	--------	--------------	------------

:pserver:cvs@cvs.exit1.org:/cvs	dvdrip	none	rel-MAJOR-MINOR-PATCH
---------------------------------	--------	------	-----------------------

1.2.2.1 CVS examples

Log into CVS server with:

```
cvs -z3 -d :pserver:cvs@cvs.exit1.org:/cvs login
```

(Press ENTER for password)

Checkout latest version of the actual stable branch (here 0.50.x):

```
cvs -z3 -d :pserver:cvs@cvs.exit1.org:/cvs checkout -r rel-0-50-patches dvdrip
```

Checkout a specific stable/bugfix version (here 0.50.13) with:

```
cvs -z3 -d :pserver:cvs@cvs.exit1.org:/cvs checkout -r rel-0-50-13 dvdrip
```

Checkout the current development version with:

```
cvs -z3 -d :pserver:cvs@cvs.exit1.org:/cvs checkout dvdrip
```

Update a checkout - created using one of the commands above - with:

```
cd dvdrip; cvs -z3 update
```

1.3 Requirements

dvd::rip is a Gtk+ based program written in Perl, using the video processing tool transcode and many other tools for the internals. So you first have to get some prerequisites before installing dvd::rip.

dvd::rip expects all command line tools mentioned here to be found in the standard search PATH.

1.3.1 External command line tools

This table gives a brief overview of the tools used by dvd::rip (everything but the Perl modules - see the chapters below for more information about them). Most tools are optional - the corresponding dvd::rip modules are just switched off, if you don't have them.

But you need at least the tools marked *mandatory*, otherwise dvd::rip will complain with an error message on startup. You can get also a dvd::rip window listing this information, refer to the corresponding chapter in the documentation for details.

Tool	Comment	Mandatory	Suggested	Minimum	Maximum
transcode	dvd::rip is nothing without transcode	Yes	1.0.2	0.6.14	-
ImageMagick	Needed for preview image processing	Yes	6.2.3	4.0.0	-

dvd::rip - A full featured DVD ripper

ffmpeg	FFmpeg video converter command line program	No		0.4.10	-
xvid4conf	xvid4 configuration tool	No	1.12	1.6	-
subtitle2pgm	Needed for subtitles	No	0.3	0.3	-
lsdvd	Needed for faster DVD TOC reading	No	0.15	0.15	-
rar	Needed for compressed vobsub subtitles	No	2.71	2.71	2.99
mplayer	Needed for subtitle vobsub viewing	No	1.00	0.90	-
ogmtools	Needed for OGG/Vorbis	No	1.5	1.0.0	-
dvdchap	For chapter progress bar (ogmtools)	No	1.5	1.0.0	-
mjpegtools	Needed for (S)VCD encoding	No	1.6.2	1.6.0	-
xine	Can be used to view DVD's/files	No	0.9.15	0.9.13	-
fping	Only for cluster mode master	No	2.4	2.2	-
hal	Used for DVD device scanning	No	0.5.7	0.5	-

1.3.2 Perl 5.6.0 or better

You need a recent Perl version on your system. Perl 5.8.x is recommended, 5.6.0 and 5.6.1 should work also. dvd::rip won't start with Perl versions prior to 5.6.0. Actual distributions ship minimum 5.6.1, so this shouldn't be a real problem, anyway.

1.3.3 Perl modules

Since dvd::rip is mostly written in Perl it requires a bunch of Perl modules. Check if your distribution has installation packages for them, otherwise download them from CPAN and install from source.

Some required Perl modules are shipped with dvd::rip for your convenience. These are pure Perl modules which need no C-Compiler or something like that for installation. dvd::rip detects if these modules are missing on your system and installs them together with its own program files. Refer to the [Install from source chapter](#) for details about this mechanism.

This table lists all Perl modules, usual names for installation packages and CPAN URL's for download:

Perl Module	Package name	CPAN URL	Shipped with dvd::rip
Gtk2	libgtk2-perl	search.cpan.org	No
Event	libevent-perl	search.cpan.org	No
Locale::TextDomain	libintl-perl-xs	search.cpan.org	No
Gtk2::Ex::FormFactory	libgtk2-ex-formfactory-perl	search.cpan.org	Yes
AnyEvent	libanyevent-perl	search.cpan.org	Yes
Event::ExecFlow	libevent-execflow-perl	search.cpan.org	Yes
Event::RPC	libevent-rpc-perl	search.cpan.org	Yes

To install a Perl module from source, execute these commands:

```
tar xfz Some-Perl-Module-x.xx.tar.gz
cd Some-Perl-Module-x.xx
perl Makefile.PL
make test
sudo make install
```

1.3.4 rar (for vobsub compression)

Some special notes about the rar program. MPlayer supports vobsub files compressed with rar, but you need a 2.x version, 3.x and higher doesn't work. You can get a 2.x version locally from here:

<http://www.exit1.org/dvdrip/contrib/rarInx271.sfx.bin>

I suggest to install the binary to e.g. `/usr/local/bin`. Then configure this path using the [Preferences](#) dialog.

1.4 Install from source

1.4.1 Install dvd::rip

This is quite easy, if you have managed to install the packages mentioned above... ;)

Download the .tar.gz archive of the dvd::rip version you want to install. Then extract the file, change into the created directory, and execute the Makefile.PL script:

```
# as a normal user
tar xfz dvdrip-x.xx.tar.gz
cd dvdrip-x.xx
perl Makefile.PL
```

As mentioned in the [Required Perl modules chapter](#) above dvd::rip can install some of the required Perl modules for you automatically. If dvd::rip detects such missing modules on your

dvd::rip - A full featured DVD ripper

system, you get an output like this from *perl Makefile.PL*:

```
Note:
-----
The following modules are required for dvd::rip but not found on your
system. They're shipped with dvd::rip for your convenience and will be
installed automatically when you run 'make install':

    AnyEvent Event::ExecFlow Event::RPC

You can ignore the 'prerequisite not found' warnings beyond for them.

If you don't like this and want to install these modules manually
just set SKIP_UNPACK_REQUIRED_MODULES before executing Makefile.PL,
e.g. this way:

    SKIP_UNPACK_REQUIRED_MODULES=1 perl Makefile.PL

Checking if your kit is complete...
Looks good
Warning: prerequisite AnyEvent 1.02 not found.
Warning: prerequisite Event::ExecFlow 0.62 not found.
Warning: prerequisite Event::RPC 0.89 not found.
Writing Makefile for Video::DVDRip
```

If your distribution has installation packages for these modules, it's recommended to use these. Install them and run 'perl Makefile.PL' again.

Now run 'make test' and if no errors were reported 'make install' (as root):

```
make test
sudo make install
```

You can omit the "make install" step. But then you can execute the 'dvdrip' binary only from the build directory and you must put "\$PWD/bin" into your PATH (*export PATH=\$PWD:\$PATH*), otherwise dvd::rip can't find its files.

1.4.2 Update dvd::rip

Updating is just like installing. The only thing you should be aware of is switching the underlying Perl version. This way you easily can get two versions of dvd::rip installed in your system, because dvd::rip installs its libraries in your Perl library directory. Such a installation mixing isn't recommended unless you know exactly what you're doing. So it's better to remove the old version from the old Perl directory if you change the Perl version (refer to the [uninstall chapter](#) for details).

Read the Changes file!

I strongly suggest you should read at least the latest change log entry of the Changes file, resp. all entries of the versions you probably skipped in case of an update. It contains important release notes, e.g. about compatibility issues, and all relevant changes from release to release.

Note:

Changes on the unstable branch are logged in the file *Changes.unstable*.

1.4.3 Multiple dvd::rip versions in parallel

It's possible to use several dvd::rip versions in parallel on your system, but you can install only **one** version using *make install* into your system directories.

Just extract another dvd::rip version you want to use somewhere, enter the created directory (dvdrip-x.xx) and execute *perl Makefile.PL && make* here (**no make install**). Add the actual directory to your PATH (*export PATH=\$PWD:\$PATH*) and you can start this version with *bin/dvdrip* from this directory. All files and libraries located in the actual distribution directory will be used. The . in PATH is necessary, otherwise some dvd::rip helper binaries may be taken from another place.

```
tar xvfz dvdrip-x.xx.tar.gz
cd dvdrip-x.xx
perl Makefile.PL && make
export PATH=$PWD:$PATH
bin/dvdrip
```

1.5 Uninstall dvd::rip

If you didn't use a package manager to install dvd::rip and you want to uninstall it, follow these instructions. This is necessary, if you accidentally mixed several versions on your system, which may result in a broken dvd::rip at all. In this case best thing is to remove all instances and to do a clean installation afterwards.

dvd::rip mainly consists of a bunch of Perl modules which reside in the Perl library directory of your Perl interpreter. Easiest way to find this directory is to use the locate program. Then a few executables belong to dvd::rip, which also can be found using locate. This is an example session of how this works:

```
% locate DVDRip.pm
/usr/local/share/perl/5.8.0/Video/DVDRip.pm
% rm -r /usr/local/share/perl/5.8.0/Video/DVDRip*
% locate dvdrip
/usr/bin/dvdrip
/usr/bin/dvdrip-exec
/usr/bin/dvdrip-master
...
% rm /usr/bin/dvdrip*
```

In words: find a Perl library directory called Video with DVDRip.pm in it. Remove the DVDRip.pm file and the subdirectory called DVDRip. Then find the location of the binaries and remove them - see the list above. If you find multiple instances this way, remove them all.

1.6 Download this documentation

You can download a static HTML version of this documentation:

<http://www.exit1.org/dvdrip/dist/dvdrip-doc-html-0.98.10.tar.bz2>

A PDF version is also available (generated using the excellent tool [htmldoc](#)):

<http://www.exit1.org/dvdrip/dist/dvdrip-doc-0.98.10.pdf.bz2>

2. dvd::rip GUI

dvd::rip's main GUI is a notebook with several pages, each summing up specific options for a specific task. There are also some additional windows.

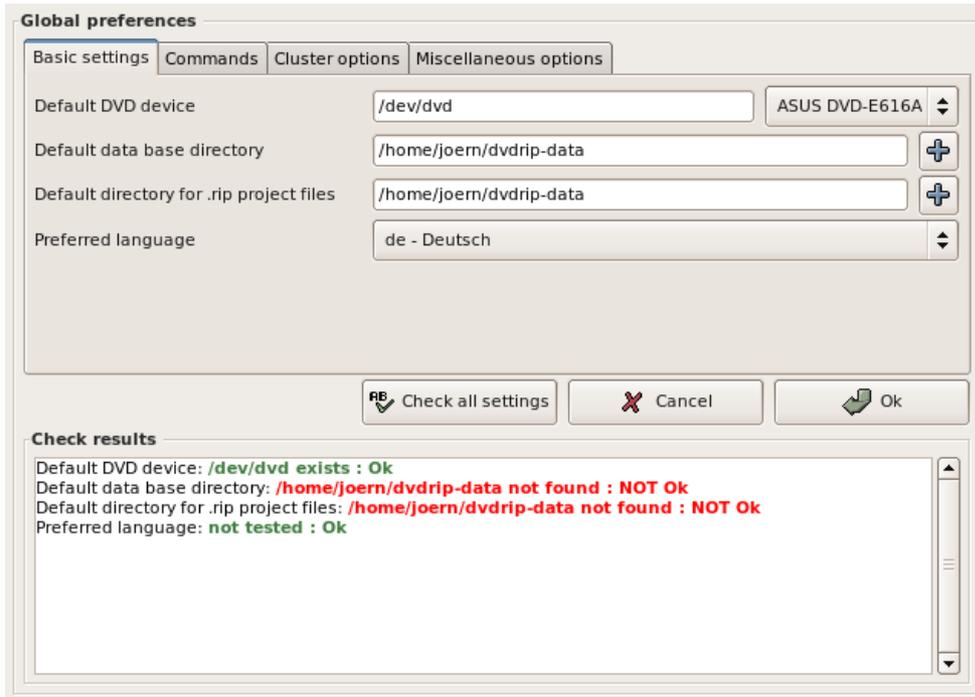
Because you should configure dvd::rip before you actually start a project, the preference window is described first. Also it's important to have all the tools used by dvd::rip installed with proper versions, so this is the next chapter. Then each page is described with all its options and actions.

- 2.1 Global preferences
 - ◆ 2.1.1 Basic settings
 - ◆ 2.1.2 Commands
 - ◆ 2.1.3 Cluster options
 - ◆ 2.1.4 Miscellaneous options
- 2.2 Tool dependencies
 - ◆ 2.2.1 Mandatory tools
 - ◆ 2.2.2 Options tools
- 2.3 Storage page
 - ◆ 2.3.1 Project name / directories
 - ◆ 2.3.2 Data source selection
 - ◆ 2.3.3 Choose a ripping mode
- 2.4 Rip title page
 - ◆ 2.4.1 Read the DVD's TOC
 - ◆ 2.4.2 Select a title for ripping
 - ◆ 2.4.3 Select an audio track for volume scanning
 - ◆ 2.4.4 Select a viewing angle for ripping
 - ◆ 2.4.5 Set subtitle preview grabbing
 - ◆ 2.4.6 Select chapter(s)
 - ◆ 2.4.7 Preview the movie using your options
 - ◆ 2.4.8 Rip the selected title(s) / chapter(s)
- 2.5 Clip & Zoom page
 - ◆ 2.5.1 Preview frame grabbing
 - ◆ 2.5.2 Viewing preview images
 - ◆ 2.5.3 Show video from here
 - ◆ 2.5.4 Using presets
 - ◆ 2.5.5 Manual editing
 - ◆ 2.5.6 Generate preview images
 - ◆ 2.5.7 Calc height / width
 - ◆ 2.5.8 Move 2nd clipping to 1st
 - ◆ 2.5.9 Open zoom calculator
- 2.6 Zoom calculator
 - ◆ 2.6.1 Resize parameters
 - ◆ 2.6.2 Video Bitrate Calculation
 - ◆ 2.6.3 Zoom calculations result list
- 2.7 Subtitles
 - ◆ 2.7.1 Select a subtitle
 - ◆ 2.7.2 Grab preview images
 - ◆ 2.7.3 Render a subtitle on the movie

dvd::rip - A full featured DVD ripper

- ◆ [2.7.4 Create a vobsub from a subtitle](#)
- ◆ [2.7.5 vobsub compression with rar](#)
- [2.8 Transcode](#)
 - ◆ [2.8.1 Container options](#)
 - ◆ [2.8.2 Video options](#)
 - ◆ [2.8.3 Audio options](#)
 - ◆ [2.8.4 Video bitrate calculation](#)
 - ◆ [2.8.5 Calculated storage](#)
 - ◆ [2.8.6 General options](#)
 - ◆ [2.8.7 Operate](#)
 - ◆ [2.8.8 Create a WAV file](#)
- [2.9 Filters & Preview](#)
 - ◆ [2.9.1 transcode's filter concept](#)
 - ◆ [2.9.2 Available filters](#)
 - ◆ [2.9.3 Used filters](#)
 - ◆ [2.9.4 Filter information](#)
 - ◆ [2.9.5 Filter options](#)
 - ◆ [2.9.6 Preview control](#)
 - ◆ [2.9.7 Select areas in the preview window](#)
 - ◆ [2.9.8 Preview settings](#)
- [2.10 Log](#)
 - ◆ [2.10.1 Deleting the logfile](#)

2.1 Global preferences



The global preferences window opens automatically on first startup. You should check all parameters here before start using dvd::rip. Some settings will most likely not work on your system and need to be adjusted.

All settings are stored in this file:

`~/.dvdriprc`

If you want to reset your settings, just delete it.

The preferences dialog is divided into several pages, which sum up all options regarding a specific section. Some simple tests are applied to each parameter. The result is shown at the bottom of the window. Red messages mean an error you should correct, green messages are Ok.

2.1.1 Basic settings

These are the most essential settings regarding filesystem, DVD reader and your preferred content language.

Option	Description
Default DVD device	This is the default device file of your DVD reader. If your system support HAL (Hardware Abstraction Layer) and includes the program <i>Ishal</i> a list of connected DVD drives appears in the popup menu besides the text entry box. Just

dvd::rip - A full featured DVD ripper

	select an entry from the popup, or enter the path of your DVD drive by hand.
Default data base directory	This is the default directory, where dvd::rip stores the <u>project data</u> (VOB/AVI/OGG files, preview frames, logfiles etc.). When creating a new project this directory is preset but you can choose a different directory location for this specific project, if you like. Hit the button besides the entry to create the directory if it doesn't exist yet.
Default directory for .rip project files	dvd::rip stores all settings of a rip project in a .rip file. Usually you want to collect your .rip files in a specific directory, which is set here.
Preferred language	The default audio track and subtitle are selected to your preferred language after reading TOC, resp. the first audio track / subtitle matching the preferred language will be selected. Note that you still should review your audio / subtitle settings, because the first matching item found must not be the one you really want.

2.1.2 Commands

2.1.2.1 Player commands

dvd::rip knows three ways of playing movies: straight from DVD, from a file or via STDIN (which is used to offer previews of specific frame ranges resp. to slurp in in a prefiltered stream).

dvd::rip ships several presets for mplayer and xine you can choose of. But you also can change the presets by simply entering your command to the entry. There are several placeholders you can use to customize the player commands:

Placeholder	Description	Value Range
%t	DVD title	1..n
%a	Audio Channel	0..n-1
%c	Chapter	1..n
%m	Viewing Angle	1..n
%f	Filename	alphanumeric
%d	DVD device file	alphanumeric

Strings enclosed in <> will be repeated for each selected entry (e.g. DVD Chapter or filename). Also you can specify arbitrary expressions using %() brackets, e.g. %(%c-1) will evaluate to the actual chapter minus 1. Look at the factory presets to see how it works.

2.1.2.2 rar command

Besides the player commands you can specify a special *rar* binary to use for vobsub compression. MPlayer only supports vobsub files compressed with rar 2.x, so you probably have to install this old version separately and tell dvd::rip the location here. Refer to the [installation chapter](#) if you don't have a 2.x rar on your system.

2.1.3 Cluster options

You need to change these options only if you want to use the cluster mode and if the computer running dvd::rip isn't the one which runs the cluster control daemon also.

Option	Description
Start cluster control daemon locally	Set this to <i>No</i> if the computer running the cluster control daemon isn't the same which runs the dvd::rip GUI. dvd::rip then omits starting a local daemon on demand, but tries to connect the daemon over the network.
Hostname of server with daemon	This is the DNS hostname of the computer running the daemon. Leave it empty, if you run the cluster control daemon locally.
TCP port number of daemon	Don't change this.

2.1.4 Miscellaneous options

Some miscellaneous options.

Option	Description
Default video codec	Choose the codec you want to use in general, this one will be selected by default. If you can't find the codec in the selection list, you may enter any arbitrary codec string, which is recognized by transcode's <i>-y</i> option.
Default container format	Choose the container format you prefer: avi, ogg or mpeg (for (S)VCD and friends).
OGG file extension	It's a matter of taste and habit if you like to have your OGG media files named *.ogg or *.ogm. You can select the extension of your choice here (or enter an arbitrary value, if you don't like any of both alternatives).
Default BPP value	If you prefer video bitrate calculation by quality using a BPP calculation (bits per pixel), set your preferred BPP value here. It's set by default, of course you can change it per project later.
Grab subtitles while ripping	dvd::rip has an option to grab subtitle preview images while ripping. If you care about subtitles, you can select the default behaviour here (and change it per project later). If subtitles

dvd::rip - A full featured DVD ripper

	doesn't matter for you, you should set this to <i>Don't grab subtitles</i> , because ripping takes significant longer with subtitle preview grabbing.
Workaround transcode NPTL bugs	transcode has some problems with the NPTL thread implementation of modern Linux systems. Often these can be workarounded by setting the LD_ASSUME_KERNEL environment variable to an older kernel number, e.g. 2.2.5. dvd::rip performs this by default. If you encounter problems, you can switch this behaviour off here.

2.2 Tool dependencies

Required tools							
Name	Comment	Mandatory	Suggested	Minimum	Maximum	Installed	Ok
dvd::rip	All internal command files	Yes	0.97.12	0.97.12	-	0.97.12	Yes
transcode	dvd::rip is nothing without transcode	Yes	0.6.14	0.6.14	-	1.0.2	Yes
ImageMagick	Needed for preview image processing	Yes	6.2.3	4.0.0	-	6.2.4	Yes
xvid4conf	xvid4 configuration tool	No	1.12	1.6	-	1.12	Yes
subtitle2pgm	Needed for subtitles	No	0.3	0.3	-	0.3	Yes
lsdvd	Needed for faster DVD TOC reading	No	0.15	0.15	-	0.16	Yes
rar	Needed for compressed vobsub subtitles	No	2.71	2.71	2.99	2.80	Yes
mplayer	Needed for subtitle vobsub viewing	No	1.00	0.90	-	1.0	Yes
ogmtools	Needed for OGG/Vorbis	No	1.5	1.0.0	-	1.5	Yes
dvdxchap	For chapter progress bar (ogmtools)	No	1.5	1.0.0	-	1.5	Yes
mjpegtools	Needed for (S)VCD encoding	No	1.6.2	1.6.0	-	1.8.0	Yes
xine	Can be used to view DVD's/files	No	0.9.15	0.9.13	-	0.99.4	Yes
fping	Only for cluster mode master	No	2.4	2.2	-	2.4	Yes
hal	Used for DVD device scanning	No	0.5.7	0.5	-	0.5.7	Yes

- Mandatory tools must be present with the minimum version listed.
 - Non mandatory tools may be missing or too old - features are disabled then.
 - Suggested numbers are the versions the author works with, so they are well tested.

Text version Ok

You can open this window with the *Debug / Check dependencies...* menu item. It lists all tools needed by dvd::rip and checks if the installed version is sufficient.

2.2.1 Mandatory tools

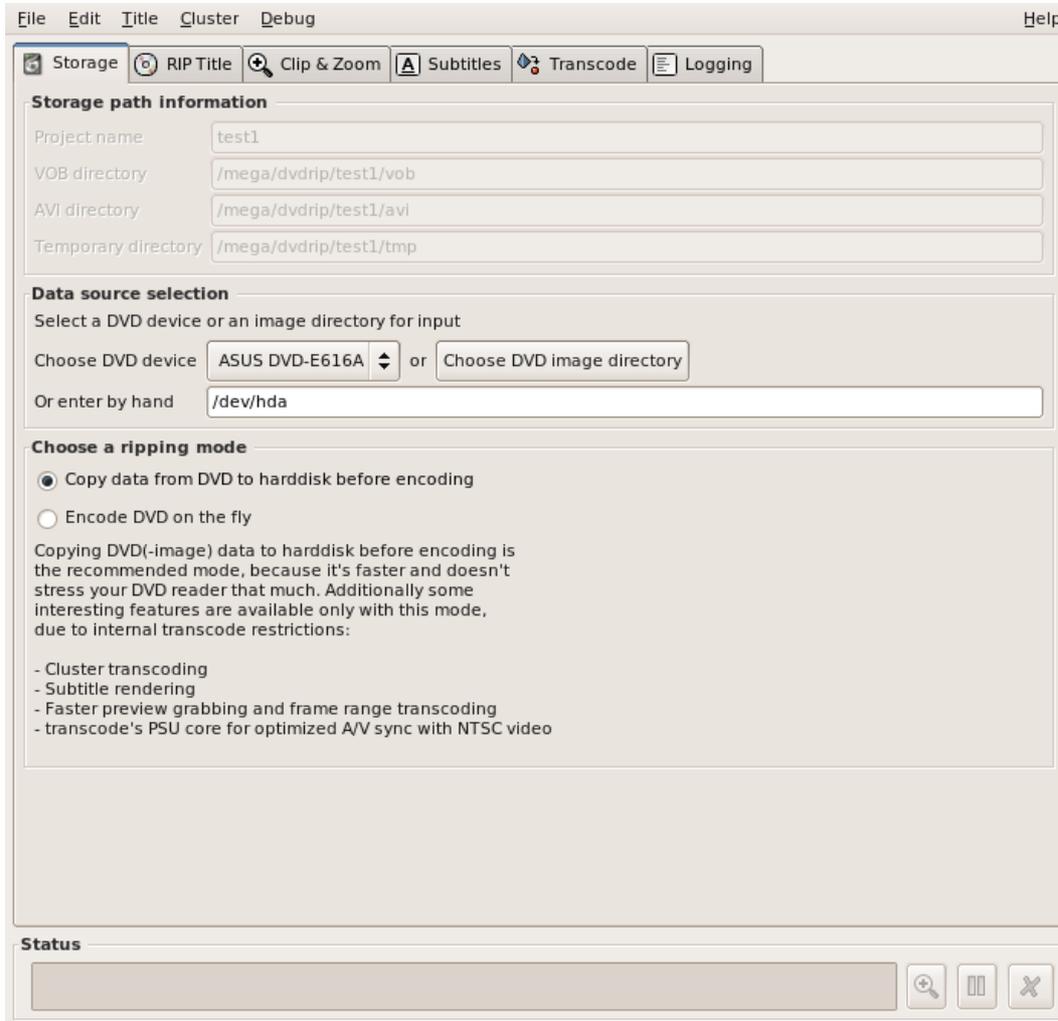
If a mandatory tool is missing or too old, this window opens automatically on startup - dvd::rip rejects all operations, until you installed at least the mandatory tools successfully.

2.2.2 Options tools

All optional tools may be missing - dvd::rip automatically disables the correspondent modules.

2.3 Storage page

2.3.1 Project name / directories



dvd::rip creates a *Project* for each DVD you work with. This is a .rip file with all the settings and a directory structure, where all the video and temporary data files are stored.

When you create a new dvd::rip project you must name it first. You can change the default directory layout per project if you like. dvd::rip makes reasonable suggestions you should accept.

If you entered the project's name just hit the *Create project* button. A file dialog appears to select name and directory of the .rip file. Usually you just accept the defaults.

Note :

No special characters, e.g. spaces or quotes, are allowed in the project name and paths.

Note :

Once you created the project, you can't change the project name and paths anymore.

Note for cluster mode users:

You *must* keep the default directory layout here, otherwise cluster node network filesystem access will fail.

2.3.2 Data source selection

You have two options choices for the data source:

- A physical DVD placed in your DVD reader
- Use an existent DVD image on your harddisk

If your system supports HAL you see a list of connected DVD drives you may choose of. If you want to use a DVD image hit the *Choose DVD image directory* button to select the correspondent directory. Additionally you may enter the DVD device filename or DVD image directory by hand to the text entry beyond.

Note about the DVD image directory:

This is the top level directory of the ripped image. The DVD image must be decrypted and complete, that means a VIDEO_TS folder with all VOB and IFO files must be present.

2.3.3 Choose a ripping mode

After you selected the data source you may choose between two ripping modes:

- Copy data from DVD to harddisk before encoding
- Encode DVD on the fly

You should use the default mode "Copy data from DVD to harddisk before encoding" when possible (e.g. you have enough harddisk space for the ripped VOB files). The other mode has serious disadvantages. Refer to this [discussion](#) on this topic.

2.4 Rip title page

Note:

If you're not using the default mode *Rip data from DVD to harddisk before encoding* most of the functionality on this page is disabled, because nothing has to be copied on your harddisk. You have to read the DVD TOC and select a title here, that's all.

- [2.4.1 Read the DVD's TOC](#)
- [2.4.2 Select a title for ripping](#)
- [2.4.3 Select an audio track for volume scanning](#)
- [2.4.4 Select a viewing angle for ripping](#)
- [2.4.5 Set subtitle preview grabbing](#)
- [2.4.6 Select chapter\(s\)](#)
- [2.4.7 Preview the movie using your options](#)
- [2.4.8 Rip the selected title\(s\) / chapter\(s\)](#)

2.4.1 Read the DVD's TOC

The screenshot shows the 'Read content' tab in the dvd::rip application. The interface includes a menu bar (File, Edit, Title, Cluster, Debug, Help) and a toolbar with buttons for Storage, RIP Title, Clip & Zoom, Subtitles, Transcode, and Logging. Below the toolbar, there are buttons for 'Read DVD table of contents', 'Open DVD tray', and 'Close DVD tray'. The main area displays a table of DVD contents with columns for Title, Runtime, Norm, Chp, Audio, Framerate, Aspect, Frames, and Resolution. Title 10 is selected. To the right of the table, there are controls for 'Select audio track' (set to '1: en ac3 48kHz 2Ch'), 'Select viewing angle' (set to 'Angle 1'), 'Grab subtitle preview images' (set to 'By language'), 'Language selection' (showing 'de' and 'en'), 'Specify chapter mode' (set to 'Selection'), and 'Chapter selection' (showing '#1 [00:08:37]' and '#2 [00:00:00]'). At the bottom, there are buttons for 'View selected title/chapter(s)' and 'RIP selected title(s)/chapter(s)', and a status bar showing 'Free diskpace: 125887 MB'.

Title	Runtime	Norm	Chp	Audio	Framerate	Aspect	Frames	Resolution
1	00:00:00	PAL	1	1	25	4:3	3	720x576
2	00:04:01	PAL	2	1	25	4:3	6028	720x576
3	00:00:03	PAL	1	0	25	16:9	75	720x576
4	00:00:02	PAL	1	0	25	16:9	50	720x576
5	00:02:39	PAL	3	1	25	16:9	3982	720x576
6	00:00:00	PAL	1	1	25	4:3	3	720x576
7	00:00:02	PAL	1	0	25	16:9	50	720x576
8	00:01:04	PAL	2	2	25	16:9	1609	720x576
9	00:06:40	PAL	2	2	25	16:9	10002	720x576
10	00:08:38	PAL	2	1	25	16:9	12953	720x576
11	00:08:09	PAL	2	1	25	16:9	12233	720x576
12	00:01:02	PAL	2	1	25	4:3	1553	704x576
13	00:00:31	PAL	2	1	25	4:3	778	704x576
14	00:00:31	PAL	2	1	25	4:3	779	704x576
15	00:00:31	PAL	2	1	25	4:3	778	704x576
16	00:00:31	PAL	2	1	25	4:3	778	704x576
17	00:00:31	PAL	2	1	25	4:3	782	704x576
18	00:00:31	PAL	2	1	25	4:3	780	704x576
19	00:03:41	PAL	2	2	25	16:9	5529	720x576

dvd::rip - A full featured DVD ripper

If you enter this page, the TOC list will be empty. Put the DVD into your drive and press the button *Read DVD Table of Contents*. dvd::rip will retrieve detailed information of every title.

Note:

After reading the TOC dvd::rip creates a file named *backup.rip* in the project's *tmp/* directory. If you forget saving your project, you can pick up this file instead. It's not possible to continue a dvd::rip project **without** a project file, which contains the DVD TOC!

2.4.2 Select a title for ripping

You can select any title in the list, the biggest one is most likely the one with the main movie of the DVD. All other options (audio/viewing angle/chapters) will follow your title selection

It's possible to select more than one title, using the *Shift* and *Ctrl* keys. This way you can rip several titles to harddisk in a row.

Note:

The title selection has another very important side-effect. All subsequent steps apply to the selected title. (Refer to this short discussion of the title-centric behaviour of dvd::rip).

2.4.3 Select an audio track for volume scanning

Once you selected a title you should select your primary audio track from the correspondent popup (dvd::rip supports more than one audio track in the resulting file, but that doesn't matter here). This doesn't affect ripping (all audio tracks are ripped anyway), but the selected audio track will be scanned for volume rescaling information.

2.4.4 Select a viewing angle for ripping

The viewing angle affects ripping, because only the selected angle will be extracted from the DVD. If you change this setting, you must rip this title again.

2.4.5 Set subtitle preview grabbing

dvd::rip can grab subtitle preview images during ripping. If you don't use it you have to grab subtitle images later if you want to have previews. Disadvantage of grabbing during ripping is that ripping is somewhat slower. You can choose to disable preview grabbing, grab all subtitles or just grab all subtitles of a specific language.

2.4.6 Select chapter(s)

dvd::rip has a chapter mode you can switch on here. By default dvd::rip creates one file per title, but with chapter mode you'll have one file per chapter. You can choose between *All* and *Selection*. If you set it to *Selection* a multi selection list of all found chapters appears. Select as

dvd::rip - A full featured DVD ripper

many chapters as you want (use shift key to select ranges and ctrl key to add or remove single entries). Sometimes very short and useless chapters are found during ripping. dvd::rip will give a corresponding warning message. You should de-select such short chapters for later transcoding.

Note that vobsub creation (refer to [subtitles](#)) is disabled in chapter mode.

2.4.7 Preview the movie using your options

When you're done with your settings you can press *View selected title/chapter(s)*. The [movie player](#) you configured for DVD playback will be used to play your selection of title/chapter(s), audio channel and viewing angle.

2.4.8 Rip the selected title(s) / chapter(s)

If everything looks good you can actually start ripping your selection of titles and chapters by pressing the *RIP selected title(s)/chapter(s)* button.

Note: dvd::rip can't know the size of a specific title in advance, so as a rule of thumb you get a warning if your disk space is below six GB.

Again the initialization of the process may need some time (up to several minutes!), if your DVD is encrypted. With recent hardware ripping a movie of 1:45h should take about 20-30 minutes.

Right after ripping dvd::rip will generate a preview image of the ripped movie. This usually takes a few seconds, unless you're in the on-the-fly or DVD image mode, where this may need a minute.

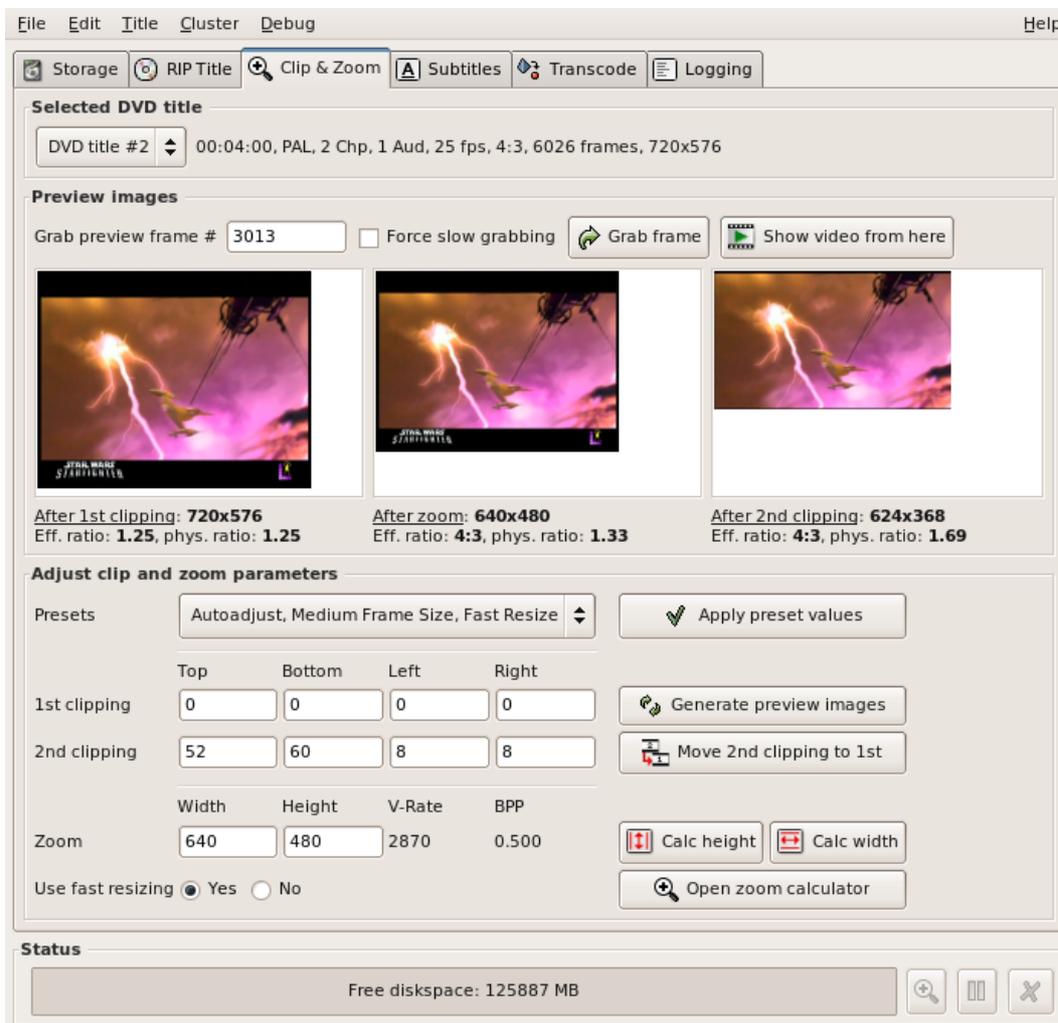
2.5 Clip & Zoom page

After selecting (and probably ripping) a DVD title it's time to adjust the clipping and zooming parameters. transcode supports three processing stages for this task, in this order:

Often you don't need to use all three steps, particularly the last clipping step may be omitted. Anyway it's very easy to define the correct parameters with this model.

1. Clip the video
2. Zoom or shrink the clipped video
3. Clip again the result of the zoom/shrink process

2.5.1 Preview frame grabbing



dvd::rip should have taken a preview frame for you already after ripping. If not (e.g you're not using the ripping mode) or the image isn't representative enough you can grab an arbitrary preview frame by entering its number and pressing *Grab frame*. For ripped titles this needs a few seconds. For on-the-fly and DVD image modes it needs the longer the higher your frame number is.

The grabbed image will appear in the preview section three times. The first shows the image after the first clipping, the second after resizing and the third after the second clipping.

Note: preview frame grabbing is rather slow for on-the-fly and DVD image projects, because all prior frames must be decoded. Fast movie navigation is available for ripped movies only.

2.5.2 Viewing preview images

You can click on any preview image to view it in its original size in a separate window. Additionally, the clipping images will show up with markers for defining the clipping area.

2.5.3 Show video from here

In ripping mode you can use the button *Show video from here* to start the [movie player](#) you configured for STDIN playing starting at the frame number you entered.

Note: this function is available only for ripped movies. It's disabled for on-the-fly and DVD image projects.

2.5.4 Using presets

It's strongly suggested to use the offered Clip & Zoom presets. By default dvd::rip applies the *Autoadjust*, *Medium Frame Size*, *Fast Resize* preset, which gives very good results by adequate transcoding speed.

The presets are divided into two classes:

- Autoadjusting
- Fixed values

The **autoadjusting presets** determine the black bars of a letterbox movie automatically and set the clipping values accordingly. They are available for three target frame sizes (Small, Medium and Big) and with or without fast resizing (see below for details). Big only corrects the aspect ratio, medium scales the image somewhat down and small somewhat more. **(S)VCD / CVD presets**

The **fixed presets** are currently for (S)VCD and CVD modes only. They're available two times, once for NTSC and once for PAL. You must select the correct entry for your format.

For *VCD* you don't have a lot of choices: *4:3* or *16:9*, depending on the aspect ratio of your movie. *SVCD* is anamorph encoded. For *16:9* movies you can create a *4:3* format. This will cut off some of the letterbox black bars and keep more space for the real movie. *CVD* has a fixed frame size, anamorph encoded.

After applying a preset the preview images are regenerated automatically.

Note: for SVCD and CVD the aspect ratio information printed under the preview images is mostly useless, because SVCD/CVD is always anamorph encoded. The player stretches the image to 4:3 resp. 16:9, depending on what you've chosen. So forget about the values printed there, they don't take the rescaling of the player into account. This may be fixed in future releases.

2.5.5 Manual editing

dvd::rip let you do the hard job, if that's what you want ;), so you can enter all values which affect clipping and resizing manually.

Note:

You must press the *Generate preview images* button after changing values by hand, otherwise the displayed thumbnails won't show up with your settings.

2.5.5.1 1st/2nd clipping

You can enter arbitrary values in the correspondent entries or click on the preview image to get a full sized version with markers, which define the clipping area. This way you can adjust a custom clipping easily by drag'n'drop.

You can specify *negative* values, if you want to add corresponding black bars. This may be needed for (S)VCD formats or if you like to render subtitles on black bars for a 4:3 movie, which originally has no black bars.

2.5.5.2 Zoom

Enter arbitrary values into the width and height entries. Currently no drag'n'drop is available for this. You may leave both fields empty, which means not to resize anything.

2.5.5.3 Fast resizing

Fast resizing is a special algorithm for resizing the frame which is much faster than high quality resizing. The quality isn't that good, but in my opinion the difference isn't visible, at least with DVD source material.

When you enable fast resizing, there are two rules which must be complied with:

1. Zoom width and height must be divisible by 8
2. Both axes must shrink or expand simultaneously. You can't expand the width while shrinking the height and vice versa.

Beside these rules, two more rules must be fulfilled (at least for the video codecs actually known), even if you don't use fast resizing. If you break with these rules you may get colored artefacts in the transcoded movie:

dvd::rip - A full featured DVD ripper

1. Resulting frame sizes must be divisible by 16
2. Don't clip on odd values

If you turned fast resizing on, a message will be printed besides the Zoom entries, if one of this rules is violated. If you transcode anyway, you'll get an error message.

Note:

All presets follow these rules.

2.5.6 Generate preview images

If you change any value by hand you must hit the *Generate preview images* button, otherwise the displayed thumbnails won't show up with your settings.

2.5.7 Calc height / width

If you want to have a specific width or height for your movie while keeping the correct aspect ratio, you can use these buttons. E.g. you want to define the height, then enter your value to the *Height* entry and press *Calc width* afterwards. The same applies vice versa, if you want to define the width and like to have the proper height calculated.

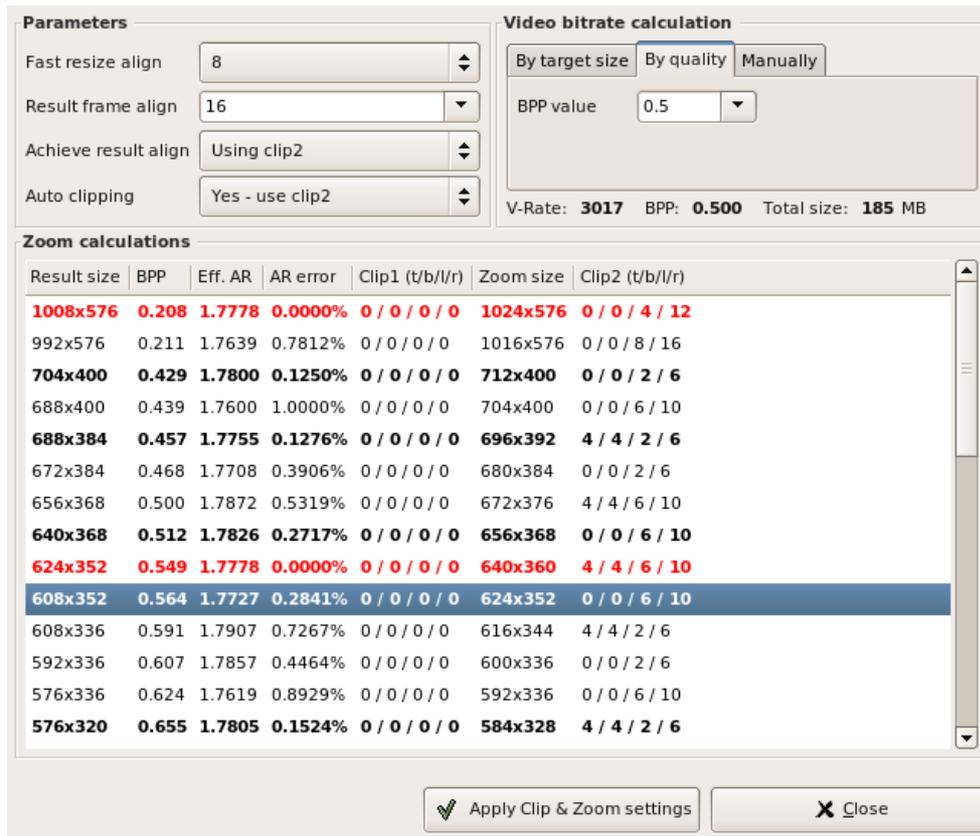
2.5.8 Move 2nd clipping to 1st

This is a special function of the early days, where no auto-adjusting presets were present... ;) If you don't use fast resizing and don't have any clip1 values you can transfer your clip2 settings into clip1 settings. The aspect ratio will remain the same, dvd::rip automatically calculates the correct clip1 and zoom parameters for you (clipping before zooming has the advantage, that the zoom stage works with less pixels, which is somewhat faster).

2.5.9 Open zoom calculator

This buttons opens the *Zoom calculator* window, which is described in it's own [section](#).

2.6 Zoom calculator



dvd::rip's *Zoom calculator* let you control all parameters, which influence the aspect ratio and frame resizing calculation, if you want. For most uses the standard Clip & Zoom interface, particularly the presets, will fully suffice. But dvd::rip let you do the hard jobs, if you want them... ;)

Press on the corresponding button on the Clip & Zoom page to open it.

The window is divided into three parts: some parameters regarding the resizing of the image, parameters for specifying the video bitrate and a box, which lists the calculation results of all possible frame sizes.

This way you can understand how dvd::rip calculates frame sizes and you can influence all corresponding parameters by hand.

2.6.1 Resize parameters

2.6.1.1 Fast Resize Alignment

You can adjust the fast resize alignment to use (8, 16 or 32), or disable fast resizing by selecting the appropriate popup entry.

2.6.1.2 Result Frame Alignment

Most video codecs expect a final frame size, which is divisible by 16. You can modify this value, if you want - but first make sure that your favorite codec supports it, otherwise you may get artefacts.

2.6.1.3 Achieve Result Alignment

There are two ways to achieve the alignment of the result frame. You can use the clip2 stage, but then you will lose some image information, because you crop the borders of the image. Or you get the final size in the zoom stage, but then you may get bigger aspect ratio errors. It's up to you to decide, which is more important for you: full image size or exact aspect ratio. Just play around with the settings to see how they affect the results.

2.6.1.4 Auto Clipping

You have three choices here: use auto clipping with clip1, or with clip2, or use the manual clipping, you adjusted already with the clip1 entries on the Clip & Zoom page. The difference between clip1 and clip2 is as follows: if you use clip1, the image in the zoom stage is smaller what's slightly faster. But you get very unnatural resize values, which give less aspect ratio accuracy if you use fast resizing. Using clip2 will produce many result entries with 0% aspect ratio error, but the image to scale is bigger, which is slightly slower.

2.6.2 Video Bitrate Calculation

You can specify the video bitrate, by selecting the target size using the disc size presets, or by entering the target size bitrate or BPP by hand. It's the same scheme, which is used for [Video bitrate calculation](#) on the [Transcode page](#). Specifying the video bitrate in this window makes sense, because a special [bits per pixel \(BPP\)](#) value is calculated, which tells something about the transcoding quality.

2.6.3 Zoom calculations result list

After changing a parameter press the "Refresh" button, and the list of Zoom Calculations will be updated.

The lines are highlighted differently, depending on the aspect ratio error. Red lines mean a perfect aspect ratio. Bold lines denote errors smaller than 0.3%, normal lines mean errors of 0.3% or above.

You can select an arbitrary entry and press "Apply" to copy the corresponding values into the Clip & Zoom page entries. The preview images are recalculated, so you can rate the result immediately. If you press "Ok", the values are also copied, but the window is closed afterwards. "Cancel" closes the window without copying any values.

The result list has the following columns:

2.6.1 Resize parameters

2.6.3.1 Result Size

width x height of the final frame.

2.6.3.2 BPP

This acronym stands for "bits per pixel". It sets the number of frame pixels in relation to the video bitrate you specified. The bigger the value, the more bits are available to encode a pixel, which means good quality. So if you have small frames, the images can be encoded with high quality. But a small frame means also less image information, so one must find a good balance between frame size and video bitrate. For MPEG4 like codecs, values around 0.25 are good VHS quality, values around 0.4-0.5 result in DVD quality. Just play around with this, to find out what's after your fancy.

2.6.3.3 Effective Ratio

This is the effective ratio of the frame. It has to be 1.7777 for 16:9 and 1.3333 for 4:3 movies, but it may differ, because resizing isn't always exact, particularly with fast resizing enabled.

2.6.3.4 AR Error

This is the aspect ratio error, in comparison to the optimal aspect ratio.

2.6.3.5 clip1 (t/b/l/r)

These are the clip1 values, delimited by slashes: top, bottom, left right.

2.6.3.6 Zoom Size

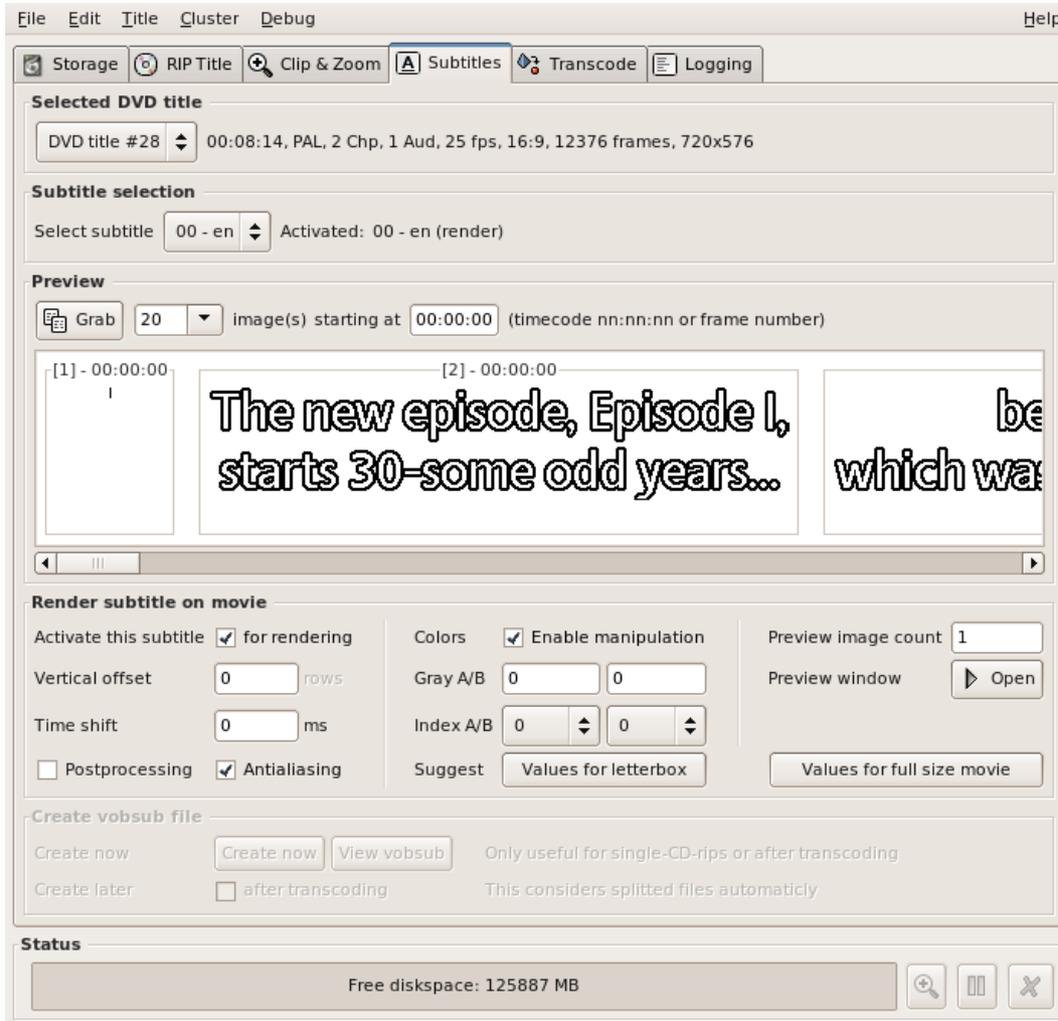
This is the zoom size of the frame.

2.6.3.7 clip2 (t/b/l/r)

These are the clip2 values, delimited by slashes: top, bottom, left right.

2.7 Subtitles

2.7.1 Select a subtitle



First select a subtitle from the popup. It shows all possible subtitle ID's (from 0 to 31). All ID's which could be detected by transcode are displayed with their language code. Sometimes not all subtitles are detected correctly, so you can try some of the "probably unused" marked ID's, if you're missing your language. But usually only the ID's with a detected language code will work. All subsequent settings below will follow this selection, so you can have different settings for different subtitles.

dvd::rip supports two subtitle modes: rendering and vobsub generation. You can render one subtitle and create as many vobsubs as you want. All activated subtitles will be listed besides the selection popup, with a remark if it's rendered or vobsub'ed.

2.7.2 Grab preview images

Next step is to grab some subtitle preview images. You can adjust the number of preview images by selecting an entry from the combo box or just enter arbitrary numbers by hand.

By default dvd::rip will fetch the images from the beginning of the movie, but you can enter a frame number or a time code (in nn:nn:nn notation) to the *starting at* text entry, if you want to see subtitles from later on in the movie.

Now press the *Grab* button; the grabbed images will appear with their timecode in the area beyond. A horizontal scrollbar appears, if they don't fit on the screen.

If this is the subtitle you want, you must decide whether you want to have this subtitle rendered straight on the movie, or as a separate vobsub file (note that only mplayer is capable of playing vobsub files). You can't have both (makes really no sense).

2.7.3 Render a subtitle on the movie

Note:

Due to transcode restrictions subtitle rendering actually only works for ripped movies. On-the-fly and DVD image processing isn't supported.

If you decided to render the subtitle, click on the checkbox *Activate this subtitle for rendering*. The vobsub frame will be set insensitive immediately, and the rendering entries will be enabled. Note that you can activate **only one** subtitle per DVD title for rendering (or do you want to overlay two? ;)

Now you can adjust several rendering parameters:

2.7.3.1 Vertical offset

By default subtitles will be rendered on the bottom of the movie. If you don't clip anything in the clip1 step, 0 is probably a good value here. But if you clip the movie, you must push the subtitle up (increase the vertical shift value), otherwise your subtitle will be cut off. The value suggestion functions help you to get a proper vertical offset value.

2.7.3.2 Time shift

Sometimes the subtitles are not in sync, so you can enter a *Time shift* in milliseconds to correct this.

2.7.3.3 Postprocessing

If you enable *Postprocessing*, the subtitles will be rendered after clipping and scaling. Usually the subtitles are rendered on the original unclipped, unresized image. If you want to render subtitles on black bars added using negative clip values, you need to switch on

postprocessing. But beware, that you probably get bad looking results, if you scale your movie much, because the subtitles will look too big (they'll have their original size, while the movie is smaller). Leaving this disabled is Ok for most situations.

If you like to have *additional* black bars (e.g. if the movie is 4:3 without any black bars) you can do that by entering negative vertical values in the Clip & Zoom *1st or 2nd clipping - Top/Bottom* entries. Now you need to enable the *Postprocessing* to put the subtitles on the black bars, generated by the reversed clipping.

Note: if you enable postprocessing, you will see the result only in a transcoded movie, not within the Filter & Preview window, nor in the transcode preview window.

2.7.3.4 Antialiasing

You can switch *Antialiasing* on to smooth the subtitles. In general this looks better, but small subtitles may be less readable. It's also a matter of taste, so just play around with it.

2.7.3.5 Color manipulation

Usually the colors chosen by transcode are good, but sometimes the subtitles aren't well readable (in particular if you render them on the movie, and not on black bars). Click on the *Enable manipulation* checkbox and the entries below will be activated.

You now can define two gray levels (values from 0 to 255) and assign them to a color index entry (from 0 to 3). Just experiment with that, so see how this affects the rendering (and the testing function is your friend ;).

It's not easy to find good color values, but the corresponding transcode documentation page helps.

Bye Peter

2.7.3.6 Value suggestion

The two value suggestion buttons *Values for letterbox* and *Values for full size movie* modify the subtitle's *Vertical offset* and the movie's Clip & Zoom settings. Currently this mechanism is quite simple, and incomplete but better than nothing ;)

Button	Description
Values for letterbox	At first <i>Top</i> and <i>Bottom</i> of the <i>2nd Clipping</i> will be set to 0 or a small negative value (to get a letterbox - your movie must already have black bars, otherwise this won't work properly). The <i>Vertical offset</i> is set to 0, so the subtitle will be rendered at the bottom of the movie, right on the black bar.
Values for full size movie	This suggestion will result in subtitles rendered on the movie, not on black bars. First make sure, that the black bars of your

dvd::rip - A full featured DVD ripper

movie are clipped by applying the corresponding *Clip & Zoom* preset or adjusting the 2nd clipping values by hand.

dvd::rip won't touch your *Clip & Zoom* settings but will calculate a proper *Vertical offset*, to move the subtitle up the right amount, so it's not cut off.

2.7.3.7 Testing your rendering settings

Because finding the correct settings for rendering subtitles is not always easy you can open a preview window. Just enter the number of images you want to include in the preview and hit the *Preview Window Open* button. The window starts with a leadtime of 15 seconds before the first subtitle image. You can close the window by pressing the [ESC] key. The video is played without sound and with maximum frame rate, not at original speed.

2.7.4 Create a vobsub from a subtitle

If the actual subtitle isn't selected for rendering, you can create a vobsub from it.

Generating a vobsub file is a really easy task. If you do a single disc rip, you can create a vobsub immediately by pressing the *Create now* button. The subtitle stream will be extracted and *subtitle2vobsub* executed to create the vobsub file. You can press *View vobsub* afterwards, and *mplayer* will be started with the corresponding options to play your vobsub file in conjunction with the ripped VOB's.

But this really only makes sense for a single cd rip, because it results in a single vobsub file. Splitting it afterwards isn't possible.

So if you're doing a multi-cd-rip, just activate the *Create later after transcoding* checkbox. The subtitle extraction and vobsub generation will be done automatically after the transcoding has been finished. Splitted target files will be considered correctly.

You can select as many subtitles you want for vobsub generation. They will be created in a row after transcoding.

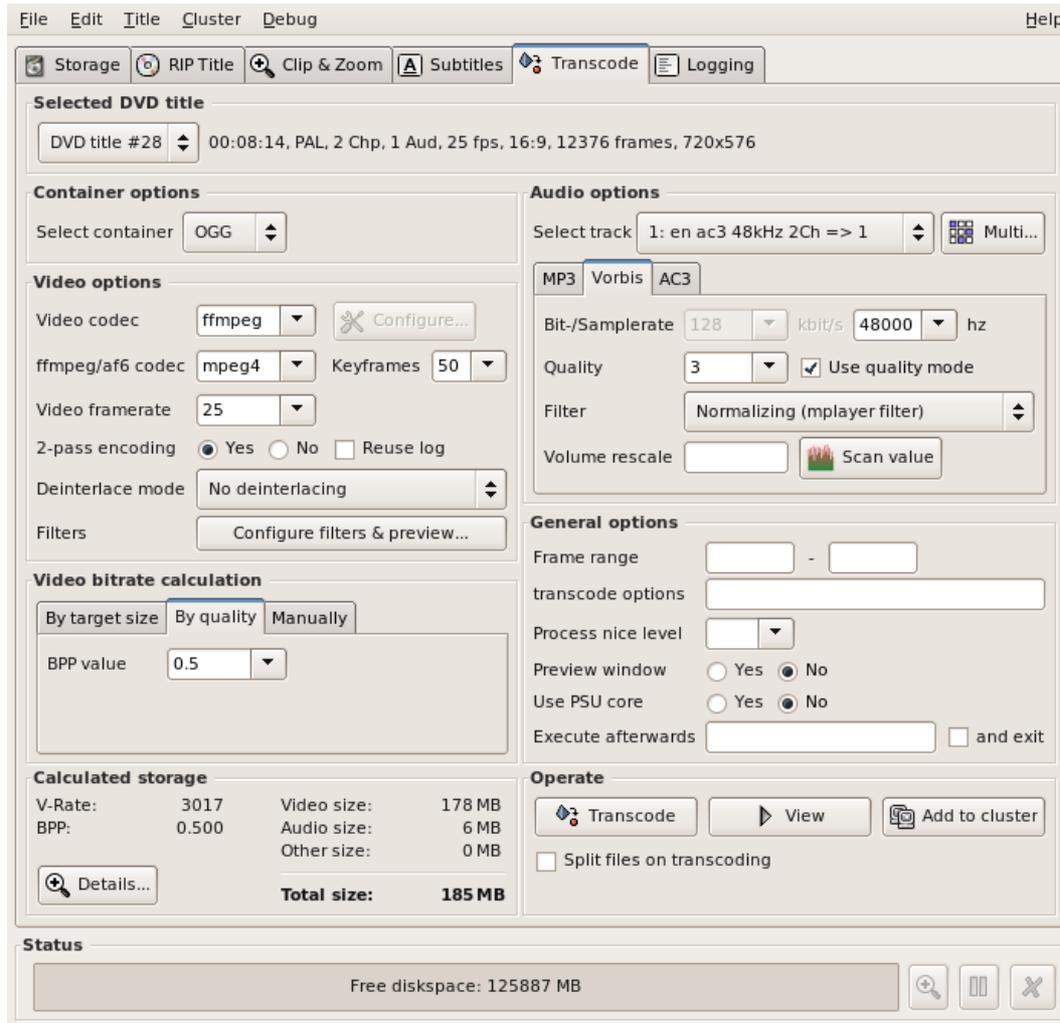
2.7.5 vobsub compression with rar

mplayer supports rar compressed vobsub files - that means the three files, which belong to a vobsub

```
foo.idx
foo.ifo
foo.sub
```

are compressed and archived into one .rar file. Unfortunately mplayer supports only 2.x rar files, but most Linux distributions ship 3.x. Refer to the installation chapter if you don't have a 2.x rar on your system.

2.8 Transcode



On this page you can adjust any options which affect transcoding the movie in general. It's divided into seven frames: *Container options*, *Video options*, *Audio options*, *Video bitrate calculation*, *Calculated Storage*, *General options* and *Operate*.

2.8.1 Container options

First you have to decide which target container format you want to have. You have three options here:

1. AVI
2. OGG
3. MPEG

Refer to the corresponding [concept chapter](#) for details about the different formats. Probably not all items are selectable, if you don't have the correspondent [tools](#) installed.

2.8.2 Video options

2.8.2.1 Video Codec / ffmpeg/af6 codec

For the AVI and OGG container format you can choose any video codec transcode supports. Some convenient codecs are listed in the combo box, but you can enter the name by hand, in case transcode has a new codec which isn't known by dvd::rip yet.

If you decide to use an avifile codec (setting *af6*) you can specify the exact codec to use in the *ffmpeg/af6 Video Codec* field. If you select *ffmpeg* as a video codec, the field is automatically preset with *mpeg4*, because that's usually what you want - but can override this setting if you like.

XviD variants

transcode support different versions of the XviD codec. If you don't care about the details, just select *xvid*, which uses the default XviD codec if your transcode installation, which usually is *xvid4* and refers to XviD 1.1.

dvd::rip makes use of the configuration tool *xvid4conf*, which makes tweaking every aspect of the encoding possible. If you have it installed and choose *xvid* (or *xvid4*), the *Configure...* button becomes active. Hit this button to start *xvid4conf* for your dvd::rip project.

Note: the *xvid4* settings apply to **all** titles of your project and will **not** be considered in dvd::rip's Cluster mode. This may change for future dvd::rip and transcode releases.

2.8.2.2 Keyframe interval

Most modern video codecs know keyframes. Keyframes are fully encoded frames which don't depend on any precedent frame. With this setting you can specify the interval transcode should insert keyframes into the video stream, default is 50 (every two seconds in a PAL movie). The video codec may decide to add more keyframes, e.g. on a scene change. The higher this value, the higher the video compression, but quality may decrease visibly.

2.8.2.3 MPEG variant (for (S)VCD/CVD creation)

If you selected the MPEG container format, the *Video codec* entry will renamed to *MPEG variant* and you can choose between SVCD, VCD, XSVCD, XVCD and CVD. For details about all these variants I recommend reading the site <http://www.dvdrhelp.com/>.

This is a short table describing how dvd::rip handles the different MPEG variants:

Option	Description
SVCD / VCD	Both settings create standard conform streams. You can't change specific settings to non-standard values (e.g. bitrates and samplerrates). SVCD generates variable bitrate MPEG2 and VCD constant bitrate MPEG1. Also

dvd::rip - A full featured DVD ripper

	dvd::rip checks the frame size, if it's conform the correspondent standard.
XSVCD / XVCD	The same like SVCD/VCD, but you can set non-standard settings, e.g. different frame sizes, arbitrary video and audio bitrates / samplersates. Be aware that such streams may not play properly on all hardware players.
CVD	CVD is a SVCD variant with specific frame sizes and audio bitrates. Like XSVCD you can change all settings, but there is also a Clip & Zoom preset, which sets the correct frame sizes (for PAL and NTSC) and dvd::rip checks this frame size, when you transcode a CVD.

Note: you need transcode's mjpeg export filter, which uses [mjpeg-tools](#).

2.8.2.4 Video framerate

The framerate is determined automatically. For some NTSC DVDs you have to override this guess. Please refer to the transcode documentation for details about NTSC processing.

2.8.2.5 2-pass encoding

MPEG4 like codecs (Xvid, Divx4/5) support 2-pass encoding. The first run produces a logfile, which is analyzed by the second run to estimate optimal encoding parameters and to achieve an average encoding bitrate, that is close to the supplied video bitrate value. So this increases encoding quality and target size matching, but needs twice as much time as a 1-pass transcoding.

2.8.2.6 Reuse log

If for some reason the 2nd pass of a 2-pass transcoding went wrong, you can activate this checkbox to skip the 1st pass for further transcodings. The logfile created during the 1st pass will be reused. You should not activate this, if the 1st pass wasn't successful or you changed video options after the 1st pass, in particular the number of processed frames. Results are unpredictable otherwise.

2.8.2.7 Deinterlacing

If your DVD is interlaced you should enable Deinterlacing. transcode supports several deinterlace filters:

Interpolate Scanlines

is very fast, but has poor quality.

Handled by encoder

doesn't actually work with any encoder: transcode will crash (but this may change, so dvd::rip still offers this option ;).

Zoom to full frame

will give good quality, but is slow.

2.8.2.2 Keyframe interval

dvd::rip - A full featured DVD ripper

Interpolate scanlines / blend frames (pp=lb)
moderate quality, faster

Automatic deinterlacing of single frames

This special filter is useful for NTSC movies, which have only single frames interlaced. These are detected automatically and deinterlaced where necessary.

Inverse telecine

This activates a set of transcode filters which deinterlace NTSC telecined material. You can find more information on this topic in the `README.Inverse.Telecine.txt` file in transcode's `docs/` directory.

Smart deinterlacing

is a port from VirtualDub's smartdeinter filter with a convenient set of default options. You can control all options of smartdeinter using the [Filters & Preview](#) window.

Note:

Another option for deinterlacing is to choose a deinterlacer from the [Filter & Preview](#) dialog. All filters mentioned above are also available there, but you can modify all filter specific options and preview their result in realtime.

2.8.2.8 Configure filters & preview

The *Configure filters & preview...* button opens a new window, which let you configure all transcode filters with all their options and preview the result in realtime. This dialog is described in its [own chapter](#).

2.8.3 Audio options

2.8.3.1 Select DVD audio track

First the *Audio options* frame is divided into two parts: *DVD audio track* selection popup and a notebook with the settings for this particular audio track. So you can have multiple audio tracks in the target file.

All settings will follow your *DVD audio track* selection.

2.8.3.2 MP3

You can select or enter an *Audio bitrate* (128kbit is Ok for most movies) and an encoding *Quality*. *0 - best but slower* is recommended here. You will loose one or two frames per second transcoding speed, but the quality is significantly better as with *9 - low but slower*. It's up to you: you can choose out of 10 quality levels. (This corresponds to the quality settings of *lame* which is used for MP3 encoding).

2.8.2.2 Keyframe interval

2.8.3.3 Vorbis

You must decide between two modes for the Vorbis codec:

1. Quality based encoding
2. Bitrate based encoding

Vorbis in general doesn't support fixed bitrates. If you decide to use the bitrate mode, it tries to hit the selected bitrate as close as possible - mostly the real overall bitrate is somewhat lower.

Usually the quality mode brings better results, in particular because dvd::rip applies some special handling for it: first the audio is encoded with the selected quality level (-1 worst, 10 best). After that, the *real* audio size is measured and the video bitrate will be adjusted correspondently. This squeezes everything out of the available space ;)

2.8.3.4 AC3

There are no further settings for the *AC3* codec, because the original DVD *AC3* audio track will be passed through without modification. This gives best quality and preserves surround encoding.

Note: *AC3* passthrough is currently available only for ripped movies. It's disabled for on-the-fly and DVD image projects.

2.8.3.5 MP2

The *MP2* codec appears only if you have a video codec *VCD* or *SVCD* set. In case of *SVCD* you can select an *Audio bitrate*. *VCD* has a fixed rate of 224 kps.

2.8.3.6 PCM

The *PCM* option appears only if the correspondent source audio track is *PCM* encoded. There are no further settings, because the *PCM* audio data is passed through without changes.

2.8.3.7 Filters

For all audio codecs, but *AC3* (which is passed through without modification) you can apply a *Filter*. There are currently three choices:

1. None, volume rescale only
2. Range compression (liba52 filter)
3. Normalizing (mplayer filter)

It's not recommended to use volume rescaling in conjunction with the normalizing filter, because volume rescaling is done after normalizing, so the result may be distorted. That's why dvd::rip clears the volume rescale entry when normalizing is selected.

2.8.3.8 Sample rate

You can change the sample rate for *MP3* and *Vorbis* codecs. But be careful with odd values here, transcode resp. lame bails out for unusual samplerates - 48000, 44100 and 24000 seem to make no problems.

2.8.3.9 Volume rescale / scanning

The *Volume Rescale* entry will show a number, e.g. *2.155* or something like that, if you scanned the volume already (this is done automatically for the audio track you selected before ripping). This is the suggested value for maximizing the volume of the audio channel, which is available in non chapter mode only. Clear this field, if you don't want transcode rescaling the volume. If the field is empty you can scan a proper value by pressing the *Scan value* button besides.

2.8.3.10 Manage multiple audio tracks

Source tracks	Target tracks				
	[1]	[2]	[3]	[4]	[Discard]
[1] en ac3 48kHz 2Ch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[2] en ac3 48kHz 6Ch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[3] fr ac3 48kHz 2Ch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
[4] en ac3 48kHz 2Ch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

By default dvd::rip activates the audio track you selected for volume scanning on the rip page. If you want to select a different DVD audio track for transcoding or even multiple audio tracks, hit on the *Multi...* button.

Now you see a matrix of all audio tracks. For each available DVD audio track you have a row with checkbuttons to select the correspondent target audio track, or to disable processing for this DVD audio track completely.

2.8.4 Video bitrate calculation

dvd::rip supports three methods of video bitrate calculation:

- By target size
- By quality
- Manually

2.8.4.1 By target size

You can specify the target size by multiples of a disc size. You may enter an arbitrary disc size, or choose one of the listed presets (this refer to common CD-R and DVD-R capacities).

2.8.4.1.1 Consider frame range

If you want to transcode a specific frame range not only for testing purposes but for the real task, you should enable the *Use range* checkbox. Then the selected frame range will be used to calculate the video bitrate, not the whole movie.

2.8.4.2 Video bitrate by quality, BPP based

If filesize is not that important for you but quality you should use the *By quality* method and enter a BPP (bits per pixel) value. dvd::rip calculates the video bitrate accordingly, even if you change the image resolution afterwards. dvd::rip always shows the resulting file size in the "Calculated storage" section.

2.8.4.3 Video bitrate by hand

If you don't like to have the *Video bitrate* calculated automatically at all, just activate the *Manual* checkbox and enter the bitrate you like to the *Video bitrate* entry.

2.8.5 Calculated storage

Description	Operator	Value	Unit
Number of frames	=	12930	
Frames per second	/	25	fps
Runtime	=	517.2	s
Number of discs		2	
Disc size	*	700	MB
Target size	=	1400	MB
Audio track #0 (assume nominal bitrate for this quality)	-	6.91	MB
OGG overhead (0.25 percent of video+audio size)	-	3.48	MB
Space left for video	=	1389.61	MB
Resulting video bitrate, rounded	~	22538	kbit/s
Bitrate too high, set to 9000	=	9000	kbit/s
Resulting BPP		1.639	bpp
Resulting video size	~	554.90	MB
Resulting File Size	=	565.29	MB



This frame shows the actual storage calculation. The video size is derived from the video bitrate. The non video-size sums up the needed space for audio, subtitles and other overhead. The total size is just the sum of both and should be nearly the target size you specified (if you didn't not override dvd::rip's video bitrate suggestion).

You can press the *Show details...* button to open a new window, which shows all steps of the video bitrate calculation, so you can see exactly what happens here. The window can stay open all the time. Its calculation sheet follows your settings immediately.

2.8.6 General options

This frame consists of a few parameters, which affect the transcoding process in general:

2.8.6.1 Frame range / Test transcoding

You can specify a *Frame range* by entering a starting and/or end frame number. It's a good idea to transcode about 1000 frames in the middle of the movie to check if your settings are Ok. If you're satisfied with the result, clear both entries (which means transcoding the full movie).

Note: frame range transcoding is rather slow for on-the-fly and DVD image projects, because all prior frames must be decoded. Fast movie navigation is available for ripped movies only.

2.8.6.2 transcode options

You can add arbitrary transcode options by entering them to the *transcode options* field. These options are added to the internal transcode call, resp. they override corresponding options already computed by dvd::rip. This is for experts who want to use special transcode features not currently officially supported by dvd::rip (or to fix dvd::rip bugs which are not fixed yet ;).

2.8.6.3 Process nice level

If you enter a nice level the transcode command will be started using *nice -n level*, otherwise transcode is started without a special nice level. A value of 19 will run transcode with lowest priority. Providing negative values for increasing the priority is only possible if you start dvd::rip as root, which is not recommended at all.

2.8.6.4 Preview window

If you activate the *Preview window*, a window showing the actual encoded frame will appear while transcoding.

2.8.6.5 Use PSU core

You should keep the *Use PSU core* radio button enabled, if you have a NTSC movie. This fixes most of transcode's NTSC A/V sync issues. Refer to this [section](#) for some details regarding PSU core.

Note: this function is available only for ripped movies. It's disabled for on-the-fly and DVD image projects.

2.8.6.6 Execute afterwards / exit afterwards

If you want to shut down the computer after transcoding or want to do other things, you can enter a shell command to the *Execute afterwards* text entry. If you want dvd::rip to exit after transcoding, enable the checkbox *and exit*.

2.8.7 Operate

2.8.7.1 Transcode

In case of a multi CD rip you should activate the *Split files on transcoding* checkbox. The movie will be transcoded, using the options you specified, and split afterwards into pieces of the size you specified in the *Target media* size combo box.

When you start transcoding a *.dvdrip-info* file will be generated, which contains all interesting technical information about your rip (e.g. bitrates, audio tracks, codecs etc.). This way you later know which settings applied to this specific rip.

2.8.7.2 View

The movie player you configured for file playback will be started to play the transcoded movie.

2.8.7.3 Add to cluster

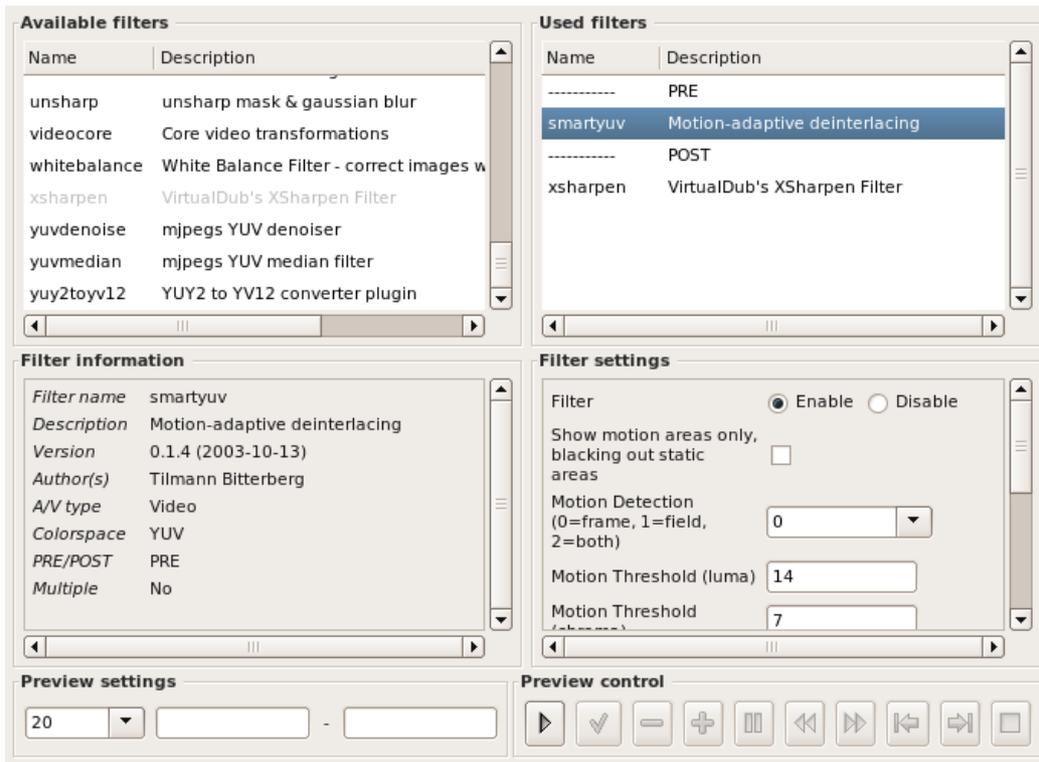
This will add the actual project to a dvd::rip cluster. Refer to the [Cluster](#) chapter for details.

2.8.8 Create a WAV file

If you just want to have a WAV file from your music DVD, e.g. to burn it on a traditional audio CD: select the correspondent audio track and select the *Create WAV from selected audio track* item in the *Operate* menu. If the audio track is PCM already, it will be passed through, otherwise a correspondent conversion resp. downmix will be applied.

If your project is in chapter mode, you'll get one WAV file per chapter.

2.9 Filters & Preview



You open this dialog with the *Configure filters & preview...* button on the Transcode page. It uses transcode's powerful realtime configuration and remote control interface. You can select and configure all transcode filters supported by this interface. A preview window shows the result in realtime and you can reconfigure, disable and/or enable filters on-the-fly.

First some brief notes about the basic concept of transcode's filters.

2.9.1 transcode's filter concept

This is a simplified diagram of transcode's processing chain:



If we focus on filters, the PRE, CORE and POST sections are of interest. Simplified, the CORE does the resizing, so filters in the PRE chain see the original unresized images, whereas POST filters work on the resized images. This distinction is important. E.g. it makes no sense to do deinterlacing on a resized image, where no distinctive interlaced lines are available anymore. On the other hand, adding a logo is useful in the POST chain, because we usually want it with its original size.

Most filters are either PRE or POST filters, but some support both chains. Also most filters can be used only once, but a few can be applied multiple times.

2.9.2 Available filters

On the left all available filters are listed with their transcode name and description. You can select a filter by double clicking on it - it's added to the *Selected filters* list. If the filter can't be used more than one time, the entry will disappear from the *Available filters* list.

2.9.3 Used filters

All selected filters are listed here. The list is divided into two parts: PRE and POST - they correspond to the filter chains, described above. A PRE filter will be added to the PRE section, accordingly for POST.

You can use drag'n drop to modify the order, by default a new filter is appended to the chain. If a filter supports both PRE and POST, you can drag 'n drop it between both chains.

To remove a filter, simply double click on it.

2.9.4 Filter information

This box shows some generic information about the currently selected filter: a short description, version information and the author(s). The other info here is more technical:

Type is currently always *Video*. *Color* is either *YUV*, *RGB* or both. These are the two color models supported by transcode. YUV is suggested in general, because it's reasonably faster. dvd::rip enables it whenever possible.

Pre/Post lists the chains, where the filter can be used. If *Multiple* is *Yes* you can add the filter multiple times.

2.9.5 Filter options

This box lists all options of the currently selected filter. The entries are activated only if you highlighted the filter in the *Selected filters* list.

All filters have the *Enable filter* checkbox, which is activated by default. You can use it to temporarily disable/enable a filter.

All other options are filter specific. Tooltips show you the default and valid values. Illegal values are rejected. Some filters have options for filenames. A button labeled [...] appears beside the entry, which opens a file dialog to select a filename from your harddisk.

Other options describe size and position of a rectangle in the frame - besides entering values by hand you can define them by clicking with the mouse on the preview window, described

below.

If you need more help with a specific filter, you can try transcode's *tcmoinfo* command:

```
tcmoinfo -i filter_name
```

Some filters show a more detailed help here.

2.9.6 Preview control

The most interesting thing in this dialog is to view your filter settings prior transcoding. The buttons in the *Preview control* frame are responsible for this:

- ▶ Ok, guess what ;) This button starts playing resp. the preview window is opened. The movie plays with maximal speed and without audio. You see the frames all filtered using the actual settings and as fast as transcode can process them.
- ✓ A stands for *Apply*. Once the playback has started you can hit this button to commit any changes, immediately viewing the effect in the running or paused preview window. You can change as many options you want, add, enable or disable filters. Only changing filter order isn't possible while playback is active.
- ⇒ If you don't apply very complex filter operations, which slow down the process anyway, you can press this button. The preview speed does decrease a bit. Hit the button multiple times to strengthen the decelerating effect.
- ⊕ Press this button to increase playback speed again. Note: you can't get more speed out of transcode than technically possible. The original playback speed, when preview was started, is the limit.
- ⏸ This pauses the preview window and enables the navigation buttons right from it. Hit the pause button again to resume playback.
- ⏪ In pause mode you can step one frame back in transcode's preview buffer. The current frame number is displayed in the upper-left of the preview window.
- ⏩ The same in the forward direction.
- ⏮ This steps back a few frames, depending on the size of your preview buffer. For a 20 frames buffer this steps back five frames.
- ⏭ The same in the forward direction.
- ⏹ This is the *Stop* button which closes the preview window.

2.9.7 Select areas in the preview window

Some filters expect a rectangular frame area or a position on the frame (e.g. the logo and logoaway filters). When the preview window is open you can specify these options by two clicks with your mouse: one click for each vertex. The coordinates are added automatically to the corresponding filter entries. Also these changes are applied, so you see the effect immediately - no need to hit the *Apply* button manually here.

dvd::rip - A full featured DVD ripper

Note: for PRE filters the coordinates may look wrong, but dvd::rip has to transform the values. PRE filters apply before resizing and thus need coordinates for the original image, but the preview shows the resized image.

2.9.8 Preview settings

This box has three entries to adjust some settings regarding the preview window:

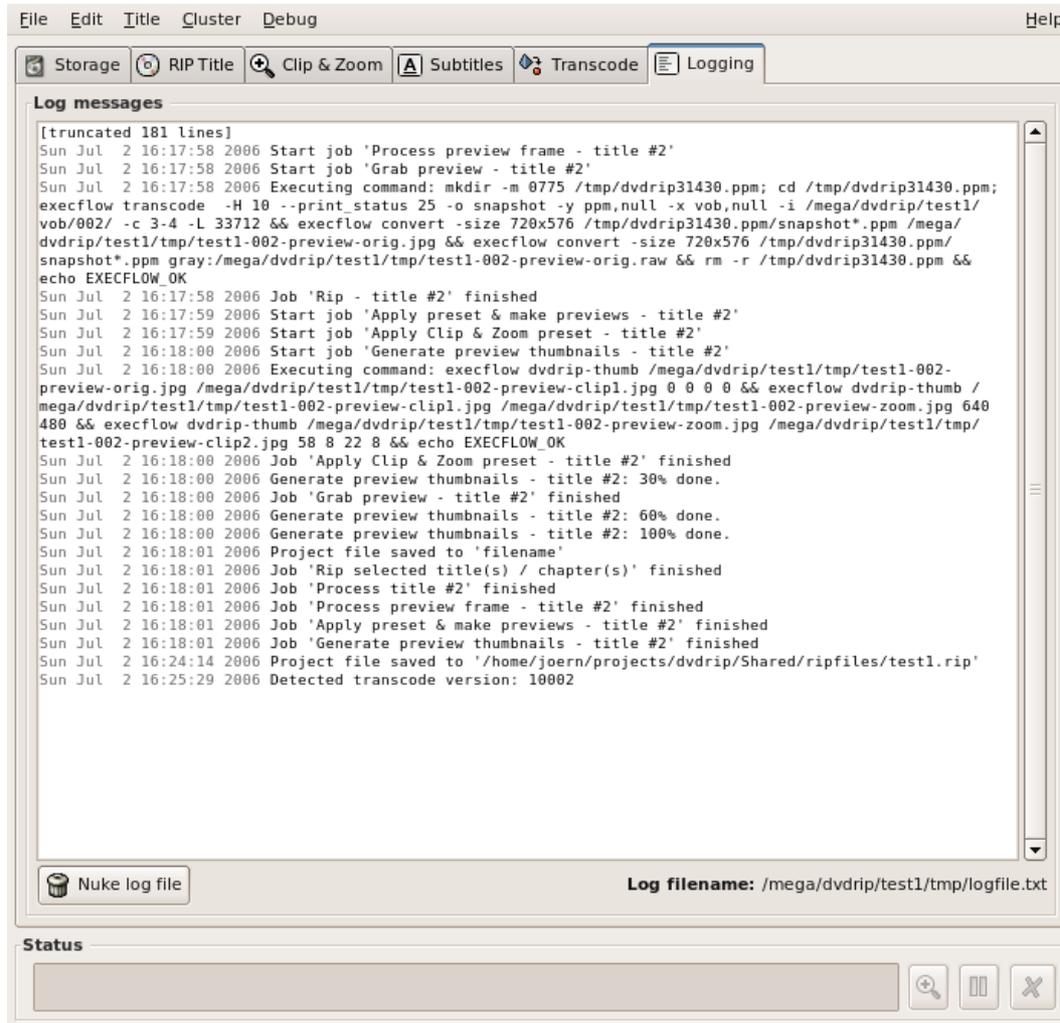
2.9.8.1 Preview buffer size

By default 20 frames are kept in the preview buffer. In pause mode you can navigate through this buffer using the buttons described above. Increase the value here, if you want to have a bigger area to navigate through in pause mode.

2.9.8.2 Preview frame range

If want to test your settings with a particular scene you can specify the corresponding frame range here. Once the preview window reaches the end of this range, it loops and starts playback at the start frame again.

2.10 Log



The last page shows a log with all user actions and executed commands. This may be useful for debugging or just to see, what dvd::rip exactly does. The corresponding logfile is stored in the project's temporary directory with the name *logfile.txt*.

2.10.1 Deleting the logfile

If the logfile gets too long, you can delete it by pressing on the *Nuke log file* button.

3. Cluster mode

- [3.1 Restrictions](#)
 - [3.2 Architecture overview](#)
 - ◆ [3.2.1 Security warning](#)
 - [3.3 Network configuration](#)
 - ◆ [3.3.1 Setup SSH](#)
 - ◆ [3.3.2 Setup NFS](#)
 - [3.4 Start cluster control daemon](#)
 - [3.5 Cluster configuration](#)
 - ◆ [3.5.1 Global preferences](#)
 - ◆ [3.5.2 Cluster control window](#)
 - ◆ [3.5.3 Add nodes](#)
 - ◆ [3.5.4 Node configuration](#)
 - ◆ [3.5.5 Node testing](#)
 - [3.6 Work with the cluster](#)
 - ◆ [3.6.1 Adding projects](#)
 - ◆ [3.6.2 Project properties](#)
 - ◆ [3.6.3 Start the project](#)
 - ◆ [3.6.4 Jobs](#)
 - ◆ [3.6.5 Node statuses](#)
 - [3.7 Webinterface](#)
 - [3.8 Some notes about internals](#)
-

3.1 Restrictions

Please note that the cluster mode currently has some restrictions:

1. (S)VCD isn't supported.
2. [Chapter mode](#) isn't supported.
3. You can't use [PSU core](#).
4. You can't transcode a frame range, always the whole movie is transcoded
5. Title needs to be copied on harddisk, no on-the-fly or DVD image transcoding possible.

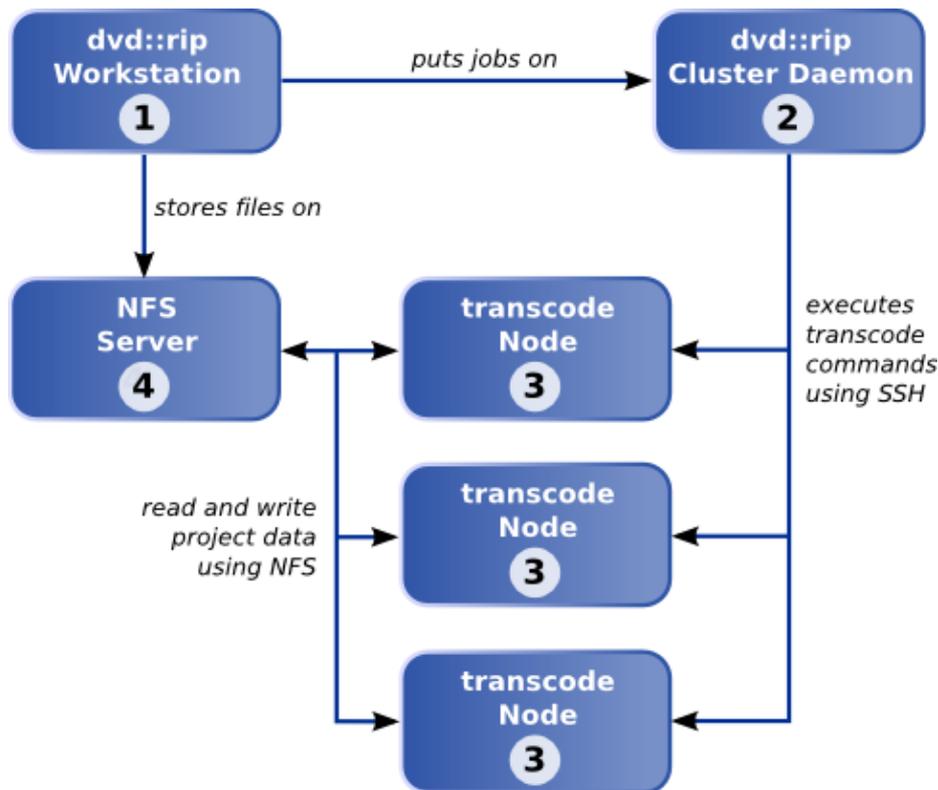
3.2 Architecture overview

A dvd::rip cluster consists of the following components:

1. A computer with a full dvd::rip and transcode installation, DVD access and local storage or access to a NFS server, where all files are stored.
2. A computer with a dvd::rip installation, but no GUI access and no transcode installation, where the cluster control daemon runs on. This may be the same computer as noted under 1 (which is usually the case).

dvd::rip - A full featured DVD ripper

3. An arbitrary number of computers with a full transcode installation, dvd::rip is not necessary here. These are the transcode nodes of the cluster.
4. The GUI dvd::rip computer and the transcode nodes must all have access to the project directory, shared via NFS or something similar. It doesn't make any difference which computer on the network is the NFS server.
5. The communication between the cluster control daemon and the transcode nodes is done via ssh. All transcode commands are calculated by the cluster control daemon and executed via ssh on the transcode nodes. dvd::rip assumes, that the cluster control computer has user key authentication based access to the nodes. That means, that no password needs to be given interactively.



This may be looking confusing, but in fact all the different services described here, can be distributed in arbitrary ways on your hardware. You can even use the cluster mode with **one** computer, which runs all services: dvd::rip GUI, cluster control daemon, transcode node (naturally using local data access). In this case you "misuse" the cluster mode as a comfortable job controller, which is in fact a regular use case, because dvd::rip has no specific job features besides this.

A typical two-node installation may look like this:

First computer runs services

1. dvd::rip GUI
2. dvd::rip cluster control daemon
3. transcode node with local storage access
4. NFS server

Second computer runs services

1. transcode node with NFS access to the project data

3.2.1 Security warning

Currently this cluster architecture has some serious security issues. Once you setup your cluster it's really easy using it, because there are no password prompts or similar access restrictions. The user key based ssh authentication enables everyone who has access to your cluster control daemon computer logging on the nodes, without having a password at all. This architecture has a small home network in mind, where these drawbacks are not relevant. If you think this is a real problem, you should consider creating special accounts for the dvd::rip cluster access, which are restricted to executing the transcode commands only. Or you should consider, not using the cluster mode of dvd::rip at all ;)

3.3 Network configuration

3.3.1 Setup SSH

First you have to setup a proper ssh based communication between the cluster control daemon computer and the transcode nodes. There must be no interactive password authentication, because the cluster control daemon must be able to execute the commands without user interaction.

Please refer to your ssh documentation for details. This is a brief description of setting up a user key authentication for ssh and OpenSSH.

Login as the user who will run the cluster control daemon (on the corresponding computer) and check if this user has a public key:

```
ls -l ~/.ssh/identity.pub
```

If the file is not present execute this command:

```
ssh-keygen
```

and follow its instructions but **press enter if you are asked for a password!**

Now add the content of your ~/.ssh/identity.pub file to the ~/.ssh/authorized_keys file on each transcode node. After this you should be able to login from the cluster control computer to the node without being prompted for a password. If not, try 'ssh -v' to see, what's going wrong.

3.3.1.1 Hints for OpenSSH with SSH2 protocol

The steps documented above work with commercial ssh and OpenSSH as well, but only if the SSH1 protocol is accepted by the server. If you use OpenSSH and your server insists on SSH2, follow these instructions:

dvd::rip - A full featured DVD ripper

Generate your key using this command:

```
ssh-keygen -t rsa
```

Again provide an empty password for your key. Now you should have a file `~/.ssh/rsa.pub`. Add the content of this file to the `~/.ssh/authorized_keys` and it should work with SSH2 as well.

3.3.1.2 OpenSSH can't find transcode binaries

Another common problem with OpenSSH is, that the transcode binaries can't be found if they're executed via ssh. Often `/usr/local/bin` isn't listed in the default PATH for ssh connections, but by default transcode installs its binaries there, so they aren't found.

The solution for this problem is adding `/usr/local/bin` to the ssh PATH using the `~/.ssh/environment` file. Just put this line into `~/.ssh/environment` on the node and all binaries should be found:

```
PATH=/usr/local/bin:/bin:/usr/bin
```

or whatever the bin path of your transcode installation is. Don't use any quotes in this line.

Note that your `sshd.conf` must contain

```
PermitUserEnvironment yes
```

otherwise the environment file will be ignored.

3.3.2 Setup NFS

Note:

The cluster mode has currently one restriction regarding the directory layout of your data directory. You **must** keep the default values for vob/avi/temp directories and must not set a base directory outside of your default data base directory which is configured in the global preferences dialog. Otherwise NFS node data access will fail badly.

All nodes must have access to the project data base directory, usually using NFS. You must export the project data base directory and mount this directory on each node. Later you'll see how to specify the specific mount point for each node.

This is an example configuration: on my workstation (called wizard) I have a big hard disk mounted on `/mega` which holds all my dvd::rip projects, so I exported this:

```
# cat /etc/exports:  
/mega *(rw)
```

On my notebook I mount this directory to `/hosts/wizard/mega` by specifying this entry in the `/etc/fstab`

```
wizard:/mega    /hosts/wizard/mega    nfs
```

dvd::rip - A full featured DVD ripper

Please note: don't use the "soft" NFS option in /etc/fstab. This issues a "soft" error instead of retrying in some circumstances and it maybe a real pain to track errors down with this setting.

3.3.2.1 NFS permission problems

If you have permissions problems with your NFS setup, because you're using different users on the nodes, you can configure the NFS share to the userid under which the cluster master is running by using a line like this in /etc/exports:

```
/home/cluster/data *(rw,all_squash,anonuid=1001,anongid=1001)
```

Here 1001 is the uid of the cluster master user taken from /etc/passwd.

Thanks to Karl Kashofer for this hint.

3.4 Start cluster control daemon

Now start the cluster control daemon by entering this command:

```
dvdrip-master 2
```

The 2 is the logging level. 2 is Ok for most cases, increase this value if you want more debugging output (which is simply printed to STDERR).

You should get an output similar to this:

```
Sun Aug 20 14:22:41 2006 [1] dvd::rip cluster control daemon started
Sun Aug 20 14:22:42 2006 [1] Master daemon activated
Sun Aug 20 14:22:42 2006 [1] Setting up job plan
Sun Aug 20 14:22:42 2006 [1] Started RPC listener on *:28646
Sun Aug 20 14:22:42 2006 [1] Started log listener on *:28647
Sun Aug 20 14:22:42 2006 [1] Enter main loop using Event::RPC::Loop::Event
```

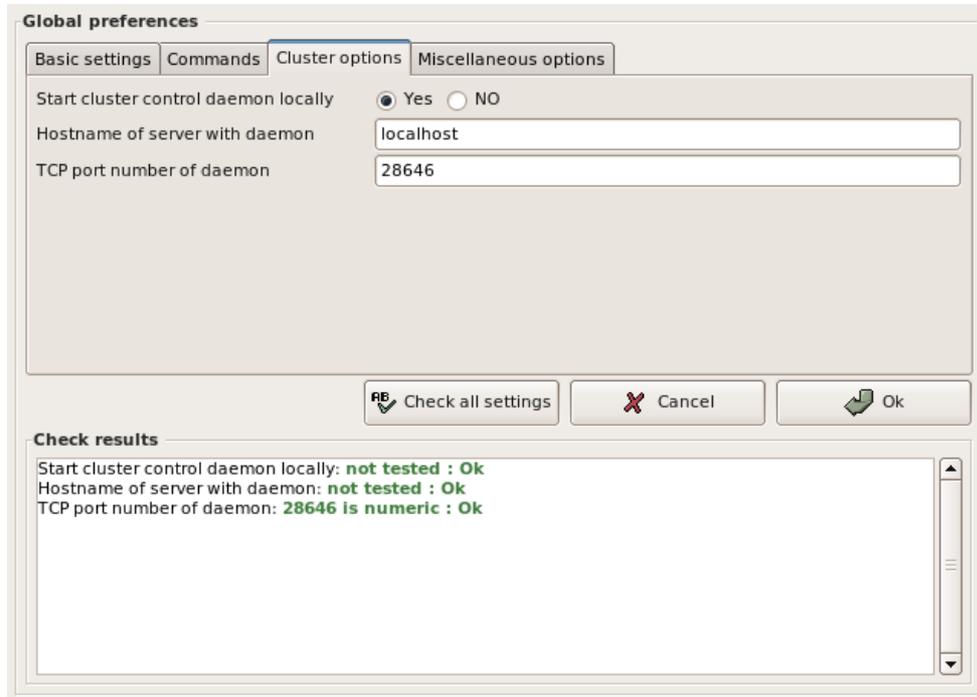
You can ommit starting the daemon by hand, then the dvd::rip GUI will start a daemon for you in background, locally on the machine running the GUI, with logging level 2. In fact you only need to start the cluster control daemon by hand, if you want to pass a higher debugging level or you want to start the daemon on another machine. It's your choice.

3.5 Cluster configuration

Now, when SSH and NFS communication are set up properly, dvd::rip itself need some configuration for the cluster mode.

3.5.1 Global preferences

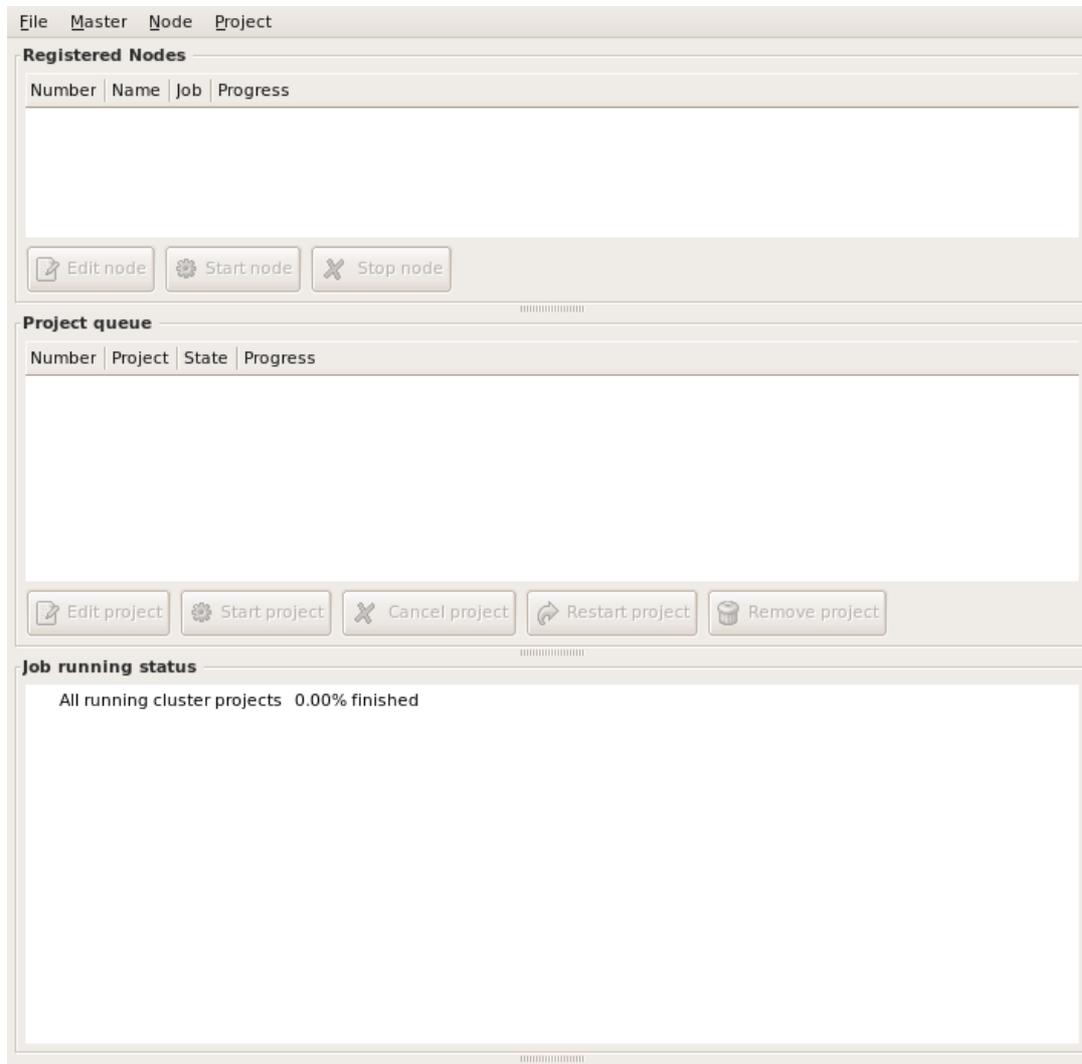
dvd::rip - A full featured DVD ripper



Start the dvd::rip GUI and open the preferences dialog and select the cluster options page. Here you find three parameters regarding the cluster mode. You can configure that the cluster control daemon will be started locally on your dvd::rip workstation. Otherwise you must specify the hostname of the machine, which runs the cluster control daemon. If you configured a local daemon, it will be started on demand, if no daemon is found running on the local machine. Don't change the default TCP port number.

3.5.2 Cluster control window

dvd::rip - A full featured DVD ripper



Quit the preferences dialog and press `Ctrl+M` or select the *Cluster/Control* menu item. The cluster control window should pop up. If you get an error message, please check if your data entered in the preferences dialog was correct and if the cluster control daemon is running.

The window is divided into four parts: the node list, project queue, job queue and a log area, with logging messages from the cluster control daemon. The lists are empty, because we neither configured cluster nodes nor pushed projects on the cluster. You can change the height of all lists to fit your needs. If you don't care about the log messages you can even reduce it's size to zero completely and hide it this way.

3.5.3 Add nodes

Now it's time to add nodes to the cluster. Choose the *Add Node* item from the *Node* menu and the *Edit Cluster Node* window will be opened.

Basically one can divide nodes into two classes: a local and some remote nodes. The local node runs the cluster control daemon, so there is no SSH communication necessary to execute commands on it. Usually this node has also the harddisk connected, so no NFS is

dvd::rip - A full featured DVD ripper

needed to access the data.

For remote nodes the cluster control daemon uses SSH to execute the commands, and they usually access the data through NFS or something similar.

dvd::rip passes I/O intensive jobs to the node with local disk access, because network access may slow down such jobs significantly.

3.5.3.1 Local node

Edit node properties

Name: wizard

Hostname: wizard

Local data directory: /mega/dvdrip

Speed index: 100

Additional transcode options:

Node has dvd::rip data harddrive? Yes No

Node runs Cluster Control Daemon? Yes No

Username to connect with ssh:

SSH command and options:

Test settings

Node test results

Test	Result	Details
SSH connection	OK	Master can connect to node
Data directory	OK	Content of data directory matches
Write access	OK	Node can write to data directory
transcode version	OK	transcode v1.0.2 (C) 2001-2003 Thomas Oestreich, 2003-2004 T. Bitterberg

Cancel OK

The screenshot on the left shows the window for a node, which has the configuration 1.) of the two-node example above. That means, the node has local harddisk access, the cluster control daemon runs on it so that we don't need to provide a ssh username, because commands can be executed locally without using ssh.

3.5.3.2 Remote transcode node

dvd::rip - A full featured DVD ripper

Edit node properties

Name: ghost

Hostname: ghost

Local data directory: /net/wizard/mega/dvdrip

Speed index: 50

Additional transcode options:

Node has dvd::rip data harddrive? Yes No

Node runs Cluster Control Daemon? Yes No

Username to connect with ssh: joern

SSH command and options:

Test settings

Node test results

Write access	NOT OK	sh: /net/wizard/mega/dvdrip/ghost-file-write-test: No such file or directory
transcode version	OK	transcode v1.0.2 (C) 2001-2003 Thomas Oestreich, 2003-2004 T. Bitterberg

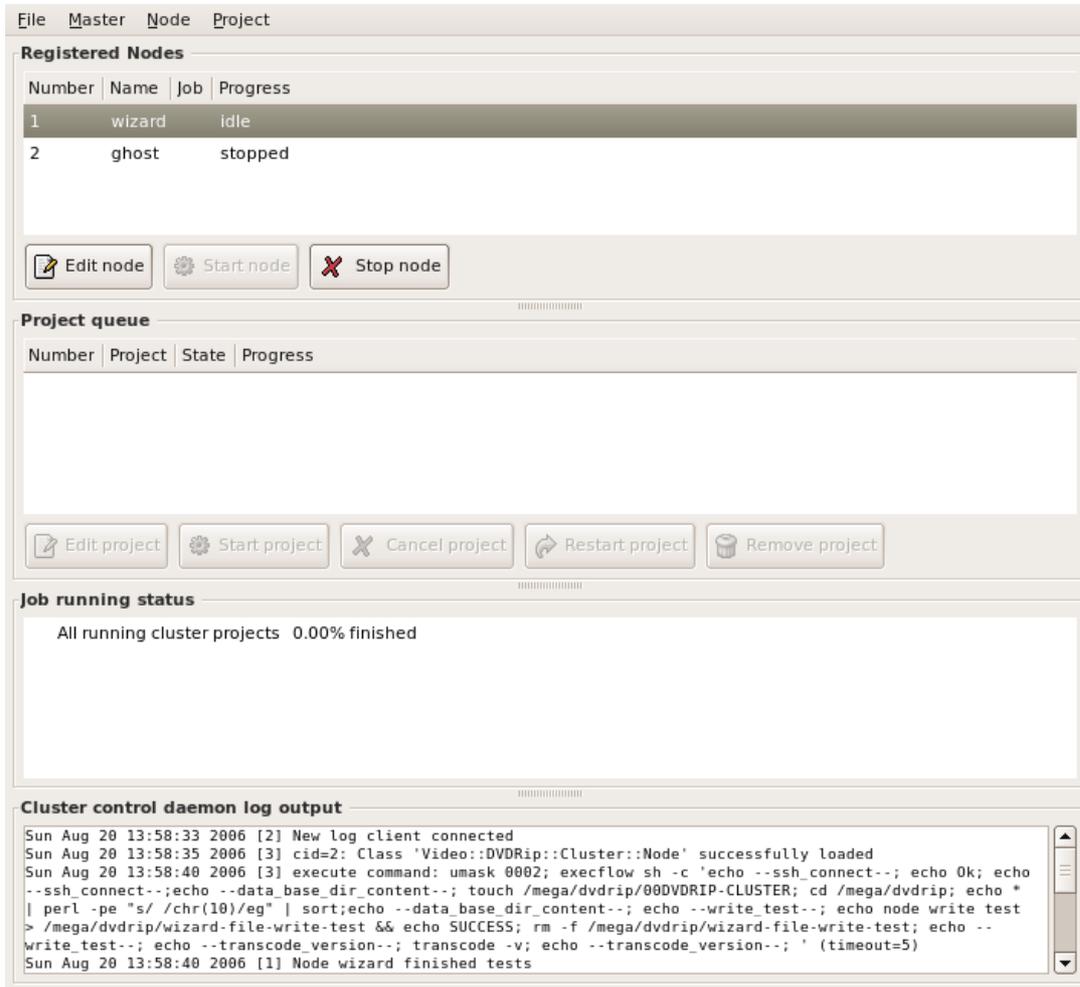
Cancel OK

This screenshot shows the configuration of a typical transcode node with NFS access, a correspondent mount point of the data directory and a username for making ssh connections.

dvd::rip uses `ssh -x` (extended with `user@host command`) to execute a command on a remote node. The `-x` option means: *don't try to establish X forwarding*. If this doesn't work for you (e.g. because you have to access the node through a firewall or similar stuff) you can add another ssh command, with the options of your choice.

3.5.4 Node configuration

dvd::rip - A full featured DVD ripper



You can specify additional transcode options for a node. These options are added to the internal transcode call, resp. they override corresponding options already computed by dvd::rip. E.g. you can specify `-u 4,2` to increase performance on a two processor machine.

If you have multi processor machines, another option is to configure multiple nodes for them by providing different node names with the same hostname. For most other cases you can leave the hostname entry empty, if the node name is already a valid hostname.

Additionally you can set a *Speed index* for each node. The higher this value, the faster is this machine. dvd::rip prefers node with a high speed index for CPU intensive tasks.

3.5.5 Node testing

You can press the *Test* button at any time to check whether your configuration is correct or not. The *Node test results* area will list the result of the tests, including detailed error messages if something went wrong, so you have some hints what's needed to fix an issue.

This way you easily can detect a wrong NFS mount point configuration, SSH problems or different transcode versions on the local machine and the node.

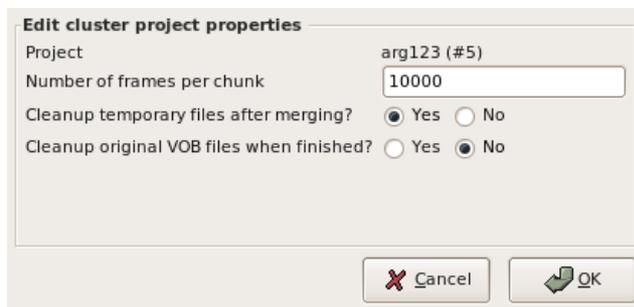
3.6 Work with the cluster

Ok, now we have a proper cluster setup, what is missing is a project the cluster is working on.

3.6.1 Adding projects

First, rip and configure your project as usual. Exactly when you usually press the *Transcode* Button you press *Add To Cluster* instead. The cluster control window will be opened, if it's not already open. Also the *Cluster Project Edit* window will appear, where you can adjust some properties.

3.6.2 Project properties



At first you can manipulate the number of frames per chunk. Default is 10000, which will be Ok for most cases. But if the performance of your cluster nodes differs much you can decrease this value to prevent slow nodes from blocking the whole cluster with transcoding a huge chunk while the others are idle. But: decreasing the chunk size too much makes 2-pass encoding useless, because the material for analysis becomes too short. You have to play with it to get good results with your environment.

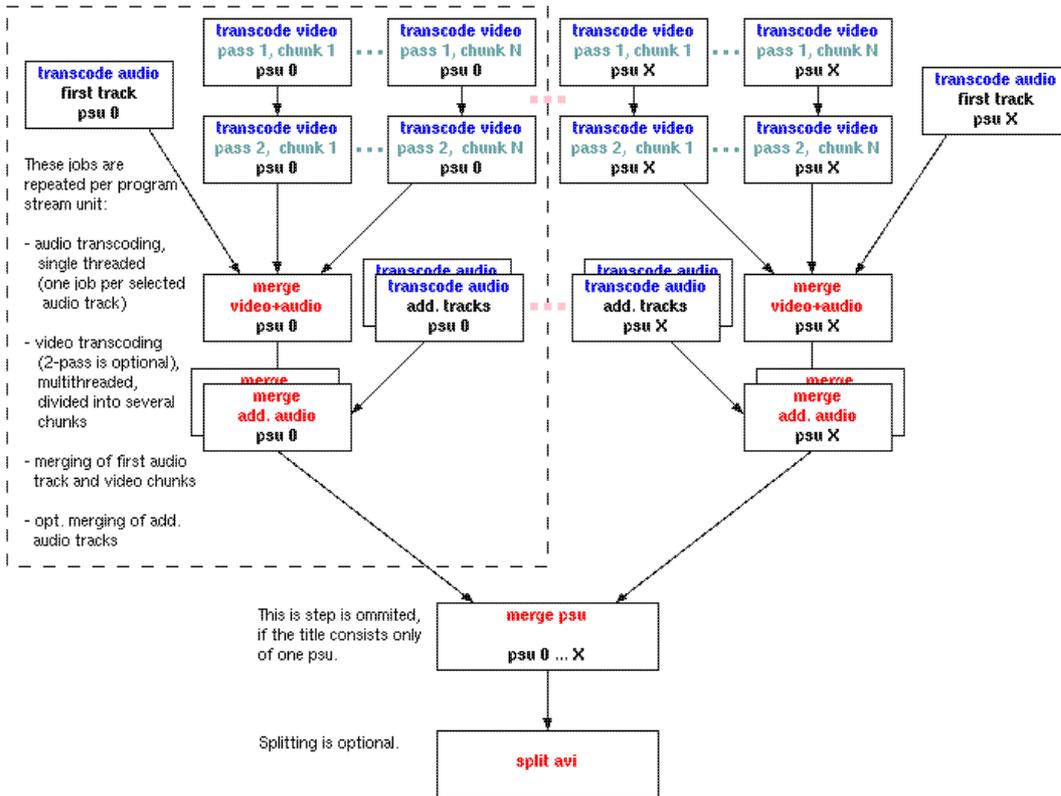
Then you can select, if temporary files should be removed when they're not needed anymore. You should enable that, because in cluster mode the project needs up to 3 times more space than a normal project. Also the VOB files can be removed after transcoding, if disk space is a problem.

3.6.3 Start the project

Your project (with the currently selected title) was added to the project queue. The initial state of the project is *not scheduled*. You can push as many projects as you want to the cluster this way, and set the priority by moving the project up and down in the queue (using the appropriate buttons).

Now simply press *Start project* for each project you want the cluster to work on. The state of the 1st project will switch to *running*. Also the state of all idle nodes will switch to *running* and as much jobs as possible will be executed in parallel.

3.6.4 Jobs



The job queue shows all tasks which must be completed. Mainly the work is divided into six phases:

3.6.4.1 Transcode video

As many nodes as possible will be used in parallel for this phase. They will transcode different chunks of the video from MPEG to AVI, but without audio.

3.6.4.2 Transcode audio

Due to technical reasons audio has to be transcoded independent from the video and it's not possible to break up the job into chunks which can be processed in parallel. If you selected more than one audio track, an appropriate number of audio transcoding jobs will appear.

3.6.4.3 Merge video + audio

The transcoded audio file of the first selected audio track and all video chunks are merged and multiplexed into one file. This is done preferably on the node with local harddisk access.

3.6.4.4 Merge additional audio

Additional audio tracks are merged to the result of *Merge video + audio*.

3.6.4.5 Merge PSU's

If the movie consists of more than one program stream unit, the steps above are repeated for each unit. The corresponding files are then merged together.

3.6.4.6 Split

If you decided to split the AVI afterwards, this is the final phase.

3.6.5 Node statuses

As noted above, the cluster control daemon regularly checks the status of the transcode nodes. If a node goes offline the corresponding job will be cancelled automatically and later be picked up by another idle node. You can stop and start nodes by hand, using the corresponding buttons. The job the node is working on will be cancelled. A stopped node doesn't get jobs, even when the node is online. This way you can take a node out of the cluster dynamically, when you want to use it for other things.

You can remove a project only if it's not active resp. it's finished. You must first stop all nodes working on the project, then you can remove it.

3.7 Webinterface

dvd::rip - A full featured DVD ripper

dvd::rip cluster control daemon [\[switch refresh off\]](#)

Project Queue			
Nr	Project	Jobs	State
1	swtest (#8)	8	running
2	swtest (#8)	8	finished

Jobs of the selected project				
Nr	Info	Dependencies	State	Progress
1	calc video bitrate	2	finished	Duration 00:00:01
2	transcode audio track #0, psu 0	none	finished	Duration 00:00:14
3	transcode video chunk 0/3, pass 1, psu 0	1	finished	Duration 00:00:11
4	transcode video chunk 1/3, pass 1, psu 0	1	running	74.07%, 36.4 fps, ETA: 00:00:03
5	transcode video chunk 2/3, pass 1, psu 0	1	waiting	
6	merge video chunks psu 0	2-5	waiting	
7	add audio, track #0, psu 0	6	waiting	
8	split AVI - title #8	7	waiting	

Registered Nodes			
Nr	Name	Job	Progress
1	fly	stopped	
2	wizard	4: swtest (#8): transcode video chunk 1/3, pass 1, psu 0	74.07%, 36.4 fps, ETA: 00:00:03

dvd::rip cluster control daemon - © 2003 Jörn Reder, All Rights Reserved - \$Id: Webserver.pm,v 1.1.2.1 2003/04/29 20:24:49 joern Exp \$

Done.

The cluster control daemon has a read only webinterface which reports the status of the cluster as HTML. This way you can check the status of your cluster even over the internet, without the heavy weight X Window interface.

By default the cluster control daemon doesn't start the webserver service. To fire the webserver up you need to start the dvdrip-master program by hand, using the `-w` and `-W` options:

```
dvdrip-master -w -W 8888
```

`-w` enables the webserver service (no extra process is started - the webserver is an internal component of dvdrip-master). `-W` is optional and sets the TCP port on which the webserver should listen to. The default port number is 8888.

The delivered page is rather simple. It's much like dvd::rip's GUI, except for the possibility of modifying the cluster's state. You can select a project from the project queue to view its jobs. You can switch on (and off) auto-refreshing using the corresponding link on the top right of the page. The reload interval is 5 seconds.

3.8 Some notes about internals

The dvd::rip cluster control daemon stores its state independently from your dvd::rip GUI workstation. That means, once you've added a project to the cluster, changes to the project done with dvd::rip will not affect the cluster operation.

dvd::rip - A full featured DVD ripper

The cluster control daemon stores its data in the `~/dvdrip-master` directory of the user, who executes the cluster control daemon. The node configuration and all projects are stored here.

The manipulation of these data is done via the Cluster Control window of dvd::rip. The dvd::rip workstation does not store locally any information of the cluster. The communication between the dvd::rip GUI and the daemon is done using a TCP based protocol, which enables dvd::rip creating objects and calling their methods transparently over the network.

Additionally the cluster control daemon listens to the port number 28656 and echos all log messages to connected clients. So you simply can telnet to the daemon on this port, to see what's going on (besides opening the dvd::rip Cluster Control window, which exactly does the same ;)

4. Command line options

- 4.1 dvdrip: main GUI program
 - ◆ 4.1.1 Synopsis
 - ◆ 4.1.2 Options
 - 4.2 dvdrip-master: Cluster control daemon
 - ◆ 4.2.1 Synopsis
 - ◆ 4.2.2 Options
-

4.1 dvdrip: main GUI program

Although dvd::rip is a GUI program, it has some command line options:

4.1.1 Synopsis

```
Usage: dvdrip [-c] [-d level] [-p file] [-f function [-t title-nr]] [file]
dvdrip --version | -version | -v
```

-c open cluster control window

-d set debugging level

-f execute one of the following functions (needs filename)
transcode transcode the selected title
transcode_split transcode and split the selected title

-t title-nr to which the function above should apply
(Default: last selected title)

-p preferences filename (Default: ~/.dvdriprc)
A new file is created, if it doesn't exist.

4.1.2 Options

Option	Description
-c	Starts dvd::rip and opens the cluster control window only. The standard GUI doesn't appear.
-d	This is mainly for developers and sets the debugging level. Level 1 switches a few internal debugging messages on, Level 2 enables function/method call tracing, Level 3 adds actual parameters of function/method calls.
-f	The <i>-f</i> option must be used together with a <i>filename</i> . The given function will be applied on the loaded project and dvd::rip exits afterwards. If you omit the <i>-t</i> option, the last selected title will be used. The following functions can be executed this way:

dvd::rip - A full featured DVD ripper

	<p><i>transcode</i> Transcode the selected title (no splitting)</p> <p><i>transcode_split</i> Transcode and split the selected title</p> <p>This option is usefull to write simple batch scripts for automatic transcoding of several movies, or starting at a specific time using the <i>at</i> command.</p> <p>Example:</p> <pre>dvdrip -f transcode_split movie.rip</pre>
-t	<p>This option makes mostly sense in conjunction with <i>-f</i>. It selects the given title number of a project, on which a function should be applied.</p> <p>Example:</p> <pre>dvdrip -f transcode -t 2 movie.rip</pre>
-p	<p>If you want to have multiple preferences (e.g. for multiple machines sharing the same home directory), you can pass an alternative name for dvd::rip's preferences file using the <i>-p</i> option. If the file doesn't exist, it will be created with the default values.</p> <p>Example:</p> <pre>dvdrip -p ~/.dvdriprc-\$(hostname)</pre> <p>This will use a preferences file which has the name of the actual host appended.</p>

4.2 dvdrip-master: Cluster control daemon

4.2.1 Synopsis

Usage: `dvdrip-master [-w [-W port]] [loglevel]`

```
loglevel  logs messages to stdout
          1 - basic logging, no details
          2 - log actual jobs
          3 - log all executed commands also

-w        start webserver service
-W port   port for webserver (default: 8888)
```

4.2.2 Options

The options *-w* and *-W* control the cluster control daemon's webinterface, which is described in its own [chapter](#).

dvd::rip - A full featured DVD ripper

Additionally you can set a logging level, which defaults to 2. Level 1 only prints some very basic, but no progress information, level 2 report started and finished jobs, level 3 also reports the executed commands (which is very useful for debugging purposes). Higher levels activate tracing information.

5. Important concepts

This section introduces several underlying concepts you should know, at least the first few chapters are interesting for every dvd::rip user. Reading this section is surely optional, but may help understanding the reference sections later in this documentation.

- [5.1 A dvd::rip project](#)
 - [5.2 A DVD title](#)
 - [5.3 DVD ripping modes](#)
 - [5.4 Transcode modes](#)
 - ◆ [5.4.1 Standard mode](#)
 - ◆ [5.4.2 Cluster mode](#)
 - [5.5 Chapter mode](#)
 - [5.6 Multiple audio tracks](#)
 - [5.7 Video bitrate calculation](#)
 - [5.8 Splitting](#)
 - [5.9 Volume rescaling / Audio filters](#)
 - [5.10 Subtitle formats](#)
 - [5.11 PSU core](#)
 - [5.12 Video codecs](#)
 - [5.13 Audio codecs](#)
 - [5.14 Container formats](#)
 - ◆ [5.14.1 AVI](#)
 - ◆ [5.14.2 OGG](#)
 - ◆ [5.14.3 MPEG](#)
 - [5.15 Filesystem layout](#)
 - [5.16 dvd::rip info file](#)
-

5.1 A dvd::rip project

dvd::rip organizes its data in "projects". A project consists of all information regarding the rip of a specific DVD. This data is stored in a dvd::rip project file. This way you easily can pick up a rip at any time.

5.2 A DVD title

A DVD consists of one or more titles. dvd::rip works strictly per title, that means your first decision when ripping a DVD is: which title do you want. All settings will be stored per title.

Naturally you can rip more than one title from a DVD. But dvd::rip currently doesn't offer options to do things with many titles at once. But that's no relevant restriction, because titles usually differ so much, that applying the same parameters to different titles mostly makes no sense.

5.3 DVD ripping modes

dvd::rip handles physical DVD's and DVD images on harddisk as well. For both data source types you can choose between on-the-fly transcoding and VOB extraction before transcoding.

It's always recommended to use VOB extraction, because dvd::rip offers more features in this mode. If you choose to use on-the-fly transcoding be aware of the following restrictions:

- You can't use the cluster mode
- You can't use the VOB movie preview function.
- You can't render subtitles on the movie.
- Grabbing preview frames is rather slow.
- Transcoding a frame range is rather slow.
- You can't use transcode's PSU core for optimizing NTSC A/V sync.

5.4 Transcode modes

dvd::rip has two different modes for the expensive process of transcoding the movie: standard and cluster mode.

5.4.1 Standard mode

The standard mode can be used out of the box, no further configuration is necessary. The dvd::rip GUI will show a progress bar for the actual transcoding process. This way you can transcode one movie at one time. It's not possible to transcode several movies in parallel, in a row or some similar automated stuff.

You can write simple batch scripts using dvd::rip's command line options for several projects, but the cluster mode provides a more comfortable batch facility.

5.4.2 Cluster mode

The cluster mode uses a different approach of transcoding movies. You can use all your Linux-aware hardware in your network to transcode the same movie. The movie is divided into several chunks, which can be transcoded in parallel by different machines. You can put as much projects as you like on the cluster. They will be processed in a row resp. in parallel, when possible.

The power of the cluster mode is achieved with standard Unix components. Just dvd::rip, transcode, ssh and NFS/Samba/AFS or another network file system. Configuring is as easy as setting up a proper ssh and network file system communication.

5.5 Chapter mode

Most DVD titles are divided into chapters. With dvd::rip's chapter mode you will have one file per chapter after transcoding. You can select all or individual chapters. Note, that you can't combine chapter and cluster mode.

Note that vobsub creation (refer to [subtitles](#)) is disabled in chapter mode.

5.6 Multiple audio tracks

Most DVD titles have multiple audio tracks, e.g. for different languages or directors comments. You can have multiple audio tracks also in the transcoded movies. This is supported for AVI, OGG and SVCD but not for VCD.

5.7 Video bitrate calculation

The video bitrate is relevant for the video quality. The higher the better. But usually you want to fit the transcoded movie on a specific number of CD's. That's why the video bitrate is calculated, resp. derived from the space available (which is **(desired target size) MINUS (size for audio tracks)**).

5.8 Splitting

When the target size is a multiple of a CD's size, dvd::rip can split the transcoded movie in pieces which fit on one CD. Each CD contains a valid movie file which can be played independently from the others.

5.9 Volume rescaling / Audio filters

The DVD sound often is too low, so you want to increase the volume. You can use transcode's volume rescaler for this. First the audio track is scanned for the maximum volume. With this scan value transcode raises the volume to the maximum possible while transcoding.

Volume rescaling is very static, you may find the sound is still too low, if your movie's sound is very dynamic. transcode offers some audio filters, which adjust the volume dynamically, which you can choose also in dvd::rip.

5.10 Subtitle formats

There are several possibilities to rip subtitles:

- Rendering on the movie

dvd::rip - A full featured DVD ripper

- Creating vobsub files
- Creating text files

dvd::rip supports the first two. transcode can render one subtitle straight on the movie. The disadvantage: the subtitles aren't optional anymore, you can't switch them off. Also it's not possible to have more than one subtitle with your movie.

With vobsub files switching off is still possible. A vobsub file mainly contains the original DVD subtitle stream. A vobsub capable movie player (e.g. mplayer) can read vobsub files and renders the subtitles on-the-fly. You can have more than one stream in a vobsub file. The quality is the same as of the original DVD. So having subtitles in vobsub files is really a good choice.

Text subtitles are somewhat similar to vobsub, but the format is ASCII. The subtitle images are extracted and then converted to text using an OCR software. This way the subtitles need less space, but the OCR part isn't very stable - often you have to correct the generated text files manually. dvd::rip doesn't support this. You have to use subtitleripper manually if you want to have text subtitles.

5.11 PSU core

The PSU core is a transcode mode, which applies a special handling for movies consisting of several PSU's. PSU stands for Program Stream Unit, and is a DVD internal concept of dividing the video stream into independent parts.

With NTSC sources (and also some PAL movies) these PSU's may cause serious A/V synchronization issues, which the PSU core mode tries to solve (for NTSC movies dvd::rip switches PSU core by default on). This works for most movies. If you can't get proper A/V sync with your movie (even with PSU core enabled), please contact the transcode developers and provide sample material.

dvd::rip enables the PSU core by default for NTSC titles, which have more than one PSU. You can't use the cluster mode or fast frame range transcoding with it.

5.12 Video codecs

The video codec defines the format of the resulting video stream. dvd::rip supports mostly all transcode video codecs, e.g.: Xvid, ffmpeg4, DivX 4/5, mjpeg and others. Xvid support is divided into two versions: the latest stable release and current CVS.

dvd::rip also offers (S)VCD support with transcode's mjpeg export filter, the bbmpeg filter isn't supported yet.

5.13 Audio codecs

DVD audio streams are usually encoded using the AC3 format. You can passthrough the AC3, so no re-encoding is necessary, which gives best audio quality. Also you keep 5.1 surround sound (if it's 5.1 AC3).

But AC3 streams need considerably more space than MP3 or Vorbis streams, so if you don't need the 5.1 format you should re-encode the audio to one of these. dvd::rip supports both MP3 and Vorbis. The (S)VCD specification defines MP2 as the audio format, so you have no choice here.

5.14 Container formats

The container is the file structure which multiplexes all streams, video and audio, into one file, which can be played by a movie player. There are currently three container formats supported by dvd::rip:

5.14.1 AVI

The AVI format is used for all video codecs but MPEG (e.g. Xvid/DivX/ffmpeg4). You can only have MP3 and AC3 audio codecs with the AVI container, no Vorbis.

5.14.2 OGG

The OGG container supports the same video codecs as AVI, including MP3 and AC3, and additionally Vorbis.

5.14.3 MPEG

The MPEG container only supports the MPEG1/2 video codecs and MP2 audio. Usually you create (S)VCD or CVD images from MPEG files (dvd::rip can do this for you with its CD burning module).

5.15 Filesystem layout

dvd::rip collects all files regarding a project in the directory you specify when starting a new project. The layout of this directory is as follows:

```
vob/                Directory for ripped VOB files
vob/001/            VOB files of DVD title #1
vob/001-C001/      VOB files of DVD title #1, chapter #1

avi/                Directory for transcoded files
avi/001/foo-001.{avi,ogg,mpg} transcoded files of DVD title #1
avi/001/foo-001.dvdrip-info dvd::rip info file of DVD title #1

avi/001/foo-001-01.vobsub vobsub file of DVD title #1, Subtitle #1
avi/001/foo-001-01.idx   vobsub idx file of DVD title #1, Subtitle #1
```

dvd::rip - A full featured DVD ripper

avi/001/foo-001-01.ifo	vobsub ifo file of DVD title #1, Subtitle #1
avi/001/foo-001-01.rar	vobsub rar file of DVD title #1, Subtitle #1
avi/001/foo-001.iso	ISO 9660 image of DVD title #1
avi/001/foo-001.vcd	VCD image of DVD title #1
avi/001/foo-001.svcd	SVCD image of DVD title #1
tmp/	Directory for temporary files
tmp/backup.rip	Backup project file (written after TOC reading)
tmp/*.jpg	Preview images of all DVD titles
tmp/logfile.txt	Logfile
tmp/foo-001-nav.log	VOB navigation file of DVD title #1

In case of multi-cd rips some of the transcoded files (and CD images) appear multiple times. The CD number is appended to the filename (e.g. foo-001-00001.ogg, foo-001-00002.ogg etc.)

5.16 dvd::rip info file

A **.dvdrip-info* file will be created when you transcode a movie. It's a simple text file which contains all interesting technical information about your rip (e.g. bitrates, audio tracks, codecs etc.). This way you later know which settings applied to this specific rip.

A *.dvdrip-info* file looks like this:

```
# Movie information file. Generated by dvd::rip; http://www.exit1.org/dvdrip

[General]
Title:                tubular_bells
Data source:          DVD
DVD title number:     1
Runtime:              01:04:38

[Video]
Video format:         PAL
FPS:                  25
Size:                 624 x 464
Video bitrate (kbps): 2893
Video codec:          xvid
2-pass-encoded:       yes
Fast resizing:        yes
Deinterlacer filter: Zoom to full frame (slow)
Antialiasing filter:  No antialiasing

[Audio 1]
DVD audio track id:   1
Language:             en
Audio codec:          ac3
Channels:              6
Sample rate:          48000
Audio bitrate (kbps): 448
Volume rescaling:     none
Audio filter:         None, volume rescale only

[Programs]
dvd::rip version:     0.47_10
transcode version:    0.6.2.20021010
```

6. FAQ

- [6.1 dvd::rip sometings hangs during transcoding](#)
 - [6.2 I have trouble with a specific DVD. What should I do?](#)
 - [6.3 dvd::rip can't read my DVD. I get strange error messages after ripping \(movie ripped short, chapter is useless\) and scrambled preview images / movies.](#)
 - [6.4 What about encrypted DVD's?](#)
 - [6.5 Why complains transcode about a missing VIDEO_TS.IFO file?](#)
 - [6.6 DivX encoding does not work](#)
 - [6.7 Is dvd::rip scriptable?](#)
 - [6.8 dvd::rip often rips the wrong audio channel](#)
 - [6.9 Why is the A/V sync of my transcoded NTSC AVI's so bad?](#)
 - [6.10 Why are the transcoded AVI files often bigger or smaller than adjusted?](#)
 - [6.11 My transcoded movie has colored artefacts](#)
 - [6.12 Is it possible to get a WAV file from my music DVD?](#)
 - [6.13 Can I use different dvd::rip versions in parallel?](#)
 - [6.14 What about the name? dvd::rip, dvdrip and Video-DVDRip. Which one is correct?](#)
-

6.1 dvd::rip sometings hangs during transcoding

That's most likely due to a transcode issue related to NPTL. Try most recent transcode versions (1.0.2 or better) and don't use NPTL with 2.4 kernels but a recent 2.6 kernel. If that doesn't help, you can try to workaround transcode NPTL bugs by enabling the correspondent option in dvd::rip's Preferences dialog.

6.2 I have trouble with a specific DVD. What should I do?

First try executing the corresponding command by hand. You can grab it from the logfile, which is presented on the Log page. Sometimes dvd::rip is unable to provide a good error message, this way you often can see, what's going wrong (and please consider this [FAQ item](#) to learn what's not going wrong ;)

Most problems with specific DVDs are transcode related, so consider quering the transcode mailing list archives resp. subscribe to the [transcode mailing list](#) and ask your question there.

If you're not sure, you always can post your question to the dvdrip-user mailing list, but be aware that you may be pointed to the transcode list ;)

6.3 dvd::rip can't read my DVD. I get strange error messages after ripping (movie ripped short, chapter is useless) and scrambled preview images / movies.

Most probably the DVD is encrypted and your system isn't able to handle this. For the rest of the story please read the next [FAQ item](#).

6.4 What about encrypted DVD's?

Copying encrypted DVD's is illegal in many countries. Also it's illegal to provide information about how this could be accomplished. So don't send any questions regarding encrypted DVD's or DVD cracking to the author of dvd::rip or to the dvd::rip mailing list. Corresponding mails will be silently ignored, correspondent posts will be removed from the mailing list archive without notification.

6.5 Why complains transcode about a missing VIDEO_TS.IFO file?

That's Ok. The corresponding messages are printed by libdvdread if you transcode files on harddisk (which is the default case with dvd::rip). You see something like this:

```
libdvdread: Couldn't find device name.  
libdvdread: Can't open file VIDEO_TS.IFO.
```

but these are only (very confusing) warning messages of libdvdread, which naturally can't find any DVD device or VIDEO_TS.IFO file if started from a directory with only VOB files in it. Just ignore these messages, and please don't report this as a bug.

6.6 DivX encoding does not work

First: the proprietary DivX codec often makes problems under Linux. XviD is the better alternative, so I'd always suggest to use XviD instead of DivX. If you really want to use DivX, read on, hopefully it helps.

If you're using the 2003 release of DivX (5.01, resp. 20030428) and have a Pentium IV processor, you need to downgrade to the 2002 version. The Linux versions don't make big differences here anyway. The Pentium IV bug is a known problem and ignored by divx.com, as with other fatal Linux bugs in their software.

If you're using the 2002 version (5.01, resp. 20020418) already, there is also a nasty bug. It tries to create a file `c:\trace_b.txt`, which fails if you work on a vfat filesystem, because this filename is illegal here.

For this one a workaround exists. Execute the following Perl one-liner as root (thanks to Christian Marillat) to patch the codec library file (probably the location differs on your system).

```
perl -pi.bak -e 's|c:\\trace_b.txt|/dev/null\\0\\0\\0\\0|' \  
/usr/lib/libdivxencore.so
```

This command also creates a .bak file.

6.7 Is dvd::rip scriptable?

Yes, somewhat. dvd::rip has command line options which enable you to write small scripts to transcode several projects in a row. Refer to the [documentation](#) for details.

6.8 dvd::rip often rips the wrong audio channel

Most likely dvd::rip does it right, but you're playing the ripped VOB files with a movie player which is wrong. Do a test transcode of a few hundred frames, play the resulting movie and you'll see, that you have the right audio channel.

Note: dvd::rip always copies **all** audio channels of the movie to the harddisk. It extracts only the selected viewing angle and scans the volume of the selected audio channel in the same run. With the volume scan information it's possible to rescale the volume to the maximum during later transcoding.

6.9 Why is the A/V sync of my transcoded NTSC AVI's so bad?

First try the PSU core of transcode resp. enable the corresponding checkbox on dvd::rip's Transcode page. This should fix most NTSC A/V sync issues.

If this still doesn't work as expected, please post your issue to the transcode mailing list and provide example material, so the developers can reproduce the problem.

6.10 Why are the transcoded AVI files often bigger or smaller than adjusted?

Modern video codecs (like DivX) work with variable bitrate encoding. So the desired bitrate is in fact an average bitrate. But currently most codecs have problems hitting this bitrate overall. Regularly the effective bitrate is somewhat smaller, which is no problem, but sometimes it's bigger, so the files won't fit on the desired number of discs.

You can enable multipass encoding for optimizing this. But often the effective bitrate differs nevertheless. We just can wait on better codecs, which hopefully solve this problem finally.

6.11 My transcoded movie has colored artefacts

Most codecs don't support frame dimensions which are not divisible by 16. dvd::rip's presets take care of this restriction, but because you can modify Clip & Zoom values by hand, this may still happen. In that case you usually get strange colored shadow or other effects.

dvd::rip - A full featured DVD ripper

If you followed this rule, but still get artefacts, please report this as a bug, because this shouldn't happen anymore, since dvd::rip takes care of the correspondent internal options to prevent this (keyword: YUV colorspace resp. transcode's -V option).

6.12 Is it possible to get a WAV file from my music DVD?

Yes it is, refer to the corresponding [documentation chapter](#) for details.

6.13 Can I use different dvd::rip versions in parallel?

Yes, you can. Refer to the corresponding chapter in the [installation docs](#).

6.14 What about the name? dvd::rip, dvdrip and Video-DVDRip. Which one is correct?

Depending on the environment all names are correct. The program in general is called **dvd::rip**, note the lower case and the colons. Because the colons have to be escaped in most shells, the executable is called **dvdrip**, just to make your life easier. dvd::rip is also an OO Perl program, so it occupies some namespace: Video::DVDRip. From this name the distribution file names are derived: **Video-DVDRip-version.tar.gz**. That's all ;)

In short: write **dvd::rip** if you're talking about dvd::rip and say **dvdrip** if you're talking about dvd::rip ;)

Ah, I forgot the colons. Perl uses them to separate nested namespaces. Yes, you're right, the name **dvd::rip** is obviously no Perl namespace, so this is the wrong reason. The true reasons are: the colons look nice and this way dvd::rip distinguishes from many other tools, which call themselves DVDRIP, dvd-rip or whatever ;)

7. TRANSLATIONS

- 7.1 Portuguese
-

This chapter lists external translations of the dvd::rip documentation.

7.1 Portuguese

Thanks to Flavio from the group estudiolivres.org in Brazil we have a portuguese translation of the dvd::rip documentation.

<http://estudiolivres.org/tiki-index.php?page=dvd::rip+Manual+intro>