

Linux Multimedia PC

Functions of a Multimedia PC

- Play and RIP CDs.
- Play all common Audio Formats.
- Play and rip DVDs.
- Play all common Video Formats.
- Capture Audio and Video from analog sources.
- Act as a PVR.
- Edit Media Files and convert Formats.

Playing Burning and Ripping CDs

Linux Utilities

kaudiocreator. not maintained for KDE 4.x.

grip. not very impressive.

k3b. not the most straightforward as a ripping tool, it is primarily a burning tool (and a good one at that). It is a good ripping tool once you figure it out, but its interface to lame is broken (on one of my systems it works on the other it doesn't).

ripperx. Very good interface, reliable ripper, but not as good as CDex.

Open Source Utilities

lame. Lame is a great mp3 encoder, and the universal mp3 engine of open source encoding software. LAME is available on all platforms. I would like to see an addition to lame `--ignore_bitrates`, as long as the file is visibly smaller than a wav, I consider quality more important than filesize (I would rather have 4:1, than 20:1 if there were any potentially audible loss of quality with the latter).

CDex. The best ripper on the market is open source. Unfortunately, Windows Only!.

Codec Mayhem

When you're trying to set up a Linux Media PC, some, all or most of the Codecs (specialized decoders and encoders) will not be installed for you. Many will not be available from your distributions' primary repositories (neither urpmi nor apt-get will work).

Some of the common ones that are unlikely to be part of your distribution are real, quicktime, and the proprietary windows codecs. The mplayer team maintains a useful set of codecs <http://www.mplayerhq.hu/homepage/design7/dload.html>

Your distribution should have one or more multimedia packages which will give you the xine engine, ffmpeg and one or more players.

At the end of the presentation I will provide a list of things to make sure you have installed.

Codec Mayhem continued

LIBDVDCSS

- The Movie and Film Industry insist that you can only have a working DVD player if you pay a licensing fee. Unfortunately, the United States has sided with the Industry (thanks to much lobbying \$\$\$) against the Community over the free libdvdcss.
- In practice individuals aren't prosecuted for installing libdvdcss. Businesses subject to potential software audits have no choice but to purchase a licensed DVD player program for Linux.
- videolan.org has archives for libdvdcss including rpms and debs.
- LIBDVDCSS is better because it is Region Free, although I have found in practice that sometimes players using it are confused by Region 0 discs (unencrypted) and think that libdvdcss is not installed.
- K/Ubuntu provides a shell script for kaffeine to install libdvdcss, other distributions do not.

Ripping Vinyl and Editing Audio

Audacity

When you buy a usb turntable, they usually put the open source audacity program on the CD that comes with it. Audacity is more refined on Linux than Windows. Amazingly Audacity Linux has no trouble recognizing the turntable connected to usb, although on my laptop Audacity is unable to find line in so it can't rip cassettes, I believe that is caused by a flaw in the sound drivers for ALSA/OSS, because on my Linux Desktop it does find line in.

In this niche, Linux and OSS are King!

PVR

MythTV is a talk of its own.

You do have to get your capture card working.

Ripping DVDs

DVD:RIP is a nice gui for DVD ripping, but I had difficulty with it. VLC is also capable of ripping DVDs. Both of them stalled on a DVD that had a bad sector that I then had no issue ripping with an old version of Nero Recode (not Open Source).

ffmpeg and **mencoder**. These two command line utilities do the work for most open source projects that deal with video format conversion. The non-gui way to rip a DVD is to copy the vobs and then recode with ffmpeg or mencoder.

Media Players

There are a lot of Media Players for Linux. Most are based on the xine engine. Despite this I found that different players would be randomly better or worse with different file types. Install them all.

If I had to pick only one I would go with VLC from the videolan project.

VLC still has a lot of rough spots and I find the Windows version more solid than the Linux version. Most distributions seem to run several releases behind with vlc, where the latest version is always available for immediate installation on Windows.

VLC strives to be compatible with every format, supports converting formats, and can stream video from one computer to another.

TV Capture

I was playing around with an old capture card that does not work with Vista, it did work with Linux, but not really satisfactorily. If you're serious about TV capture buy a decent card. If you just need to rip the occasional VHS, analog cards are dirt cheap because they won't work with broadcast after February, you may succeed with Video for Linux.

Getting my card to work required some tweaking.

XAWTV has command line utilities that should be moved to the main video 4 linux package, but is otherwise worthless. I found that TV Time was the most reliable application for just viewing TV Content and that VLC only worked after TV Time worked (in practice I had to run TV time to tune in the VCR, then VLC would work.).

VLC was the most useful application for ripping video but I never got it to work very well, I was using an older single core CPU. I either could not get sound and video on the same output file or skipped video data with compression.

Video Editing and Conversion

For very simple editing and conversion tasks I like AVIdemux.

I rip from VHS on Windows with the crappy PVR application that came with my new cheap card, then copy the MPG over to AVIdemux for cropping.

There are a number of more serious programs like KDeNlive and KINO out there, but for the little bit of playing I've done they appear developmental. I have not worked with MainActor (which is not free), for more serious video editing I have an old copy of Adobe Premiere.

Checklist of things to install.

Likely to be in the repository:

- alsa and oss
- xine, ffmpeg, mencoder, kaffeine, mplayer, dragon player, banshee, amarok
- whatever other players you like.
- vlc*
- avidemux
- ripperx
- k3b, grip, lame
- tvtime
- xawtv
- v4linux (video for Linux)
- audacity*
- DVD::RIP

Things you should check that your distribution gave you a recent build of:

- vlc
- audacity

Things you probably will need to find on your own:

- libdvdcss
- windows media codecs