VLC user guide

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This document is the complete user guide of VLC .

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Chapter 1. Introduction

1.1. What is the VideoLAN project ?

1.1.1. Overview

VideoLAN is a complete software solution for video streaming, developed by students of the Ecole Centrale Paris and developers from all over the world, under the GNU General Public License (GPL). VideoLAN is designed to stream MPEG videos on high bandwidth networks.

The VideoLAN solution includes :

- VLS (VideoLAN Server), which can stream MPEG−1, MPEG−2 and MPEG−4 files, DVDs, digital satellite channels, digital terrestial television channels and live videos on the network in unicast or multicast,
- VLC (initially VideoLAN Client), which can be used as a server to stream MPEG−1, MPEG−2 and MPEG−4 files, DVDs and live videos on the network in unicast or multicast ; or used as a client to receive, decode and display MPEG streams under multiple operating systems.

Here is an illustration of the complete VideoLAN solution :

Figure 1−1. Global VideoLAN solution La solution VideoLAN globale
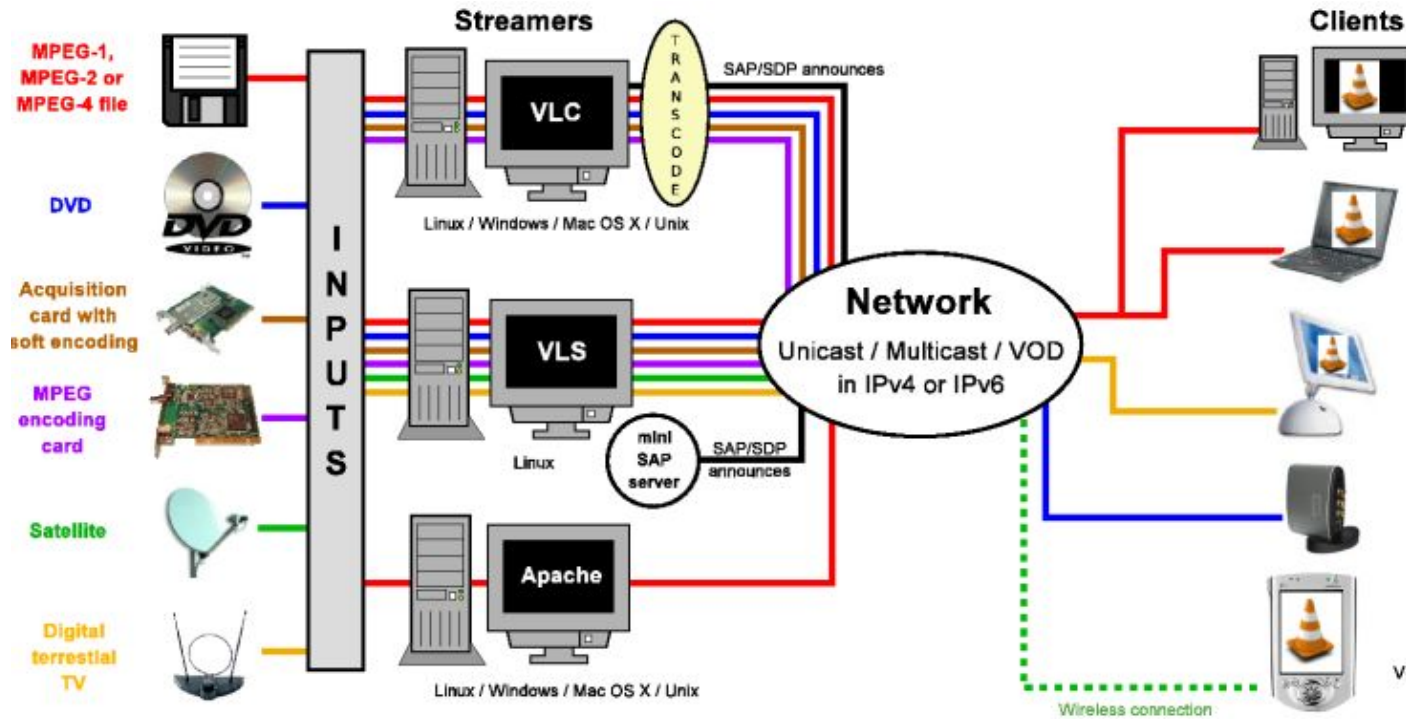
More details about the project can be found on the VideoLAN Web site.

1.1.2. VideoLAN software

1.1.2.1. VLC

VLC works on many platforms : Linux, Windows, Mac OS X, BeOS, *BSD, Solaris, Familiar Linux, Yopy/Linupy and QNX. It can read :

- MPEG−1, MPEG−2 and MPEG−4 / DivX files from a hard disk, a CD−ROM drive, ...
- DVDs and VCDs,
- from a satellite card (DVB−S),
- MPEG−1, MPEG−2 and MPEG−4 streams from the network sent by VLS or VLC's stream output.

VLC can also be used as a server to stream :

- MPEG−1, MPEG−2 and MPEG−4 / DivX files,
- DVDs,
- from an MPEG encoding card,

to :

- one machine (i.e. to one IP address) : this is called *unicast*,
- a dynamic group of machines that the clients can join or leave (i.e. to a multicast IP address) : this is called *multicast*,

in IPv4 or IPv6 .

To get the complete list of VLC's possibilities on each plateform supported, see the VLC features page.

☞ VLC doesn't work on Mac OS 9, and will probably never do.

1.1.2.2. VLS

VLS can stream :

- an MPEG−1, MPEG−2 or MPEG−4 files stored on a hard drive or on a CD,
- a DVD located in a local DVD drive or copied on a hard disk,
- a satellite card (DVB−S) or a digital terrestial television card (DVB−T) ,
- an MPEG encoding card ;

to:

- one machine (i.e. to one IP address) : this is called *unicast*,
- a dynamic group of machines that the clients can join or leave (i.e. to a multicast IP address) : this is called *multicast*,

in IPv4 or IPv6 .

A Pentium 100 MHz with 32 MB of memory should be enough to send one stream on the network. When streaming a lot of videos stored on a hard drive, the actual limitation is not the processor but the hard drive and the network connection.

VLS works under Linux and Windows. To get the complete list of VLS's possibilities on each plateform supported, see the streaming features page.

1.1.2.3. Mini−SAP−server

You can add a channel information service based on the SAP/SDP standard to the VideoLAN solution. The mini−SAP−server sends announces about the multicast programs on the network in IPv4 or IPv6, and VLCs receive these annouces and automatically add the programs announced to their playlist.

The mini−SAP−server works under Linux and Mac OS X.

1.2. What is a codec ?

To fully understand the VideoLAN solution, you must understand the difference between a *codec* and a *container format*

- A *codec* is a compression algorithm, used to reduce the size of a stream. There are audio codecs and video codecs. MPEG−1, MPEG−2, MPEG−4, Vorbis, DivX, ... are codecs
- A *container format* contains one or several streams already encoded by codecs. Very often, there is an audio stream and a video one. AVI, Ogg, MOV, ASF, ... are container formats. The streams contained can be encoded using different codecs. In a perfect world, you could put any codec in any container format. Unfortunately, there are some incompatibilities. You can find a matrix of possible codecs and container formats on the features page

To decode a stream, VLC first *demuxes* it. This means that it reads the container format and separates audio, video, and subtitles, if any. Then, each of these are passed *decoders* that do the mathematical processing to decompress the streams .

There is a particular thing about MPEG:

- MPEG is a *codec*. There are several versions of it, called MPEG−1, MPEG−2, MPEG−4, ...
- MPEG is also a container format, sometimes refered to as *MPEG System*. There are several types of MPEG: ES, PS, and TS

  When you play an MPEG video from a DVD, for instance, the MPEG stream is actually composed of several streams (called Elementary Streams, ES): there is one stream for video, one for audio, another for subtitles, and so on. These different streams are mixed together into a single Program Stream (PS). So, the .VOB files you can find in a DVD are actually MPEG−PS files. But this PS format is not adapted for streaming video through a network or by satellite, for instance. So, another format called Transport Stream (TS) was designed for streaming MPEG videos through such channels.

1.3. How can I use VideoLAN ?

1.3.1. Documentation

The user documentation of VideoLAN is made up of 4 documents :

- the *VideoLAN Quickstart*. This document will give you a quick overview of of VLC, VLC's stream output, the Video On Demand solution and the channel information service system.

- the *VideoLAN HOWTO*. This document is the complete guide of the VideoLAN streaming solution.
- the *VLC user guide*. This document is the complete guide for VLC.
- the *VLS user guide*. This document is the complete guide for VLS.
- the *VideoLAN FAQ*. This document contains Frequently Asked Questions about VideoLAN.

The latest version of these documents can be found on the documentation page .

You can also have a look at the VideoLAN Wiki. This is a website that everyone can change. We use it to document everything that is not in the "official" documentation: the tips and tricks for each O.S., the graphical interfaces, etc...

1.3.2. User support

If you have problems using VideoLAN, and if you don't find the answer to your problems in the documentation, please look at the online archive of the mailing–lists. There are two English–speaking mailing–lists for the users :

- *vlc@videolan.org* for the questions on VLC ,
- *streaming@videolan.org* for the questions on VLS, mini–SAP–server and the network .

If you want to subscribe or unsubscribe to the mailing–lists, please go to the mailing–list page.

You can also talk with VideoLAN users and developers on IRC : server *irc.freenode.net*, channel *#videolan* .

If you find a bug, please follow the instructions on the bug reporting page .

1.4. Command line usage

- VLC has many different graphical interfaces, that are organized quite differently in order to be in harmony with the guidelines of each operating system supported. Documenting the use of each graphical interface is too long, and some features are only available via the command line interface. Therefore we decided to document only the command line interface, but in many cases it shoud be easy to guess how to use the graphical interface for the same use !
- VLS has a command line and a telnet interface, but no graphical interface !

All the commands that show up in this document should be typed inside a terminal. .

1.4.1. Open a terminal

1.4.1.1. Windows

Click on *Start*, *Run* and type :

- **cmd Enter** (Windows 2000 / XP),
- **command Enter** (Windows 95 / 98 / ME).

The terminal appears Le terminal apparait

Figure 1−2. Windows terminal
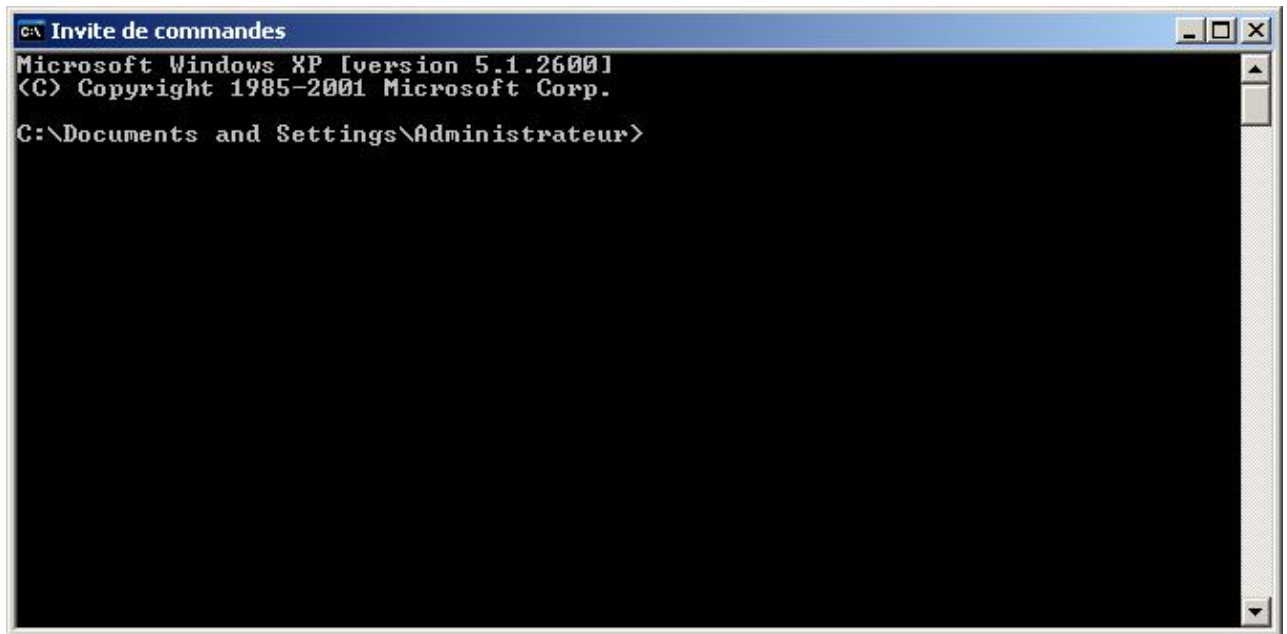
Under Windows, you need to be in the directory where the program is installed to run it.

1.4.1.2. Linux / Unix

Open a terminal :

Figure 1−3. Linux X terminal

In the documentation, we adopt the following conventions for the Unix commands :

- commands that should be typed as *root* have a # prompt :

```
# command_to_be_typed_as_root
```
- commands that should be typed as a regular user have a **%** prompt :
```
% command_to_be_typed_as_regular_user
```

1.4.1.3. Mac OS X

Go to *Applications*, open the folder *Utilities* and double−click on *Terminal* :

Figure 1−4. Mac OS X terminal
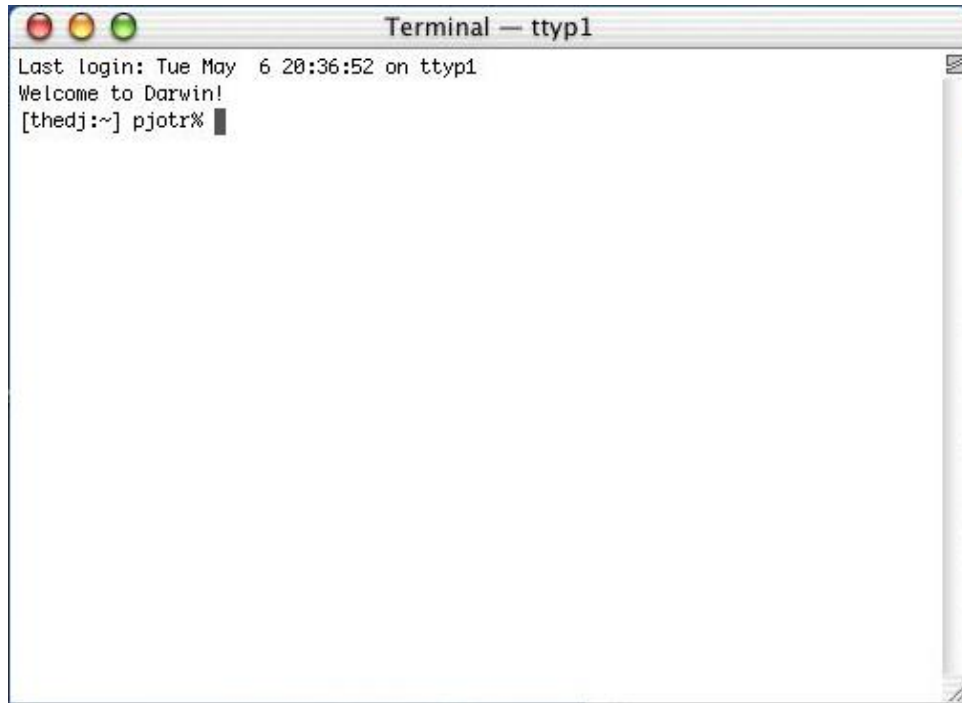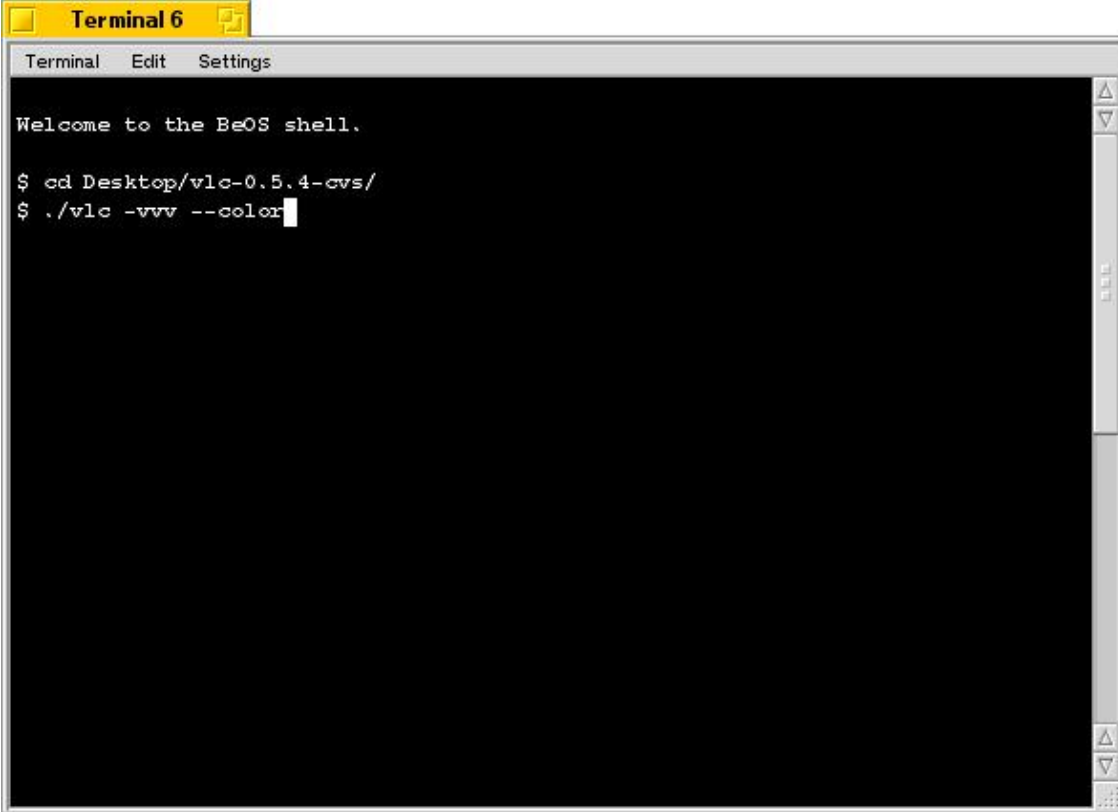
Under Mac OS X, you need to be in the directory where the program is installed to run it, and start the command with **./** .

1.4.1.4. BeOS

In the deskbar, go to *Application* and then *Terminal* :

Figure 1−5. BeOS terminal

```
┌─────────────────────────────────────────────┐
│ □  Terminal 6   ▣                             │
├─────────────────────────────────────────────┤
│ Terminal   Edit   Settings                    │
├─────────────────────────────────────────────┤
│                                               │
│ Welcome to the BeOS shell.                    │
│                                               │
│ $ cd Desktop/vlc-0.5.4-cvs/                   │
│ $ ./vlc -vvv --color█                         │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
│                                               │
└─────────────────────────────────────────────┘
```

☞ Under BeOS, you need to be in the directory where the program is installed to run it, and start the command with **./** .

Chapter 2. Modules and options for VLC

2.1. The modules

VLC uses a modular system, which allows to add easily new fonctions and formats. Here is a description of nearly all the VLC modules. A few "internal" modules won't be explained here. For a complete list of all VLC modules, please have a look at the LIST file in the subdirectory "modules" of the VLC source tree.

If you installed VLC through a binary file, you will get the default modules. If, however, you want to customize VLC to your needs, you will have to compile VLC from sources.

If you don't intend to compile VLC and want only the regular functions, reading this part is not very useful.

The compilation itself is explained in the next chapter.

If you wish to compile a module which is stated *disabled by default*, you have to launch the configure script with :

```
% ./configure
--enable-module_name
```

On the other hand, if you would like to disable a module that is *enabled by default*, you would have to use :

```
% ./configure
--disable-module_name
```

Each VLC module has its own help and options. To see what options are associated with a module, use :

```
% vlc -p
module_name
```

or use the "Preferences" Panel of your favorite graphical interface .

2.2. Video outputs

Video outputs are the modules that enable the support of some systems to display the video on your screen.

2.2.1. x11

default: enabled

For Unix with X11 servers only

This is the basic x11 video output. It only requires a working X11 server. You will need xlibs headers to compile it (*xlibs−dev* package on Debian systems).

2.2.2. xvideo

default: enabled

For GNU/Linux only

It requires an xvideo compliant graphic card (it is the case for nearly all modern cards). It uses hardware acceleration for YUV transformation and rescaling.

2.2.3. sdl

default: enabled

This video output uses sdl libraries. You need at least version 1.1.6 of this libraries.

You may indicate the path to the *sdl−config* program with the **−−with−sdl−config−path=PATH** switch, when running the configre script.

2.2.4. directx

default: enabled on win32

For Windows only

This video output uses Microsoft Direct X libraries. It is recommended for the win32 port.

You may indicate the path to directX libraries and headers with the **−−with−directx=PATH** switch, when running the configure script.

2.2.5. wingdi

default: enabled on win32

For Windows only

This video output uses GDI. It is designed for users who don't have Direct X, but the perfs are very low. If you have DirectX, do not use it.

2.2.6. fb

default: enabled on GNU/Linux

For GNU/Linux only

This is the frame buffer video output. It requires that your kernel was compiled with frame buffer support.

2.2.7. glide

default: disabled

This video output uses Glide libraries (hardware acceleration for 3Dfx cards).

You may indicate the path to the library with the −−**with−glide=PATH** configure option.

2.2.8. mga

default: disabled

For GNU/Linux only

This module provides hardware acceleration for Matrox cards under GNU/Linux.

2.2.9. ggi

default: disabled

2.2.10. aa

default: disabled

This is the ASCII Art Video Output. This video output uses the aalib library to display video through ASCII art. It requires aalib headers (*aalib1−dev* package under Debian GNU/Linux) to compile.

2.2.11. svgalib

default: disabled

For GNU/Linux only

This is a video output for the SVGAlib library.

2.2.12. qte

default: disabled

For iPaq only

This is a video output for QT Embedded, an iPaq−specifiq graphical library .

2.3. Video filters modules

These modules allow you to perform modifications on the rendered image .

2.3.1. deinterlace

Always enabled

This filter deinterlaces video. It is useful with streams coming from a digital satellite channel or digital terrestial television channels .

2.3.2. wall

Always enabled

This filter allows you to have the video cut in pieces in several windows, which you can order as you wish. It can be used to generate image walls with several sources.

2.3.3. distort

Always enabled

This filter adds a distortion effect to the video. Who said it was useless ? :–)

2.3.4. transform

Always enabled

This filter allows to rotate the video in several ways .

2.3.5. invert

Always enabled

This filter inverses colors.

2.3.6. adjust

Always enabled

This filter allows you to set image contrast, hue, saturation and brightness

2.3.7. clone

Always enabled

Ce filtre vous permet de dupliquer l'image.

2.3.8. crop

Always enabled

This filter allows you to crop parts of the image.

2.3.9. motionblur

Always enabled

This filter adds a "motion blur" effect to the image.

2.4. Audio outputs

These modules allow you to choose the way the sound will be output to your audio system .

2.4.1. oss

default: enabled on GNU/Linux

For GNU/Linux and Unix only

This is the audio output for OSS (Open Sound System) output (`/dev/dsp`, for example, under Linux). It requires that your kernel was compiled with support for your sound card, or, if you use ALSA (Advanced Linux Sound System), the OSS emulation layer must be active.

2.4.2. alsa

default: disabled

For GNU/Linux only

This is the sound output for ALSA (Advanced Linux Sound Architecture). It only works under Linux, and it requires that you installed the ALSA drivers and libraries.

2.4.3. esd

default: disabled

For GNU/Linux & Unix only

This sound output has ESD (Enlightened Sound Daemon) support (usually used with Gnome). You must have the daemon and its libraries installed.

2.4.4. arts

default: disabled

For GNU/Linux & Unix only

This sound output has aRts (KDE's sound server) support. You must have the daemon and its libraries installed .

2.4.5. waveout

default: enabled on win

For Windows only

This is the Wave output, which is used by the win32 port.

2.4.6. coreaudio

default: enabled on Mac OS X

For Mac OS X only

This audio output uses CoreAudio under Mac OS X

2.4.7. sdl

default: enabled

This audio output uses SDL. Please refer to the video output.

2.5. Input modules

These modules allow VLC to read its streams from different sources .

2.5.1. dvdplay

default: enabled

This is the regular DVD input module. It will need *libdvdcss* for DVD decryption (see the libdvdcss page) and *libdvdplay* for DVD navigation (see the libdvdplay page) .

2.5.2. dvd

default: enabled

This is the old DVD input module. It uses *libdvdcss* for DVD decryption (see the libdvdcss page) .

2.5.3. dvdread

default: disabled

This is an alternative to the previous ones. It uses *libdvdread* for DVD reading (see the Ogle download page) and *libdvdcss* for DVD decryption (see the libdvdcss page).

2.5.4. vcd

default: enabled

This is the VideoCD input .

2.5.5. cdda

default: enabled

This is the Audio CD input .

2.5.6. http,ftp,udp,file,directory,mms

Always enabled

These are standard input modules. The HTTP input can be used for Video On Demand .

2.5.7. satellite

default: disabled

This is an input module that allows to read directly from a Hauppauge WinTV Nova card under GNU/Linux. It requires drivers 0.9.4 available from linuxtv.org .

2.5.8. v4l

default: disabled

For GNU/Linux only

This module allows to get Video4Linux streams .

2.5.9. dvb

default: disabled

For GNU/Linux only

This module allows to read from DVB–S, DVB–T, and DBC–C satellite, digital terrestrial, or cable cards. It uses the Video4Linux 2 API, that is only available in kernel 2.5.X and 2.6.X .

2.5.10. pvr

default: disabled

For GNU/Linux only

This module allows to read from Hauppauge PVR cards .

2.5.11. slp

default: enabled

This module allows to get the names and addresses for streams announced using the SLP protocol

2.6. Demuxers

In a video stream, the video signal and the audio one are always into "containers" formats. Demuxers extract the streams from it and pass it to the decoders .

For example, an AVI file can contain a MPEG–4 video, or an uncompressed video. AVI is only a storing format, not a compression format .

2.6.1. avi

Always enabled

This module allows you to read `.avi` files .

2.6.2. asf

Always enabled

This module allows you to read `.asf` files

2.6.3. aac

Always enabled

This module allows you to read AAC files

2.6.4. ogg

default: enabled

This module allows you to read `.ogg` files

2.6.5. rawdv

Always enabled

This module allows you to read DV files

2.6.6. dvbpsi

default: enabled

This module allows to demux streams from a satellite card.

2.6.7. mp4

Always enabled

This module allows you to read `.mp4` files

2.6.8. mkv

default: enabled

This module allows you to read files that use the Matroska free format .

2.6.9. ps,ts

Always enabled

These modules allow you to read MPEG2 Program Stream or Transport Tream files .

2.6.10. id3,m3u

Always enabled

These modules allow you to read M3U, B4S, PLS, and ASX playlists, and ID3 tags .

2.7. Interface modules

These modules allow you to choose the interface or interfaces you want to use (whether graphical or control interfaces).

2.7.1. wxwindows

default: enabled

The wxWindows interface is a portable interface that is currently working under GNU/Linux and Windows. It is now the best graphical interface available under both Windows and GNU/Linux .

2.7.2. skins

default: enabled on win32

This skinnable interface module works under Win32 and X11. You can create your own skins very easily with XML files .

2.7.3. gtk

default: enabled

This is the GTK+ interface. It needs gtk libraries and headers files if you are compiling it. Note that it can also be used under Windows .

2.7.4. gnome

default: disabled

For GNU/Linux only

This is the Gnome interface. It needs gnome libraries (*libgnome32* package under Debian) and headers (*libgnome−dev* package under Debian) if you wish to compile it .

2.7.5. qt

default: disabled

This is the QT interface module. You will need the libraries (*libqt2* package on Debian) and headers (*libqt−dev* package under Debian) if you wish to compile it .

2.7.6. kde

default: disabled

For GNU/Linux only

This is the KDE interface module. You will need the libraries (*kdelibs3* package on Debian) and headers (*kde−devel* package under Debian) if you wish to compile it .

2.7.7. rc

Always enabled

This is the Remote Control interface module. It allows you to control VLC via commands, such as *play*, *stop*, etc... or via a script. This interface is text−based, so you should use it when you are in console mode .

2.7.8. http

Always enabled

This module allows you to remote control your VLC via a web browser. You can create custom web pages. More info here .

2.7.9. ncurses

default: disabled

For GNU/Linux only

This is a text interface, using ncurses library. You will need ncurses headers if you want to compile it (*libncurses5−dev* package on Debian) .

2.7.10. lirc

default: disabled

For GNU/Linux only

This interface module allows you to control VLC through a remote. A lircrc example is provided to help you configure it to your remote (see `doc/lirc/example.lircrc`) .

2.7.11. opie

default: disabled

This is an interface plugin for the Qt Embedded library (iPaq graphical library) .

2.7.12. gestures

Always enabled

This module allows you to control VLC via mouse gestures .

2.7.13. joystick

default: disabled

For GNU/Linux only

This module allows you to control VLC via a joystick with many options. More information can be found here .

2.8. Codec modules

The following modules add codec (ie, compression formats) support .

2.8.1. a52

default: enabled

This decoder uses liba52 (see the liba52 web site .

2.8.2. ffmpeg

default: enabled

This is a free MPEG–4/DivX/OpenDivX codec : ffmpeg (see the ffmpeg web site) .

2.8.3. vorbis

default: enabled

This codec allows you to read the Vorbis (audio) encoded files .

2.8.4. xvid

default: disabled

This codec allows you to read files encoded with Xvid (see Xvid web site) .

2.8.5. mad

default: enabled

This codec is a very smart MP3 decoder, that only uses integers. This allows its use for CPU which don't handle floating point numbers (on PDA, for example) .

2.8.6. libmpeg2

default: enabled

This codec allows to read MPEG2 files .

2.8.7. faad

default: disabled

Faad is an MPEG−4 audio decoder .

2.8.8. tarkin

default: disabled

tarkin is a new codec (experimental) by the Ogg Project (see the Ogg Vorbis web site) .

2.8.9. theora

default: disabled

theora is a new codec (experimental) by the Ogg Project (see the Ogg Vorbis web site) .

2.8.10. cinepak

default: enabled

This codec decodes the Cinepak format .

2.8.11. tremor

default: disabled

This is an Ogg/Vorbis codec that only makes integer calculus, which allow its use on CPU which don't have floating point support (see the Ogg Vorbis web .

2.9. OS support modules

The following modules add support for different OSs .

2.9.1. macosx

This is the MacOS X support module, including a native interface .

2.9.2. qnx

This is the QNX RTOS support module .

2.10. Miscellaneous

This section describes a few more modules that don't belong to any of the categories described before .

2.10.1. sout

default: enabled

Stream Output is a new feature of VLC that allows it to stream an MPEG–1, MPEG–2 or MPEG–4/DivX file or a DVD .

For more details, please have a look at the *The command line interface* section .

2.10.2. test–suite

default: disabled

This builds a special VLC, for testing purposes only .

2.10.3. mozilla

default: disabled

This is not really a module. When enabled, a VLC–based Mozilla plugin is built .

2.10.4. xosd

default: disabled

For Unix only

This plugin outputs the current stream to an "OSD" (On Screen Display) .

2.11. Compilation Options

There are a few options that you can set when running the configure script, which are not related to modules .

You can have a look at these options by typing :

```
% ./configure --help
```

You can for example control all the installation directories, the system for which you want to build VLC for (if not guessed correctly),...

You can also choose to enable or disable some optimizations.

2.11.1. −−disable−plugins

If you select this option, no plugins will be enabled. This is definitely not recommended, as you would get a very poor VLC, and should only be used for testing purposes .

Chapter 3. Installing VLC

3.1. Installing VLC

There are VLC binaries available for the many OSes, but not for all supported OSes. If there are no binaries for your OS or if you want to change the default settings, you can compile VLC from sources.

3.1.1. Windows

VLC works under Windows 95/98/ME/2000/XP. Download the self–extracting file from the VLC Windows download page. Launch the .exe to install VLC.

3.1.2. BeOS

Download the Zip file from the VLC BeOS download page. Unzip the file in a directory to install VLC.

3.1.3. Mac OS X

Download the Mac OS X package from the VLC MacOS X download page . Double–click on the icon of the package : an icon will appear on your Desktop, right beside your drive(s). Open it and drag the VLC application from the resulting window to the place where you want to install it (it should be /Applications).

3.1.4. Debian GNU/Linux

3.1.4.1. Debian stable (woody)

Add the following lines to your /etc/apt/sources.list:

```
deb http://www.videolan.org/pub/videolan/debian $(ARCH)/
deb-src http://www.videolan.org/pub/videolan/debian sources/
```

Then, for a normal install, do:

```
# apt-get update
# apt-get install gnome-vlc libdvdcss2
```

3.1.4.2. Debian unstable (sid)

Add the following lines to your /etc/apt/sources.list:

```
deb http://www.videolan.org/pub/videolan/debian $(ARCH)/
deb-src http://www.videolan.org/pub/videolan/debian sources/
```

Then, for a normal install, do:

```
# apt-get update
# apt-get install wxvlc libdvdcss2
```

3.1.4.3. Debian testing (sarge)

You should not be using Debian testing unless you perfectly know what you are doing. It is almost impossible to support Debian testing and there are no plans to do it. For more informations on Debian testing, please look: testing page

3.1.5. Linux Mandrake

There are VLC packages for Mandrake 9.1 and cooker.

To install them, add the following sources for either Mandrake 9.1 or Cooker (you can use Easy urpmi for that): *contrib* from the core distribution and *plf* (Penguin Liberation Front) from the external add−ons.

Then install the required packages with **urpmi**:

```
# urpmi libdvdcss2 libdvdplay0 wxvlc vlc-plugin-a52 vlc-plugin-ogg vlc-plugin-mad
```

3.1.6. Linux Redhat

Download the RPM package *vlc* and the packages listed in the *required libraries and codecs* section (the other packages are just optional) from the VLC Red Hat download page and put them all into the same directory.

Then install the RPM packages you have downloaded:

```
# rpm −U *.rpm
```

If you have not installed all the RPM packages included with your distribution, you may be asked to install a few of them first.

3.1.7. Compile the sources by yourself (for every other OS)

The method below is for any Unix system supported by VLC, for which there is no packages available. It explains how to compile and install VLC and the needed libraries from their source code.

You can also compile VLC under Linux this way if you want to modify the default supported modules.

3.1.7.1. Install the libraries

Many libraries are needed :

- *libdvbpsi* (compulsory) ,
- *mpeg2dec* (compulsory) ,
- *libdvdcss* if you want to be able to read encrypted DVDs ,
- *libdvdplay* if you want to have DVD menu navigation ,
- *a52dec* if you want to be able to decode the AC3 (i.e. A52) sound format often used in DVDs ,
- *ffmpeg*, *libmad*, *faad2* if you want to read MPEG 4 / DivX files ,
- *libogg* & *libvorbis* if you want to read Ogg Vorbis files .

Download the libraries from the VLC sources download page.

For each library :

- uncompress :
  ```
  % tar xvzf library.tar.gz
  ```
  or

  ```
  % tar xvjf library.tar.bz2
  ```
- configure :
  ```
  % cd library
  % ./configure
  ```
- compile and install :
  ```
  % make
  # make install
  ```

Check that the configuration file /etc/ld.so.conf contains the following line :

```
/usr/local/lib
```

If the line is not present, add–it and then run (as root):

```
# ldconfig
```

3.1.7.2. Install VLC

Download the sources of the lastest release : get the file vlc-version.tar.gz from the VLC sources download page. Uncompress–it :

```
% tar xvzf vlc-version.tar.gz
% cd vlc-version
```

To get the list of configuration options, do :

```
% ./configure --help
```

Please note that all the modules are described in the *Modules* section of the VLC User Guide .

Examples of very simple configurations:

- if you want a basic VLC, do :
  ```
  % ./configure
  ```
- if you want the Gnome interface instead of the GTK interface (you will need the developement packages of Gnome) :
  ```
  % ./configure --enable-gnome
  ```

Then, compile and install :

```
% make
% su
Password:   [Root Password]
```

```
# make install
```

Please note that the installation (**make install** command) is not mandatory. You can execute VLC from where you compiled it.

3.2. Uninstalling VLC

3.2.1. Windows

Click on the *Uninstall VLC* icon that was created during installation .

3.2.2. BeOS

Delete the `vlc-version` directory. You can also remove the configuration file `/boot/home/config/settings/vlcrc` .

3.2.3. Mac OS X

Drag the VLC application to your trash can .

3.2.4. Debian GNU/Linux

Remove the packages that you installed :

```
# apt-get remove --purge vlc-gnome vlc-mad libdvdcss2 libdvbpsi1
```

3.2.5. GNU/Linux Redhat, Mandrake and SuSE

Uninstall the RPM packages that you installed :

```
# rpm -e vlc-version vlc-mad-version vlc-gnome-version
libdvdcss2-version libdvdpsi1-version
```

3.2.6. If you compiled VLC from sources

Go to the directory containing VLC sources and execute :

```
# make uninstall
```

Then you can remove the VLC sources .

Chapter 4. The command line interface

4.1. Introduction

Many options are only available through command line. They are detailed here .

4.2. Opening streams

The following commands start VLC and add the first element to the playlist .

4.2.1. Opening a file

Start VLC with :

```
% vlc -vvv my_file.mpg
```

Although VLC should be able to recognize the file type, you may tell VLC what codec to use with the *−−codec* option. For example to play my_file.mpg using ffmpeg audo/video decoder do :

```
% vlc -vvv --codec ffmpeg my_file.mpg
```

A list of all video and audio codecs supported by VLC is available on the VLC features list .

4.2.2. Opening a DVD or VCD, or an audio CD

Start VLC with

```
% vlc -vvv dvd:[device][@raw_device][@[title][,[chapter][,angle]]]
```

or (VCD):

```
% vlc -vvv vcd:[device][@[title][,[chapter][peripherique][@[titre][,chapitre]]
```

or (Audio CD):

```
% vlc -vvv cdda:[device][@[title]][peripherique][@[titre]]
```

where device is the complete path to your DVD or CD−ROM drive .

4.2.3. Start a network stream

To receive an unicast UDP stream (sent by VLS or VLC's stream output), start VLC with :

```
% vlc -vvv udp:[@:server_port]
```

To receive an multicast UDP stream (sent by VLS or VLC's stream output), start VLC with :

```
% vlc -vvv udp:@multicast_address[:server_port]
```

To receive a HTTP stream, start VLC with :

```
% vlc -vvv http://www.example.org/your_file.mpg
```

4.3. Modules selection

VLC tries to select the most appropriate interface, input and output modules, among the ones available on the system, according to the stream it is given to read. However, you may wish to force the use of a specific module with the following options (for the complete list of modules, see the *Modules and options for VLC* section)) :

- *−−intf <module>* allows you to select the interface module .
- *−−extraintf <module>* allows you to select extra interface modules that will be launched in addition to the main one .
- *−−aout <module>* allows you to select the audio output module .
- *−−vout <module>* allows you to select the video output module .
- *−−filter <module>* allows you to add a video filter module .
- *−−memcpy <module>* allows you to choose a memory copy module .

4.4. Stream Output

4.4.1. Description of the stream output

VLC's stream output allows VLC to be used as a streaming server instead of a client ! It has very extended capabilities :

- stream in unicast and multicast on an IPv4 or IPv6 network everything that VLC is able to read, via UDP, RTP or HTTP ;
- save the input stream to a file in AVI, PS, TS or OGG format ;
- transcode an input stream, and then, send it, to the network or to a file .

To know about the full possibilities of VLC's stream output, see the streaming features page .

4.4.2. Architecture and syntax

the stream output has a powerful architecture that uses modules. Each module has capabilities, and you can *chain* the modules to enhance the possibilities .

Here is the list of the modules currently available :

- *standard* "sends" the stream via an *access output* module: for example, UDP, file, HTTP, ... You will probably want to use this module at the end of your chains .
- *transcode* allows you to transcode the audio and the video of the input stream "on the fly" (if your computer is powerful enough) .
- *duplicate* allows you to create a second chain, where the stream will be handled in an independant way .

- *display* allows you to display the input stream, as VLC would normally do. Used with the *duplicate* module, this allows you to view the stream as you send it .
- *es* allows you to make separate Elementary Etreams (ES) out of an input stream .

Each of these modules may take options. Here is the syntax that you must use :

```
% vlc input_stream --sout '#module1{option1=...,option2=...}:#module2{option1=...,option2=...}:..
```

For example, to transcode a stream and send it, use :

```
% vlc input_stream --sout '#transcode{options}:#standard{options}'
```

4.4.3. Description of the modules

4.4.3.1. standard (alias std)

Sends a stream .

Options:

- *access*: how to send : *file*, *udp*, *rtp*, *http*.
- *mux*: which muxer (ie, which format) will be used. It can be one of *avi* (for AVI format) , *ogg* (for OGG format) , *ps* (for MPEG2–PS format) , *ts* (for MPEG2–TS format) .
- *url*: if you use the *file* access, it will be the location where to store the stream; if you use another access, it will be the unicast or multicast IP address where you want to stream .
- *sap*: if you use the *udp* or *rtp* accesses, use this option to announce your stream, using SAP/SDP. This option contains the name under which you want to announce the program .
- *slp*: like sap, but use the SLP protocol. You need to have libslp on your system .
- *sap_ipv*: if you use the *sap* option, use this option to specify if you want to send the SAP announces in IPv4 or IPv6. The value of this option is *4* or *6* si vous utilisez *sap*, utilisez ceci pour spécifier si vous désirez envoyer les annonces SAP en IPv4 –défaut– ou IPv6. La valeur à utiliser est *4* ou *6* .

☞ If you are streaming in multicast, you may want to use the global option −−**ttl 12** to set the TTL to a value superior to 1.

4.4.3.2. display

Displays the stream .

Options:

- *noaudio*: Ignore audio .
- *novideo*: Ignore video .

4.4.3.3. duplicate

Duplicates the stream to a new stream output chain .

Options:

- *dst*: A new stream output chain of modules, as described earlier .

4.4.3.4. transcode

Changes the codec and/or bitrates for a stream .

Options:

- *acodec*: the new audio codec. It can be one of *mpga* (MPEG audio layer 2), *a52* or *ac3* (AC3 sound) or *vorb* (Vorbis)
- *ab*: audio bitrate in Kbps .
- *vcodec*: the new video codec. It can be one of *mp4v* (MPEG4), *mpgv* (MPEG1), *DIV1*, *DIV2*, *DIV3* (DivX 1,2,3), *H263* (H263), *I263* (H263I), *WMV1* or *WMV2* (Windows Media Video 1 or 2), *MJPG* (MJPEG), *MJPB* (MJPEGB) .
- *width*: video width .
- *height*: video height .
- *vb*: video bitrate in kbps .
- *vt*: video bitrate tolerance in bps .
- *deinterlace*: deinterlace the stream .
- *croptop*: number of pixels removed from the top of the video .
- *cropbottom*: number of pixel removed from the bottom of the video .
- *cropleft*: number of pixels removed from the left of the video .
- *cropright*: number of pixels removed from the right of the video .
- *hq*: high quality transcoding (uses more CPU) .
- *qmin*: minimum video quantiser scale (VBR)
- *qmax*: maximum video quantiser scale (VBR) .

4.4.3.5. es

Make separate Elementary Streams .

Options:

- *access_audio*: how to send the audio track: *file*, *udp*, *rtp* or *http* .
- *access_video*: how to send the vidéo track: *file*, *udp*, *rtp* or *http* .
- *access*: if you want the audio and the video tracks to use the same access, use this option instead of the two above .
- *mux_audio*: which muxer (ie, which format) will be used for the audio track. It can be one of *avi* (for AVI format), *ogg* (for OGG format), *ps* (for MPEG2−PS format), *ts* (for MPEG2−TS format) .
- *mux_video*: which muxer (ie, which format) will be used for the video track. It can be one of *avi* (for AVI format), *ogg* (for OGG format), *ps* (for MPEG2−PS format), *ts* (for MPEG2−TS format) .
- *mux*: if you want the audio and the video tracks to use the same muxer, use this option instead of the two above .
- *url_audio*: if you use the *file* access, it will be the location where to store the audio track; if you use another access, it will be the unicast or multicast IP address where you want to stream .
- *url_video*: if you use the *file* access, it will be the location where to store the vidéo track; if you use another access, it will be the unicast or multicast IP address where you want to stream .
- *url*: if you want the audio and the video tracks to use the same url, use this option instead of the two above .

☞ In the *url* options, if you use the *file* access, you can use the following macros in the filename:

- *%n* = stream number ;
- *%c* = FOURCC ;
- *%m* = muxer ;
- *%a* = access.

4.4.3.6. Miscellaneous

Here are a few additional global options

- *−−no−sout−audio* disables audio stream output .
- *−−no−sout−video* disables video stream output .

The stream output also offers a simplified syntax, with which you can only you use the *standard* module main options :

```
% vlc input_stream --sout access/mux:url
```

where *access*, *mux* and *url* are as defined in the options of the standard module .

4.4.4. Examples

To understand fully the complex syntax of VLC's stream output, please look at the use cases of the VideoLAN HOWTO .

4.5. Other Options

4.5.1. Audio options

- *−−noaudio* disables audio output .
- *−−mono* forces VLC to treat the stream in mono audio .
- *−−volume <integer>* sets the level of audio output .
- *−−aout−rate <integer>* sets the audio output frequency (Hz) .
- *−−desync <integer>* compensates desynchronization of audio (ms) .
- *−−headphone* activates headphone virtual spatialization effect .
- *−−headphone−dim* sets headphone characteristic dimension .

4.5.2. Video options

- *−−novideo* disables video output .
- *−−greyscale* turns video output into greyscale mode .
- *−−fullscreen* sets fullscreen video .
- *−−nooverlay* disables hardware acceleration for the video output .
- *−−width, −−height <integer>* sets the video window dimensions .
- *−−zoom <float>* adds a zoom factor .
- *−−aspect−ratio <mode>* forces source aspect ratio .
- *−−spumargin <integer>* forces SPU subtitles postion .

4.5.3. Playlist options

- −−*playlist* launches playlist on startup .
- −−*random* plays files randomly forever .
- −−*enqueue* enqueues items in playlist .
- −−*loop* loops playlist on end .

4.5.4. Network options

- −−*server−port <integer>* sets server port .
- −−*iface <string>* specifies the network interface to use .
- −−*iface−addr <string>* specifies your network interface IP address .
- −−*mtu <integer>* specifies the MTU of the network interface .
- −−*ipv6* forces IPv6 .
- −−*ipv4* forces IPv4 .

4.5.5. CPU options

- −−*nommx* disables the use of MMX CPU extensions .
- −−*no3dn* disables the use of 3D Now! CPU extensions .
- −−*nommxext* disables the use of MMX Ext CPU extensions .
- −−*nosse* disables the use of SSE CPU extensions .

4.5.6. Miscellaneous options

- −−*quiet* be quiet .
- −−*color* displays color messages .
- −−*search−path <string>* specifies interface default search path .
- −−*plugin−path <string>* specifies plugin search path .
- −−*dvd <string>* specifies the default VCD device .
- −−*vcd <string>* specifies the default VCD device .
- −−*program <;integer>* specifies program (SID) (for streams with several programs, like satellite ones) .
- −−*audio−type <integer>* specifies the default audio type to use with dvds .
- −−*audio−channel <integer>* specifies the default audio channel to use with dvds .
- −−*spu−channel <integer>* specifies the default subtitle channel to use with dvds .

4.5.7. Help options

- −−*verbose <verbosity>* specifies verbosity level .
- −−*help* gives you all available options .
- −−*longhelp* gives you a detailled version of the available options .
- −−*version* gives you information about the current VLC version .
- −−*list* displays a list of available plugins .
- −−*module <module>* displays help about specified module .

Chapter 5. The Mozilla plugin

VLC can also be embeded in a web browser ! For the moment, this function is only available with Mozilla under GNU/Linux .

5.1. Install the plugin

5.1.1. GNU/Linux Debian

You should already have the following lines in your `/etc/apt/sources.list` file :

```
deb http://www.videolan.org/pub/videolan/debian $(ARCH)/
deb-src http://www.videolan.org/pub/videolan/debian sources/
```

Install the *mozilla−plugin−vlc* package :

```
# apt-get update
# apt-get install mozilla-plugin-vlc
```

5.1.2. Compile the sources yourself

Install the Mozilla development package (*mozilla−dev* under Debian) .

Install the required librairies like for a normal VLC install (from the sources, or from the packages with the development packages).

Download the sources of the lastest release : get the file `vlc-version.tar.gz` from the VLC sources download page. Uncompress−it, configure−it, compile and install Téléchargez les sources de la dernière version : récupérez le fichier `vlc-version.tar.gz` depuis la page de téléchargement des sources de VLC. Décompressez−le, configurez−le, compilez et installez :

```
% tar xvzf vlc-version.tar.gz
% cd vlc-version
% ./configure --enable-mozilla
% make
% su
Password:   [Root Password]
# make install
```

5.2. Build HTML pages that use the plugin

Here are a few examples of HTML pages that use the Mozilla plugin .

5.2.1. Example 1

In this example, the plugin will read an HTTP stream inside the web page. If the user goes fullscreen, he will have to press **f** to go back in normal view .

```
<html>
```

```
<head><title>Demo of VLC mozilla plugin</title></head>

<body>

<h1>Demo of VLC mozilla plugin - Example 1</h1>

<embed type="application/x-vlc-plugin"
        name="video1"
        autoplay="no" loop="yes" width="400" height="300"
        target="http://server.example.org/video1.vob" />
<br />
  <a href="javascript:;" onclick='document.video1.play()'>Play video1</a>
  <a href="javascript:;" onclick='document.video1.pause()'>Pause video1</a>
  <a href="javascript:;" onclick='document.video1.stop()'>Stop video1</a>
  <a href="javascript:;" onclick='document.video1.fullscreen()'>Fullscreen</a>

</body>
</html>
```

5.2.2. Example 2

In this example, the plugin will read a multicast UDP stream in a dedicated video output window .

```
<html>
<head><title>Demo of VLC mozilla plugin</title></head>

<body>

<h1>Demo of VLC mozilla plugin - Example 2</h1>

<embed type="application/x-vlc-plugin"
        name="video2"
        autoplay="no" loop="no" hidden="yes"
        target="udp:@239.255.12.42" />
<br />
  <a href="javascript:;" onclick='document.video2.play()'>Play video2</a>
  <a href="javascript:;" onclick='document.video2.stop()'>Stop video2</a>
  <a href="javascript:;" onclick='document.video2.fullscreen()'>Fullscreen</a>

</body>
</html>
```

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