

Capturing Streams from Internet Broadcasts

Soundgrabber

Many proud owners of broadband Internet connections enjoy listening to Internet radio streams in the background. Although the enormous range of stations can make it hard to keep track, the real question is how do I go about recording a program that I really like?

BY JÖRG SCHUMANN AND CARSTEN SCHNOBER

The Shoutcast [1], Live365 [2], and Icecast [3] sites list hundreds of Web radio stations. Web radio stations broadcast a continuous stream of MP3 formatted music. You can use any MP3 player, XMMS [4] for example, for sound output, and the Streamripper [5] command-line tool to capture the stream. Streamtuner [6] provides the GUI needed to coordinate the whole setup.

Although XMMS has a native *Disk Writer* plug-in, which will store a stream locally, the plug-in decodes the incoming stream, converting it to an enormous wave file on the local disk. As you can imagine, extracting your favorite track from the stream can be tricky.

Installation

Most major distributions do not include this update, so check out the packages from [7], [8], and [9]. If you have an RPM-based Linux system, such as Suse,

Red Hat, or Mandrake, ensure that you are *root*, and enter `rpm -Uvh *.rpm` to launch the Streamripper and Streamtuner installs.

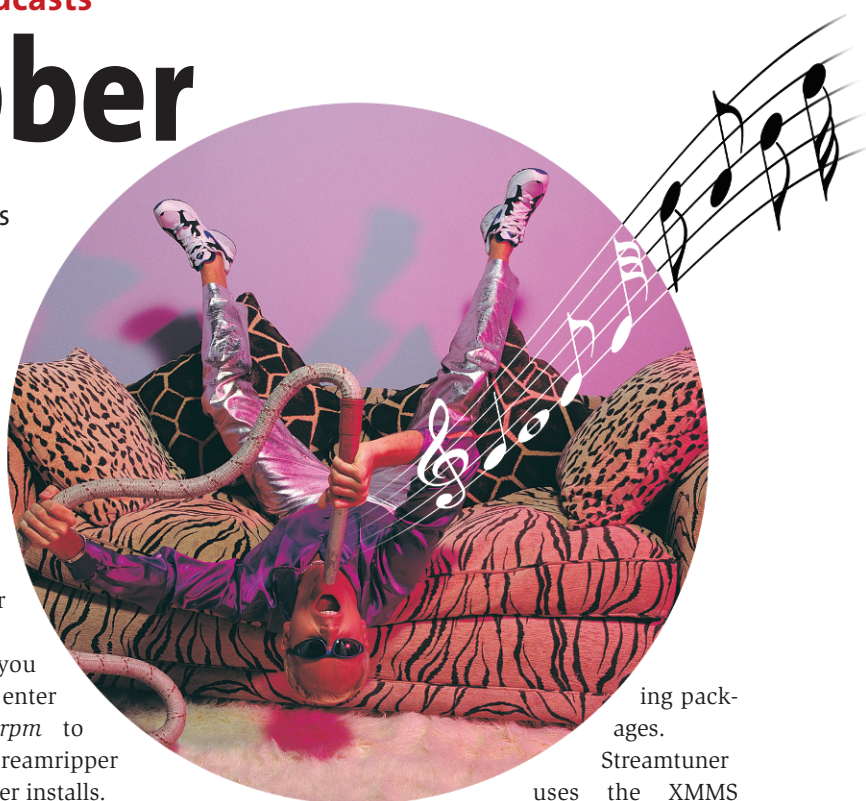
These programs require a few additional packages such as the GTK libraries, which are typically pre-installed on most systems; Streamtuner also needs *Curl*.

Streamripper and Streamtuner have not found their way into the stable Debian version, *Woody*, although there are **backports** from future versions, which are not currently in stable. Both packages can be installed by following the typical steps: `dpkg -i *.deb` in the *Debian* directory. Again Streamtuner needs the *libcurl2* package.

To ensure that you have the latest versions, enter the following lines:

```
deb http://www.backports.org/debian
stable streamtuner
deb http://www.backports.org/
debian stable streamripper
```

in your `/etc/apt/sources.list` file and, working as *root*, type `apt-get update`, followed by `apt-get install streamripper streamtuner` to download the packages, after updating your exist-



ing packages.

Streamtuner uses the XMMS MP3 player to play music.

This program is included with all the distributions mentioned so far.

Tune In!

If you have never tried out Web radio before, check out the Shoutcast homepage at [1] for a great selection (see Figure 1). Fans of almost any genre should find something to their liking. Click the *Tune in!* button to the left of a station to pop up a dialog that prompts you to specify the player you want to use. A MP3 stream is not just a simple MP3 file, but a playlist with the *pls* or *m3u* suffix.

In the KDE browser, Konqueror, click on *Open* in the first dialog box. A second window will appear, if you have not previously assigned an application to this

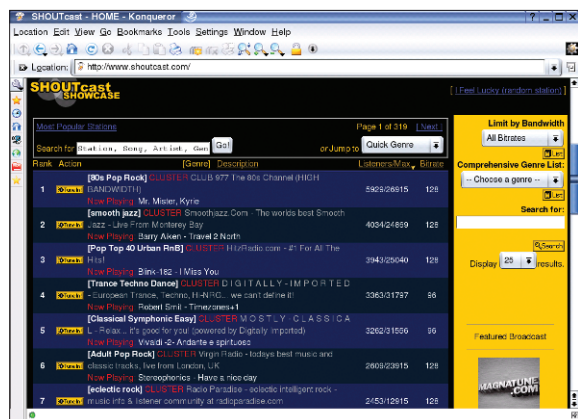


Figure 1: Shoutcast caters to every taste.

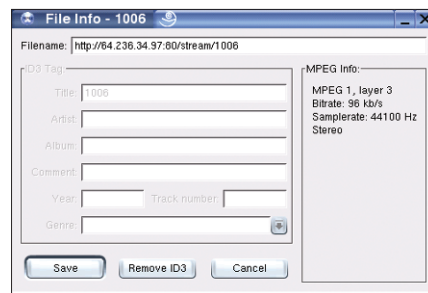


Figure 2: XMMS tells you the address for your favorite stream.

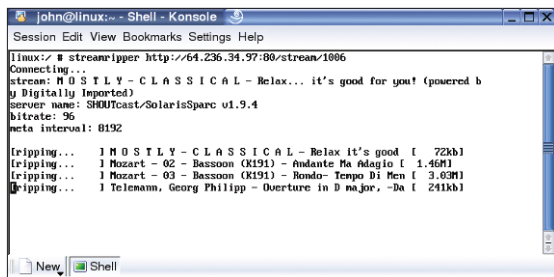


Figure 3: Streamripper stores the tracks from the stream in individual files.

file type. In this case, you need to select *Open with:...* Type *xmms* in the textbox in the next dialog box that appears, or select the program from the KDE menu. Click on *OK* to launch the Web radio stream in your player.

The Streamripper program is responsible for recording. Typing *streamripper*, followed by the address of the required **stream** will open up a connection to the target host, and save the tracks it serves up in individual MP3 files on your local disk. To find out the exact address of the Web radio station, check the *File name* field in the *File Info* window in XMMS; press [Ctrl-3] to display the window (see Figures 2 and 3).

More Ease of Use

The basic version 0.11 of Streamtuner (see Figure 4) only provides an overview of the Shoutcast list. The Streamtuner homepage has additional plug-ins on offer to support Live365 and Icecast's Xiph. Unfortunately, there are no binaries available, and the stability of the plug-ins is questionable, but if you enjoy tinkering with your system, just download, build, and enjoy.

When you type *streamtuner* to launch the program, an overview with a typical file manager design appears. The left hand panel contains a tree view with various genres. There is also a list of top ranking streams across all genres. The find function below the list allows you to search for a keyword against the list of entries, and quickly discover a station currently playing your favorite artist. To search for a keyword, click on *Update*; this button will

poll the stations in the display for latest details.

You can click on a genre to display the streams assigned to that genre. The arrow key left of the genre name allows you to open up a sub-category of the genre.

The list of streams on the right includes a description written by the stream provider. Many stations also serve up the name of the current track and artist. The next column tells you the number of listeners, and *Maximum* shows you how many concurrent listeners a server can support. If all of these slots are taken, you will have to wait for someone to close a connection to listen to this stream.

If you are interested in the sound quality, check the column on the outside right. The higher the bit-rate, the better the sound quality.

After deciding on a station, click with your mouse to select the station, and display three buttons in the toolbar with your options. *Connect* launches XMMS and play the stream. *Record* tells Streamripper to save the track you are currently playing in MP3 format, *Browse* will open the browser and surf to the station's homepage. The *Stop* button has no effect on Streamripper or XMMS. Streamtuner simply calls these external programs, but does not maintain a connection to them.

Secure Storage

Right-clicking a stream will pop-up a context menu that has the above options, and an *Add Bookmark* entry, that can help you find the addresses of your favorite streams in future sessions.

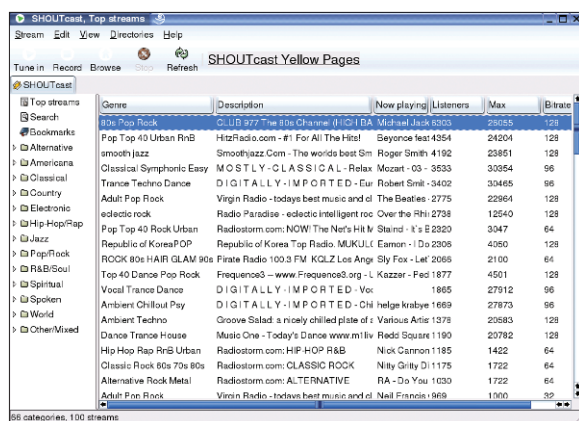


Figure 4: Streamtuner a complete overview.

The *Preferences* entry opens a dialog box with an overview of the genre, name, and some technical details.

If you need to change the preferences for the browser, you can select *Edit | Preferences | Applications* to enter your browser software, and its parameters. Enter your browser in the *Visit Website* field, and your MP3 player in *Listen to a .m3u-file*. The setting for *Record stream* will launch Streamripper in a separate window if no further parameters are supplied. You can specify *-d* and any writable directory on your hard disk to tell Streamripper to capture to this directory, otherwise, the files will be placed in a directory with the name of the radio station below your home directory.

You can use more parameters for Streamripper. The *-l* parameter restricts the recording time to a specific number of seconds, and *-s* tells the program not to create separate directories for each stream. Check out the manpage for more options, by typing *man streamripper*. ■

INFO

- [1] Shoutcast: <http://www.shoutcast.com/>
- [2] Live365: <http://www.live365.com/>
- [3] Icecast: <http://www.icecast.org/streamlist.php>
- [4] XMMS: <http://www.xmms.org/>
- [5] Streamripper: <http://streamripper.sourceforge.net/>
- [6] Streamtuner: <http://www.nongnu.org/streamtuner>
- [7] Suse packages for Streamripper and Streamtuner: <http://apt.bygden.nu/SuSE/9.0-i386/RPMS.suser-scorot/>
- [8] Red Hat packages for Streamripper and Streamtuner: <ftp://newrpms.sunsite.dk/projects/newrpms/www/htdocs/apt/redhat/en/i386/9.0/RPMS.newrpms/>
- [9] Mandrake packages for Streamtuner and Streamripper: <http://mandrake.binarycompass.org/Mandrake-devel/contrib/i586/>

GLOSSARY

Backport: Some Debian users do not want to switch from Woody to a version that is still officially classified as unstable, just to keep their machines up to date. To help these users, <http://www.backports.org/> provides newly-built Debian packages that Woody does not have, or where the Woody versions are obsolete.