VinylRipperHelper User’s Guide

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Introduction

VinylRipperHelper, or VRH is a Python utility for people who use the free software Audacity application to “rip” vinyl LP records and tapes to digital format. To use VRH in its initial version, one first needs to make a recording of an album that he/she would like to rip. Then one needs to download the tracklist page for the album being ripped from the Discogs.com website.

Then run VRH, and it will 1) extract the track list and times, and use them to create the labels that are needed to identify all of the songs on the recording. VRH will also 2) Create a “tags” template file to use with the Audacity metadata editor. This file provides all of the XML tags for the album including the title, artist, genre, year, plus any other tags that were listed for the album in the discogs.com tracklist page.

Combined together, these two files substantially reduce the amount of time-consuming data entry required to perform the process for exporting multiple tracks to individual song files with Audacity.

Walkthrough in Brief

For those who are already familiar with the process of ripping with Audacity's **Export Multiple** function, here are the steps needed to use VRH to label and tag a recording for export.

1. Record your album
2. To make it a little easier to position the labels, make the following tweaks to the recording:
    a. Delete any "lead-in" time (silence) before the start of the first track
    b. If the album has multiple sides, combine them to make one continuous recording
    c. Measure the Track Gap (silence between each track), usually 2 to 7 seconds
    d. Make the Side Gap (any silence recorded between two sides) consistent with the track gap - this makes the label placement more accurate
3. Perform any processing of the recording with Audacity that you need to clean up the recording; for example, apply Silence to the track gaps if they are noisy, and use the "Click Removal" Effect to make any scratches quieter
4. Go to Discogs.com and find the album that most closely matches the one that you recorded. If there are multiple versions of the album, choose one that has the track times listed after the name of each song or track. Then download it (just the HTML file) to a local directory.
5. Place the VinylRipperHelper python program in the same directory and run it. Select the track list HTML file from the displayed list.
6. Follow through the prompts VRH displays to get the information that it needs to perform label positioning.
   Note: *If no track list page with time values is available, VRH will offer to perform a very simple position estimation process to label the recording. See item #4 in the next section for more details.*
7. Finish the VRH process and save the label list text file and tags XML file to the storage medium. You have the option to accept the default names, or enter your own filenames. The script will add the file extensions (.txt and .xml).
8. If you haven't done so yet, open the project file for the album to be ripped in Audacity. Then load the Labels file that VRH created.
   This is done as follows:
    a. In Audacity's File menu, select **Import --> Labels…**
    b. Audacity will display the system file selector, find the Labels file that VRH created and load it.
9. At this point two things will happen: 1) the labels track will be added below the audio track for the recording. 2) Audacity will "Zoom Out" automatically to show the entire length of the labels track and recording. *See item #5 in the next section for details on how to reposition the track labels*.
10. Adjust each label's position to the beginning of the associated track, as needed.
11. Load the Tags XML template file next. To do this, select Audacity's **Edit → Metadata…** menu operation.

   a. In the Metadata Editor panel, move the cursor to the **Template → Load** button. In the file selector that appears, load the Metadata Tags XML file that VRH created.

12. Review and modify the tags as needed for the recorded album. One tweak that may help is to shorten the list of Genre values, some albums have several.

This may seem like a lot of steps, but they go much faster than the all-manual ripping process.

For a more detailed description with screen captures, read on.

Using Vinyl Ripper Helper for the First Time

If you are not completely familiar with using Audacity to “rip” a vinyl album or a tape to multiple MP3, OGG, or WAV files, this section of the guide provides greater detail and some screen captures. But first, I recommend the excellent documentation provided for Audacity users by the Audacity Team for this purpose. If you haven’t looked it over, that documentation is here: https://manual.audacityteam.org/man/sample_workflow_for_lp_digitization.html

If you find the density of the information in the above document overwhelming, there are some gentler introductions to ripping with Audacity at the following websites:

- At makeuseof.com, author Tim Brooks provides this explanation.
- At noterepeat.com, this uncredited explanation is available.
- At turntablelab.com, there’s another Beginner’s Guide.

There are many more than these if you search for “ripping vinyl with Audacity”, including several video offerings on Youtube.

1 VinylRipperHelper is a Python Program

If you aren’t familiar with the Python 3 computer language and haven’t installed it on your computer, you may need to take care of that first.

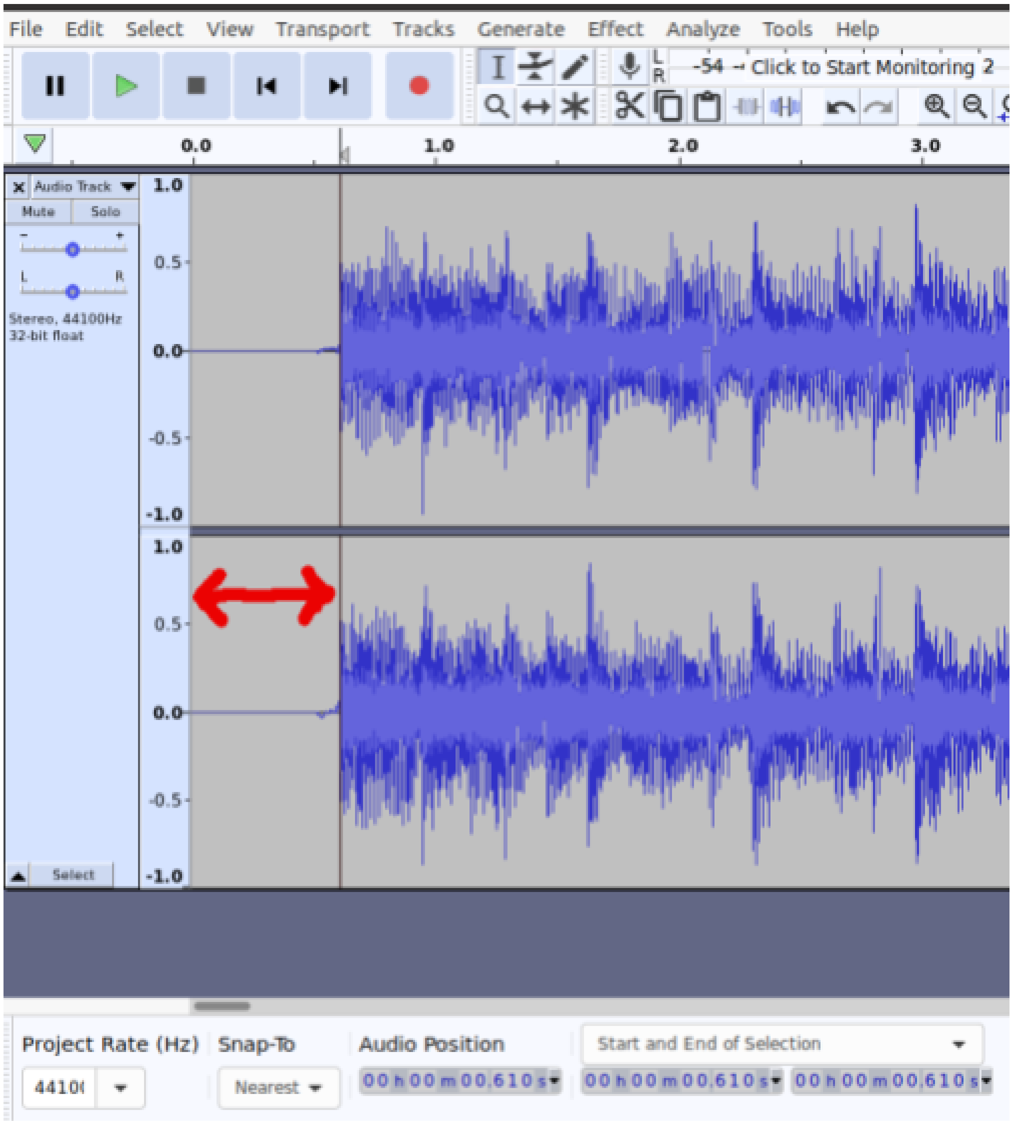
- If you’re using a recent version (or distro) of Linux, you’re already good to go.
- If you’re using Windows, check out the official documentation for running Python:
    - https://docs.python.org/3/faq/windows.html
    - There are also youtube.com videos that will guide you through setting up Python on recent Windows releases
- If you’re using a Macintosh, check out the official documentation for Python on the Mac here: https://docs.python.org/3/using/mac.html

2 Prepare Your Audacity Recording

Use Audacity to create a single complete recording of your album, including all of the sides. There is no reason to make each side a separate recording, in fact it makes the ripping process more complicated. Audacity’s **Export Multiple** feature is designed to sequence through all of the tracks and number them, in one pass.

Some tips that will help you perform the ripping process more efficiently:

1. Delete any recorded “lead-in” silence in advance of the first track by clicking and dragging to mark it, and then using Audacity’s **Edit** → **Delete** function to remove it.



Project Rate (Hz): 4410(

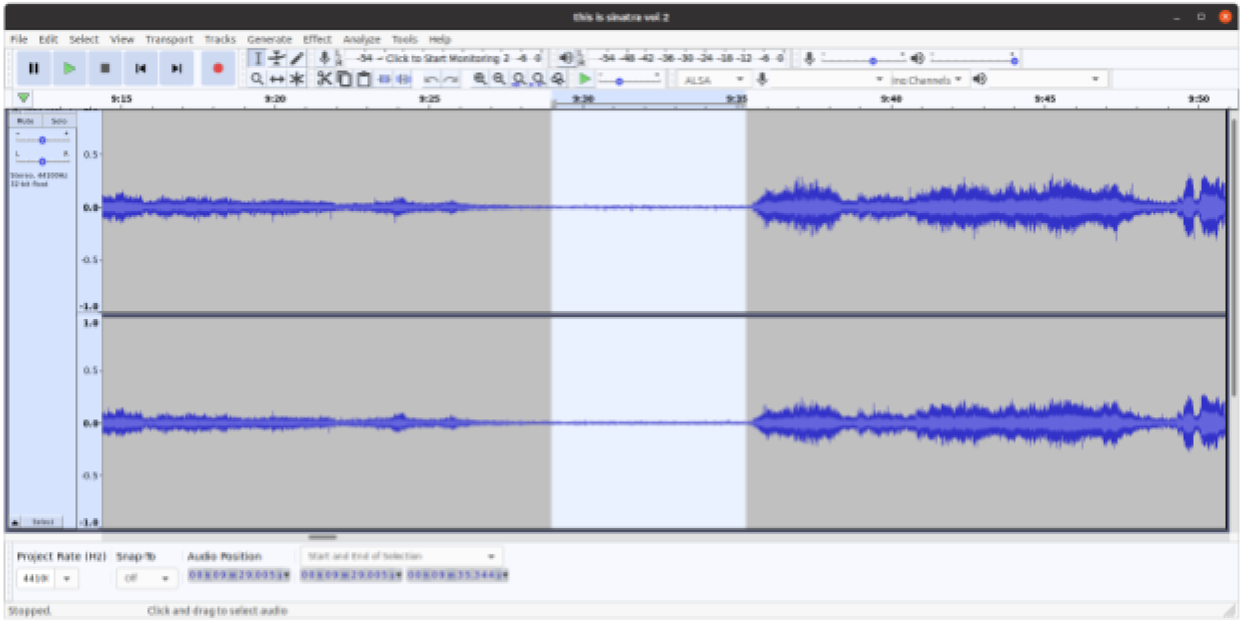
Snap-To: Nearest

Audio Position: 00 h 00 m 00.610 s

Start and End of Selection: 00 h 00 m 00.610 s — 00 h 00 m 00.610 s

The lead-in silence portion (marked in red) of a recorded vinyl LP

2. Find the silent portion of the recording between two sequential tracks (e.g. the first and the second track) and note how long it is. This is typically four seconds, but may be as short as two seconds on some albums, and eight seconds (or longer) on others.



Measuring the "track gap", or the period of silence between two sequential tracks. Note that you can click and drag to measure the number of seconds, as is shown by the light colored portion.

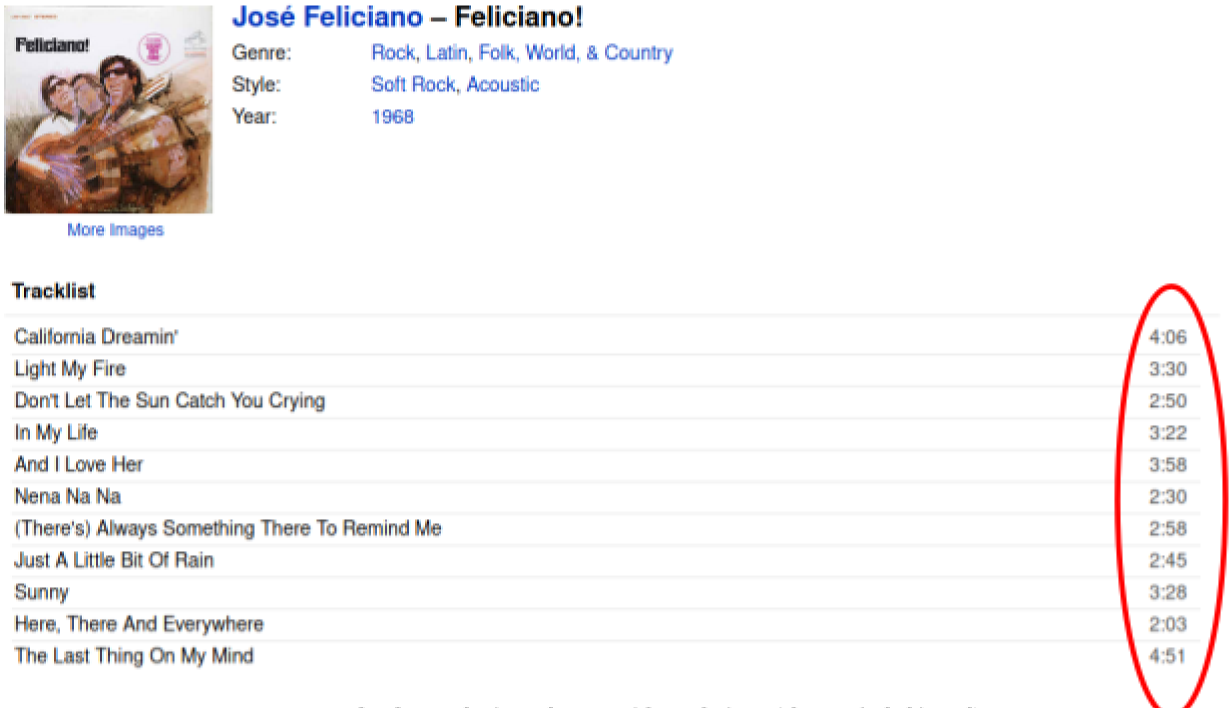
3. Find the silent portion of the recording between each side, and adjust it to be the same length. Also note how long this silence is. The **VinylRipperHelper** program will request this information, in order to position the track labels as close to the beginning of each track as possible.
4. If you plan to do any pre-export improvements to the recording with Audacity, take care of this next. Some examples:
    a. You can "silence" the gap between each track in the recording if it contains unwanted noise. Control-L is the keyboard shortcut.
    b. If the record has clicks and pops from wear and tear, you can use the **Click Removal** effect to make these less distracting.

3 Get the Track List HTML File for the Album

Use the search function on discogs.com to identify the album that you recorded. You will probably find that there are several matches, because for many albums there are versions for different countries, as well as multiple edition releases. The important thing is to make sure that the track list for the album matches the songs on your recording and have the same ordering.

When you find the correct album, examine the track list on the web page and make certain that it has the time duration of each track listed over to the right of the track title.
If it is not present, see if there's another version of the album that includes the track list.

If you are not certain what to look for, see the image examples below.



José Feliciano – Feliciano!

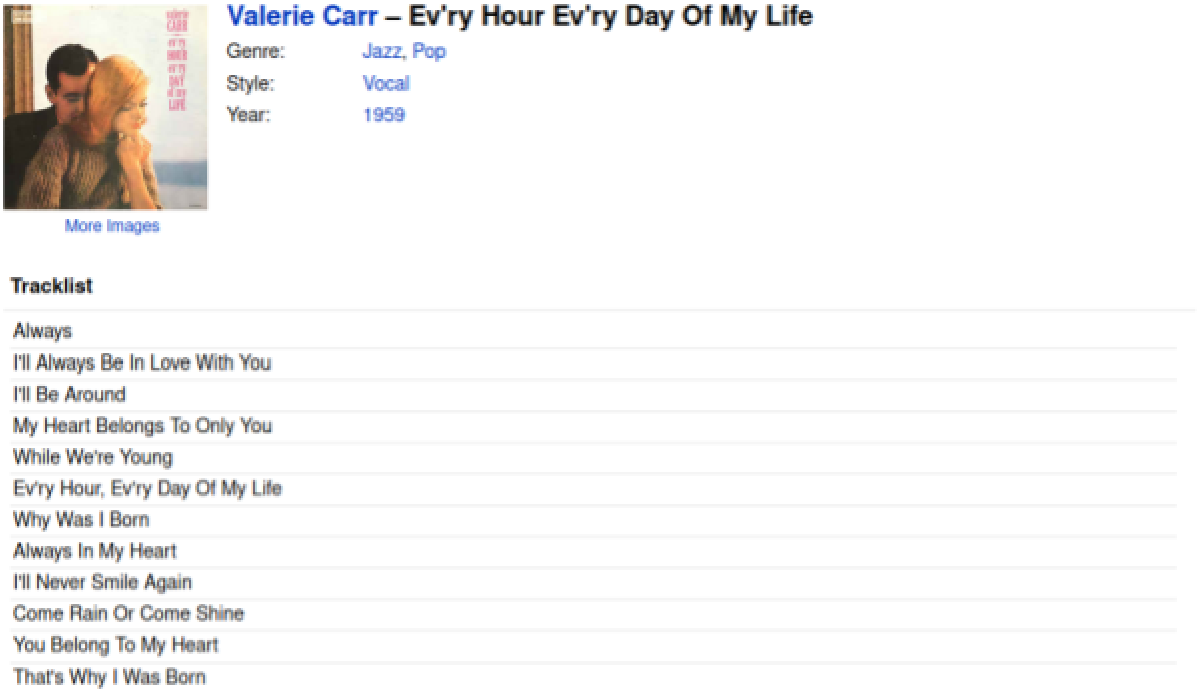
Genre:	Rock, Latin, Folk, World, & Country
Style:	Soft Rock, Acoustic
Year:	1968

More Images

Tracklist

California Dreamin'	4:06
Light My Fire	3:30
Don't Let The Sun Catch You Crying	2:50
In My Life	3:22
And I Love Her	3:58
Nena Na Na	2:30
(There's) Always Something There To Remind Me	2:58
Just A Little Bit Of Rain	2:45
Sunny	3:28
Here, There And Everywhere	2:03
The Last Thing On My Mind	4:51

Example of a Track List web page with track times (shown circled in red)



Valerie Carr – Ev'ry Hour Ev'ry Day Of My Life

Genre:	Jazz, Pop
Style:	Vocal
Year:	1959

More Images

Tracklist

Always
I'll Always Be In Love With You
I'll Be Around
My Heart Belongs To Only You
While We're Young
Ev'ry Hour, Ev'ry Day Of My Life
Why Was I Born
Always In My Heart
I'll Never Smile Again
Come Rain Or Come Shine
You Belong To My Heart
That's Why I Was Born

Example of a Track List web page without track times - try to avoid using these

When you have the right track list page, save the HTML file to a local directory (or folder) on the computer where the VinylRipperHelper program will be used.

4 Run the VinylRipperHelper script

When you start the vinylRipperHelper (VRH) script, it will display a list of all of the HTML files it finds in the directory where it was run. Enter the number of the track list HTML file for the recording to be ripped.

After the track list has been read by VRH, you will be prompted for the information described in section 4 above. The script will offer guesses for each of these questions as default values. If the guess is correct, press the Enter key instead of typing in a value.

The requested information items are

- Lead-in Time recorded
- If there are no track times listed, you will be offered the option to have the script use a simple estimation instead (see “When the List has No Track Times” below for details)
- The Track Gap time (seconds of silence between each consecutive track)

When the last of these requests has been answered, the script will build two files and save them to the local directory. These files are as shown in the following table.

File Type	Filename	Contents
Text	<album>-<artist>-labels.txt	The label list (location in seconds, track title)
XML	<album>-<artist>-tags.txt	The album tag list (artist, title, year, genre, …)

You have the option to accept the default names for both files, or enter your own filenames. The script will add the file extensions (.txt and .xml), so you don’t need to include that part.

When the List Has No Track Times

VRH will let you know if the track list HTML file has no track time values. This is not unusual for older albums, and albums that were not produced for a large audience. If you get this notification, the best solution is to check Discogs.com and see if there’s another version of the album that has the same track list with track times.

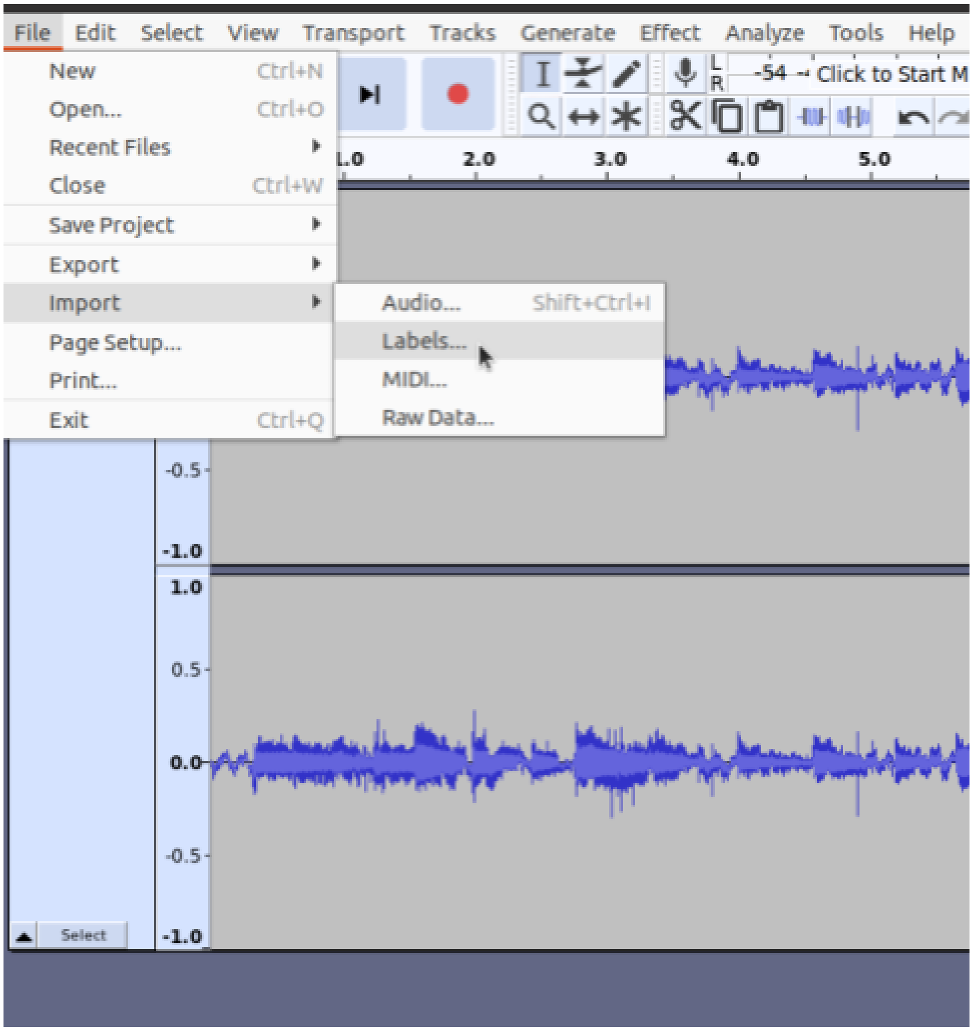
If not, you can still use VRH. It will fall back to producing a label list file with evenly spaced tracks. If you choose to proceed, it will prompt you for the total length of the recording in minutes. Then it will produce a Label File that has the tracks evenly spaced across the duration of the album.

After loading this estimated Label File, you will need to reposition each label to the beginning of the associated track in Audacity. See the next section (Section 5 below) for a detailed explanation.

5 Import the Label File

If you haven't already done so, load the project file for the recording to be ripped into Audacity. If there are any enhancements that you intend to make to the recording before exporting it, for example "Click Removal" to reduce clicks and pops, take care of those before proceeding.

Import the Label File you made with VRH into Audacity using the Import → Labels option in the File menu. This is shown in the diagram below.



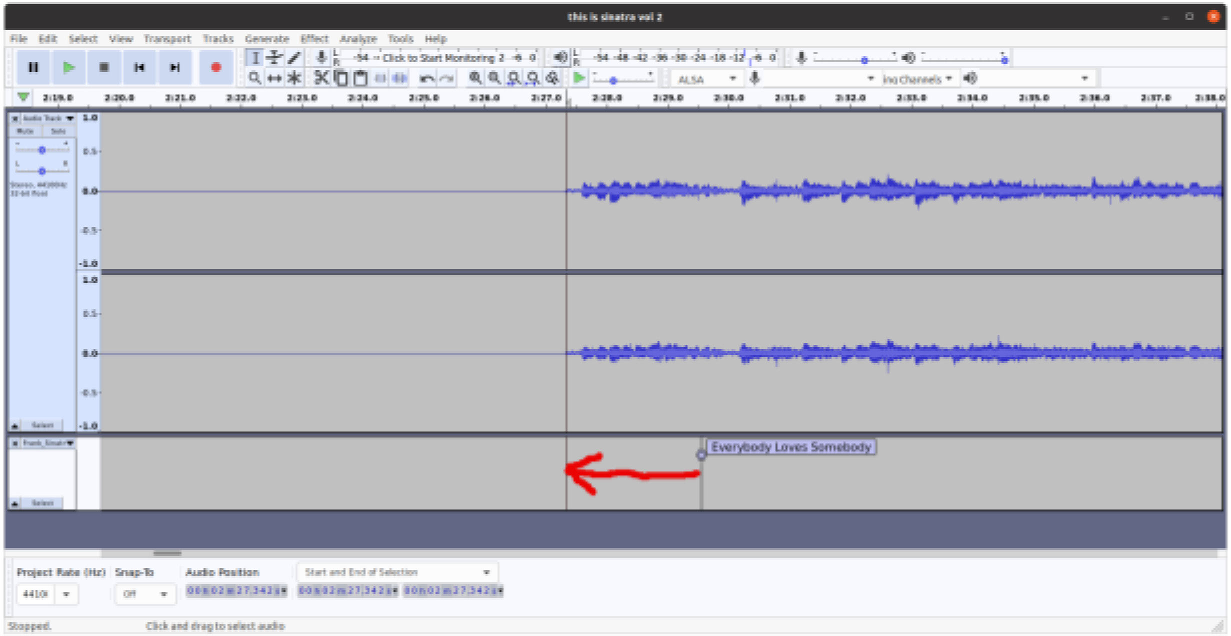
Importing the Label File in Audacity

Importing the label file will cause Audacity to "zoom out" so that the entire recording is shown with all of the labels in a new track below the audio tracks.

This makes it difficult to make sure that the label positions are correct. So at this point, you can select Audacity's **View** → **Zoom** → **Zoom Normal** option to return the recording to the default level of "stretch" (time density?)

At this point it is time to check each label to make sure that it is at the beginning of the track to which it pertains. While VRH does a pretty good job of calculating where each track starts and placing the label nearby, there is almost always some error (except for the first track). Note that you can easily move from one label to the next by clicking on the label track and using **alt-right arrow** and **alt-left arrow** to skip from one label to the next or previous.

A screen capture that shows an example is below.



Project Rate (Hz): 44100
Snap-To: Off
Audio Position: 00 h 02 m 27.342 s
Start and End of Selection: 00 h 02 m 27.342 s 00 h 02 m 27.342 s

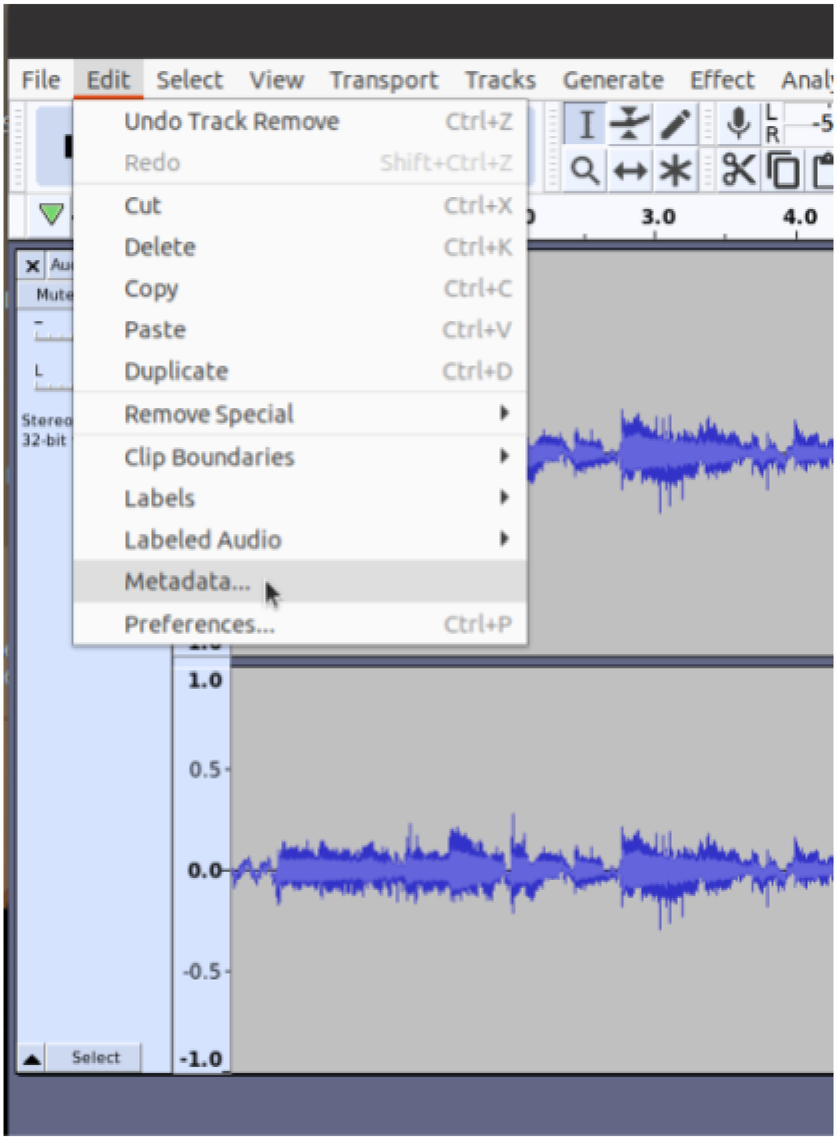
Stopped.

Click and drag to select audio

The label for the track "Everybody Loves Somebody" in this recording is about two seconds late in time. Click the center of the label icon (just below the track title), and drag it to the very beginning of the track to reposition the label correctly. This is shown by the red arrow.

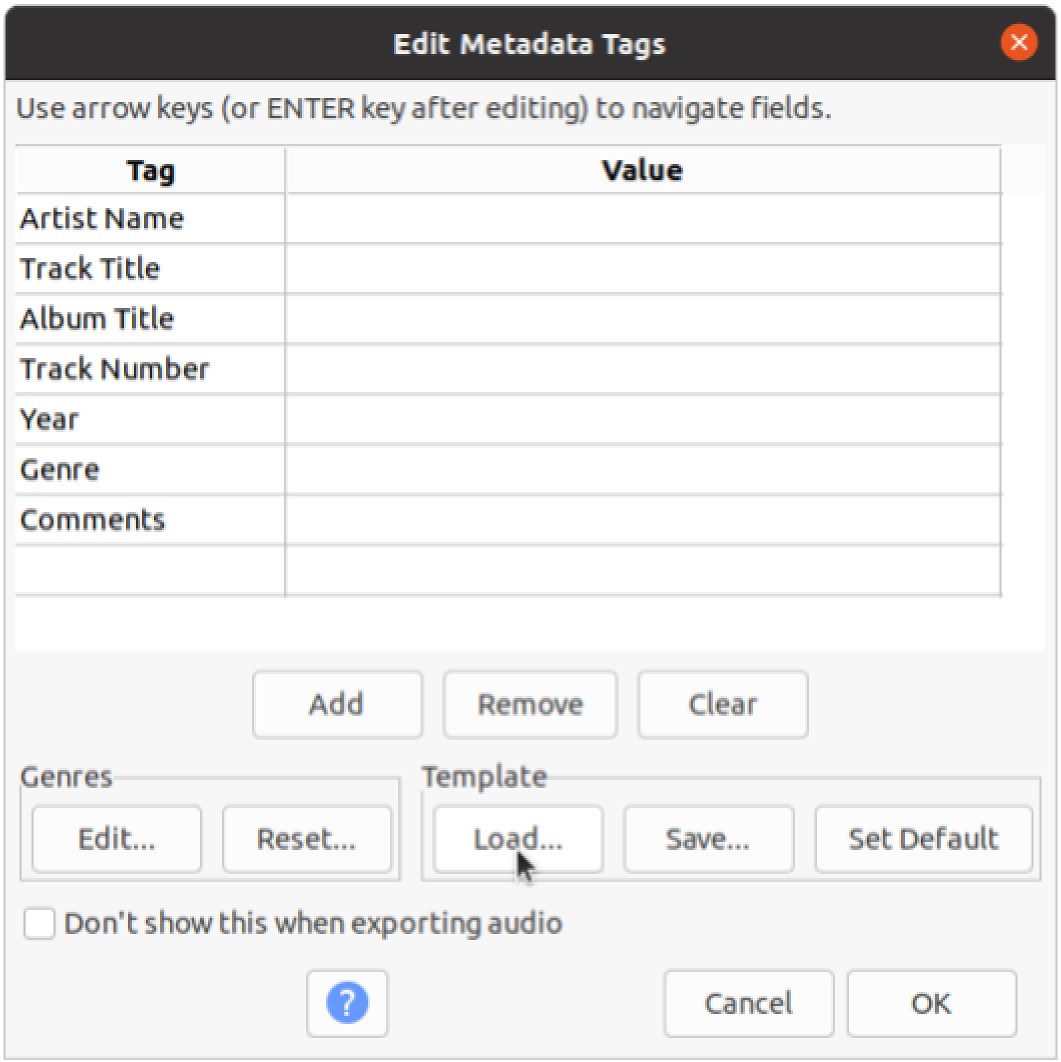
6 Import the Metadata Tags File

To load the metadata tags for Audacity's Export Multiple function, use the Edit → Metadata Editor menu option as shown in the image below.



Displaying the Metadata Tags Editor

When the metadata tags editor is displayed, select the Load... button in the Template controls box as shown.



Use arrow keys (or ENTER key after editing) to navigate fields.

Tag	Value
Artist Name	
Track Title	
Album Title	
Track Number	
Year	
Genre	
Comments	

□ Don't show this when exporting audio

The Load… button selects the tags template XML file to read.

After clicking “Load…” a file selector will be shown. Change directories to wherever the VRH script was run, and select the tags file for the album to be exported.

Make certain that the tags are correct for your recording. The only thing that I usually change is if there are several values for **Genre** listed, you can fine tune this for your musical tastes.

Last Step

The only remaining step is to proceed with the Export Multiple process. Click OK if each song looks correct in the Metadata Editor, and the task is completed.

FAQ

1. **VRH crashed when it read my track list file, who wrote this junk?**
   VRH has not been tested with every track list page on Discogs.com, just several dozen of them as of this writing.

   So far there are two known situations on track list pages that VRH can't handle. These are:

   a. Track list pages with errors in their construction. For example, one tested example had the track positions listed only as side numbers (S1, S1, S1, S1, S2, S2, S2, …) instead of the positioning that all other track list pages have (A1, A2, A3, A4, B1, B2, B3, B4, B5, …).
   b. Some complex classical recordings have nested track list sub-tables within the primary track list tables. The sub-tables break out the individual movements within each major composition. In the one instance of this nested listing that was found, there was another track list page for the same album with a single, non-nested track list table available.
      If it turns out that there are many VRH users who need to process such nested track lists, we'll reconsider supporting this type of track list page.

   There are likely to be more variations in track list pages that VRH does not support. Please add links to these pages to the bug list for this program and include details about the error condition. We will address them as time is available.

2. **Discogs.com has a REST API. Why doesn't VRH use that, instead of making me find and download their HTML track list files?**

   1) VRH started out as a script written for the needs of its author, and it was much quicker to have it parse a local, downloaded HTML file than to obtain permission and an authentication certificate from the Discogs Project. 2) There was no obvious way to design this script to be able to identify a particular album or recording accurately enough to find it on Discogs via their REST API.

   On the other hand, it would certainly improve VRH's efficiency if a way to perform its process via the API was developed.
   Finding the most suitable track list page from the several that are typically available for an album will require some effort. If someone has a good idea let me know. It seems likely that VRH would need a "Bring me another rock" type capability to fish for the most useable version of an album's track list (that also includes the track times).

3. **I have a great idea for an enhancement to VRH, who do I contact?**
   Contact the VRH maintainer through the contact link on the https://github.com/ScottCh1/vinyl-ripper-helper web page.

4. **I have code changes to implement an improvement or bug fix to VRH. Who do I contact?**
   Contact the VRH maintainer through the contact link on the https://github.com/ScottCh1/vinyl-ripper-helper web page.

5. **VRH has saved me hours of precious personal time, how can I express thanks?**
   Glad you find it useful! If you have coin to spare, please consider making a donation to the Electronic Freedom Foundation or the Free Software Foundation.