Simple Guide:
Digitizing Vinyl from a Linn DSM to a Mac with Songcorder & VinylStudio

The Problem:
You are a Mac owner and want to digitize some of your nice vinyl records in top (HiRes) quality, add the results in lossless format (FLAC or ALAC) to your (NAS-)music library and stream the ripped songs to your Linn DSM
BUT
you are afraid of spending ages with splitting tracks, manual tagging (you hate typing the names of all the songs!), adding album art etc…

The Solution:
For the price of less than a handful of vinyl records or HiRes downloads you can get the software package (Songcorder, SoX and VinylStudio) which will enable you to transfer your vinyl recordings into properly tagged lossless files VERY quickly: It shouldn't take more than 10-15 minutes for a record.

Hardware Requirements:

- Turntable (ofcourse, but it doesn't have to be a LP 12 ☺)
- (any) Linn DSM
- Mac or PC connected via Ethernet/LAN to the Linn DSM (PowerLan/Dlan might work but WLan will most likely not work!)

Software Requirements:

- **Songcorder** for Mac OS X/macOS
  Songcorder records the Songcast stream of the Linn DSM on the Mac as audio RAW file.
  Download link https://doomhammer.github.io/songcorder/
  Price: You can support Songcorder with a Paypal donation to developer DoomHammer

- **SoX (Sound eXchange)**
  Sox "the Swiss Army knife of sound processing programs" is required for converting the RAW file into WAV file format.
  Download link: http://sox.sourceforge.net/
  Price: You can support SoX with a Paypal donation

- **Linn Konfig** installed on the Mac/PC
  Download link https://www.linn.co.uk/software

- **Vinylstudio** for Mac OS X or Windows
  Download link: http://www.alpinesoft.co.uk/VinylStudio/download.aspx
  (alternatively via Apple App Store).
  Vinylstudio is a very powerful vinyl recording software, in this setup it's being used for track-splitting, click & scratch removal, semi automatic lookup of tracklisting and album art, transfer of lossless files into music library
  Price: about 30 Euro

1. Software installation and configuration

Warning/Disclaimer:
Songcorder and SoX have no GUI and do require Terminal commands for the first installation.
Be aware of this, I take no guarantee…(although it worked for me)

1.0 Linn DSM configuration within Konfig

I am using following settings:

Device->Advanced->Digital Output Mode: RAW (didn't try 88/96 and 192 yet)
Sources->Phono->Input Level (Vrms): 4
    you can try 1 or 2 but you might encounter clipping which is a killer for any digital recording.
    With 4 the recording level might be as low as 25 pct but I don't think that this is any problem as
    these will be 24 bit recordings and the loss will be no more than 2 bits ☺
Sources->Phono->Digital features: ON

1.1 Songcorder for Mac Installation

- Download Songcorder for Mac https://doomhammer.github.io/songcorder/
- Open Terminal
- Make Songcorder "executable":
  chmod +x /Users/username/whatever/songcorder
  (where /Users/username/whatever/ should be replaced by the exact path of the songcorder file

1.2 SoX for Mac Installation

- Follow this instruction: http://macappstore.org/sox/

1.3 Vinylstudio Installation

- Should be straight forward http://www.alpinesoft.co.uk/VinylStudio/download.aspx
  Any problems/issues can be posted on http://www.alpinesoft.co.uk/forum
  Developer Paul Sanders is extremely helpful

2. Recording Vinyl with Songcorder

- Run Songcorder (double click on Songcorder in Finder)
- A Terminal window should open and simply follow the instructions
  - Select Network Interface (should only be one) and select 1
  - Select Linn Device and select the number of the Linn DSM
  - After a couple of seconds the recording on the Mac will start (file audio.raw in the same directory as songcorder)
  - Start the playing the vinyl record
  - To stop the recording press q
  - Songcorder/SoX will automatically create audio.wav (96/24) from the audio.raw stream
  - Important: If you want to save the record RENAME audio.wav into a unique as songcorder will name the next recording audio.wav again…

- Once you have finished recording both sides of the vinyl you should have one (if you have one record for both sides) or two wav files.
  I prefer to have separate recordings, .e.g.

  Kurt Vile – Smoke Ring for My Halo – Side 1.wav   and
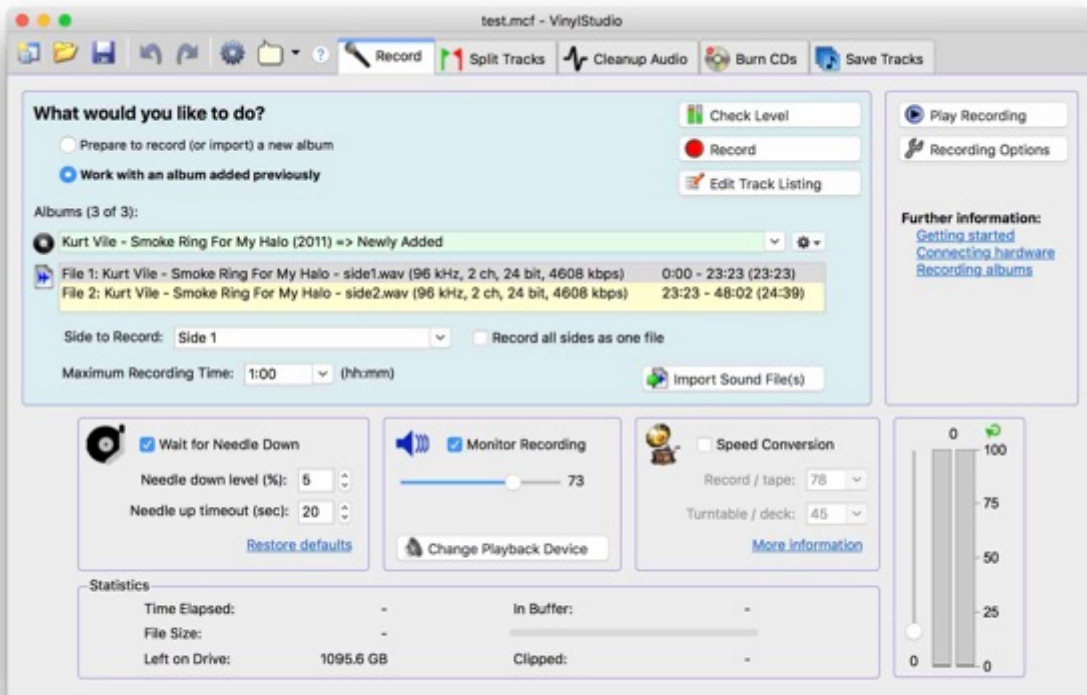 Kurt Vile – Smoke Ring for My Halo – Side 2.wav

3. Converting the WAV files into properly tagged lossless files with VinylStudio

Start Vinylstudio

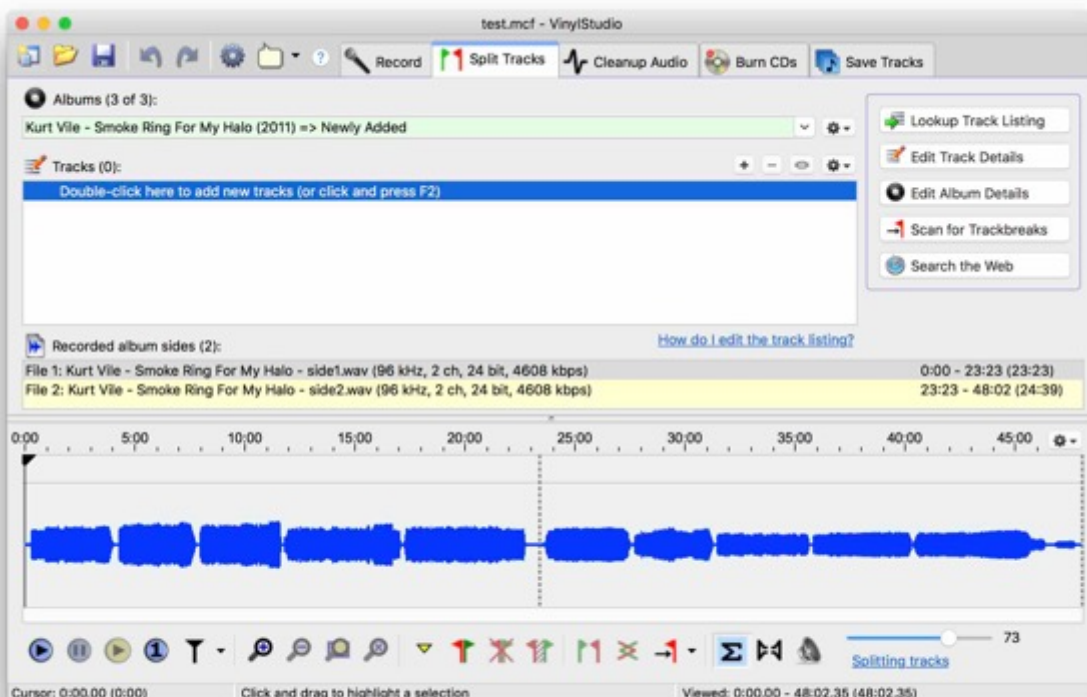Select Record-Tab, Insert Artist, Album Title, Release Year and Genre:
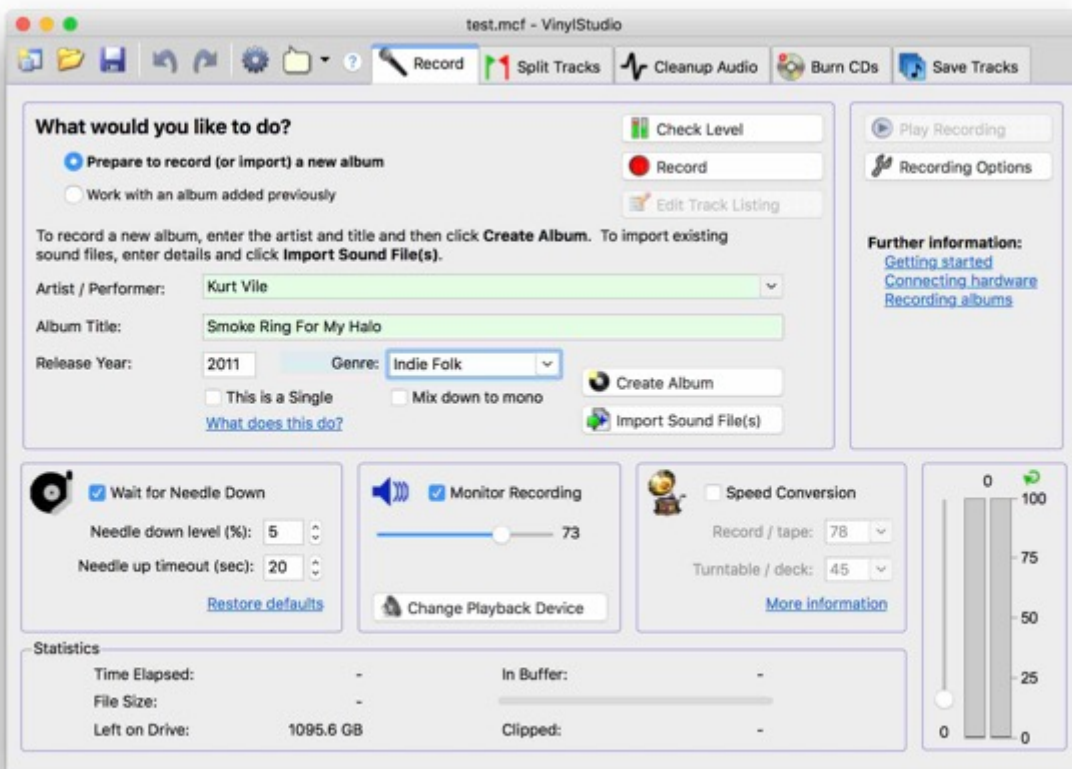
Click the Import Sound File(s) button and follow the selfexplaining dialogue to import the wav file(s) created by Songcorder/SoX:

Change to the "Split Tracks" Tab:

Vinylstudio will generate waveforms of the wav files:

Click "Lookup Track Listing" button, select the database (my preference is Discogs).
A "lookup" will usually return a couple of matching albums to choose from, Import Album Art will show the album cover, if available:
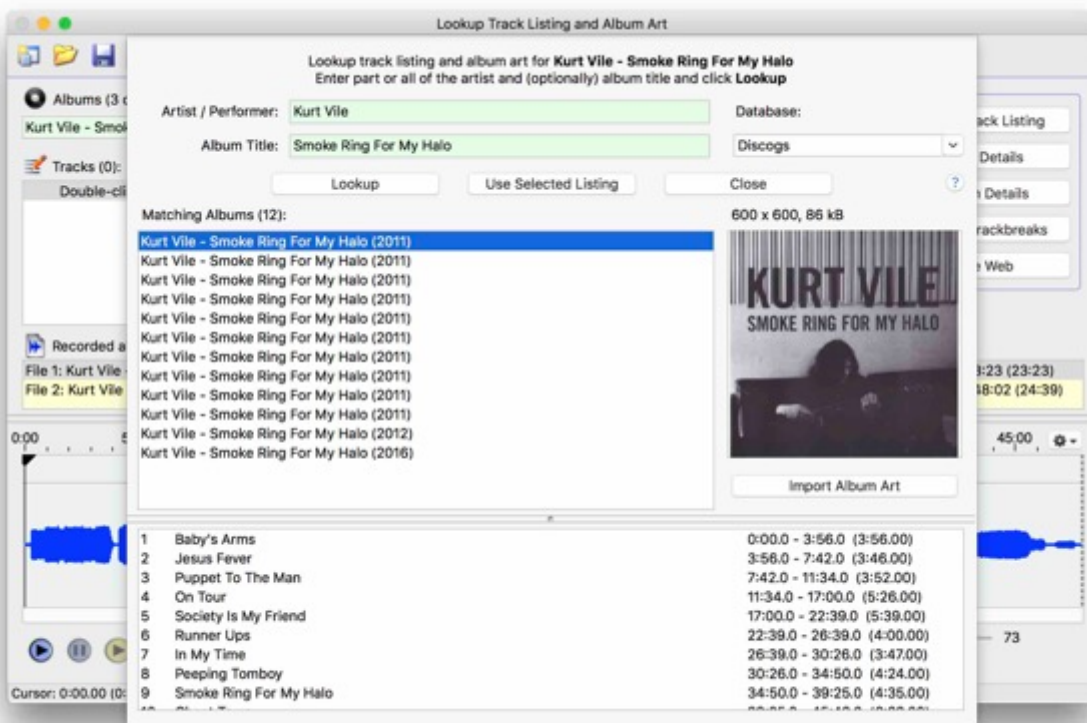
Once you are fine with the selected album and album art click "Use selected Listing" and "Close"
Vinylstudio will insert track splits (in case length of tracks was found in database):
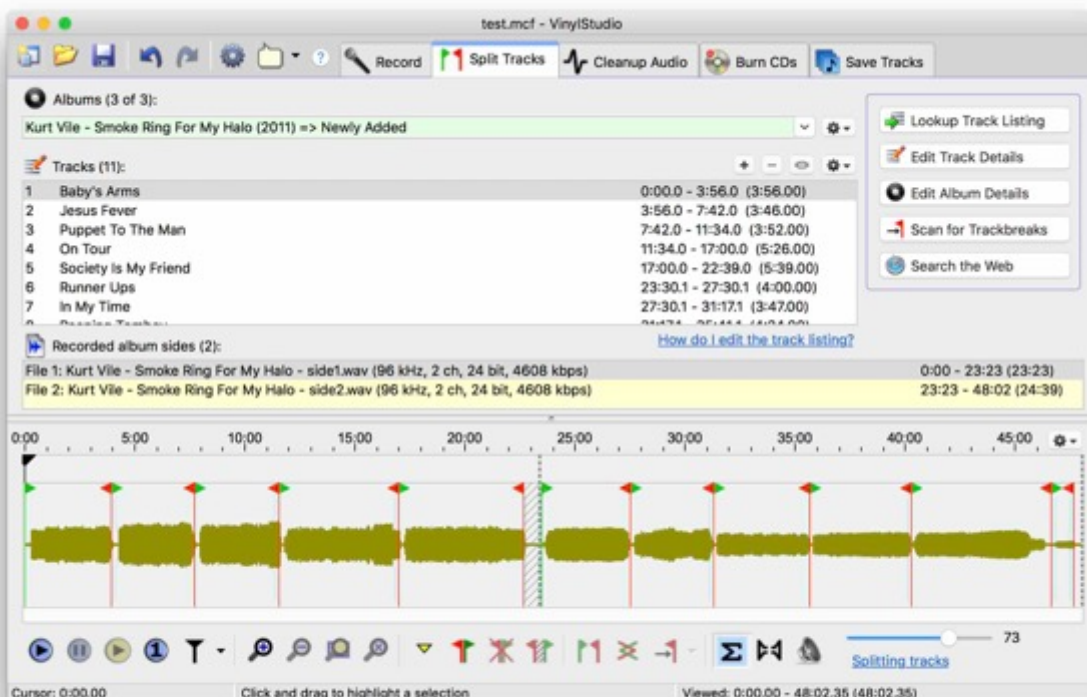
However this should be checked and corrected manually (pretty easy with a headphone and a mouse attached to the computer)
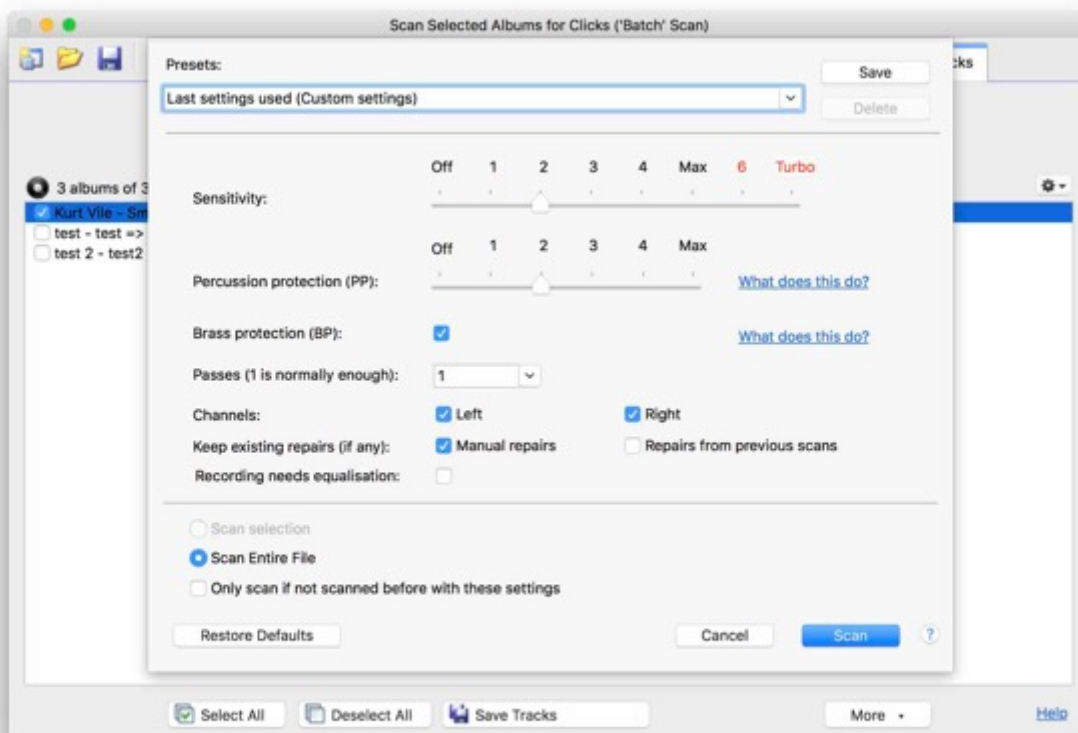Once you are happy with the track breaks / splitting select the "Save Tracks" tab:
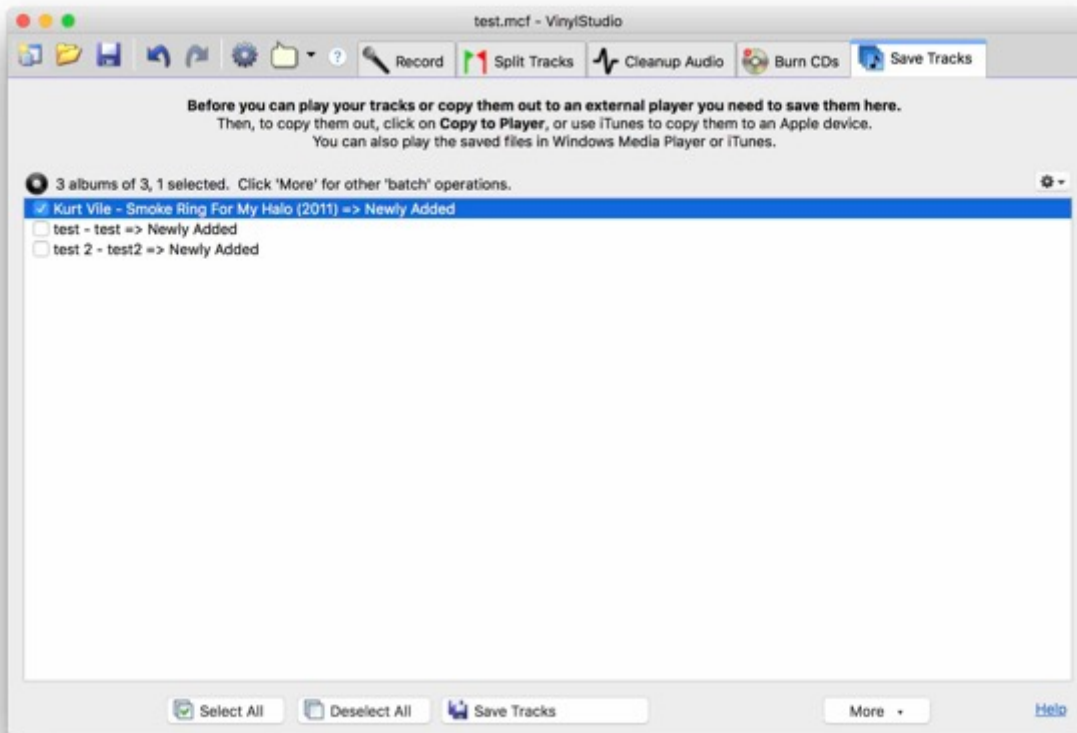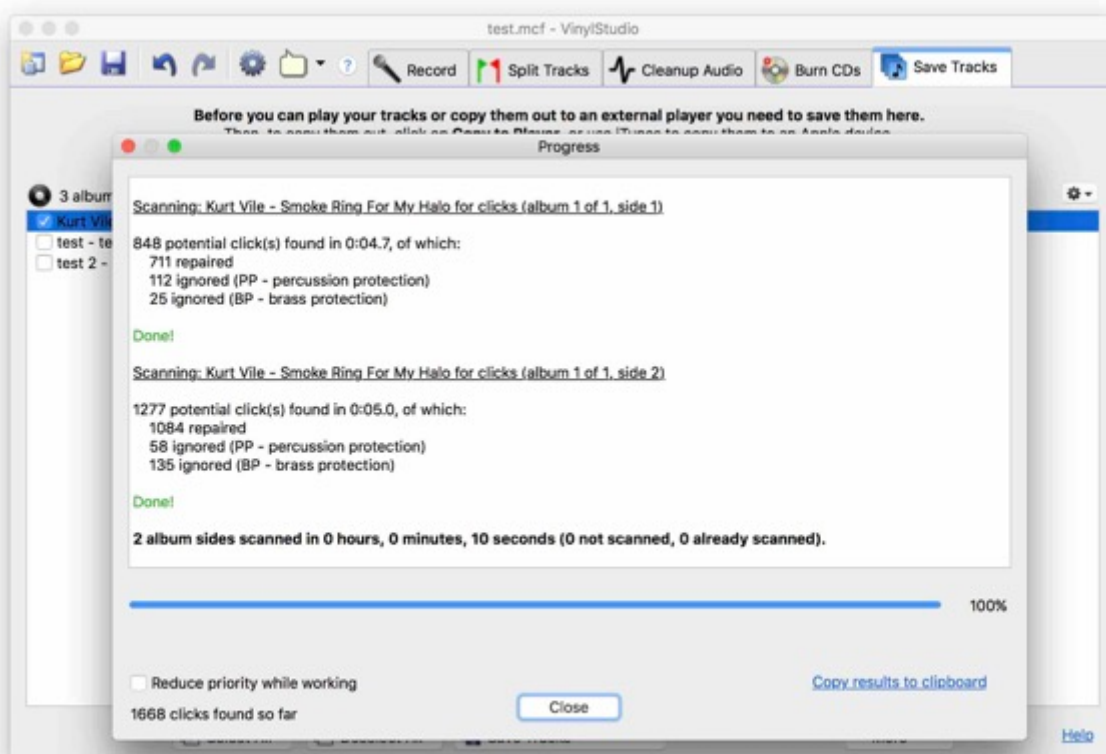
Select the Select the album
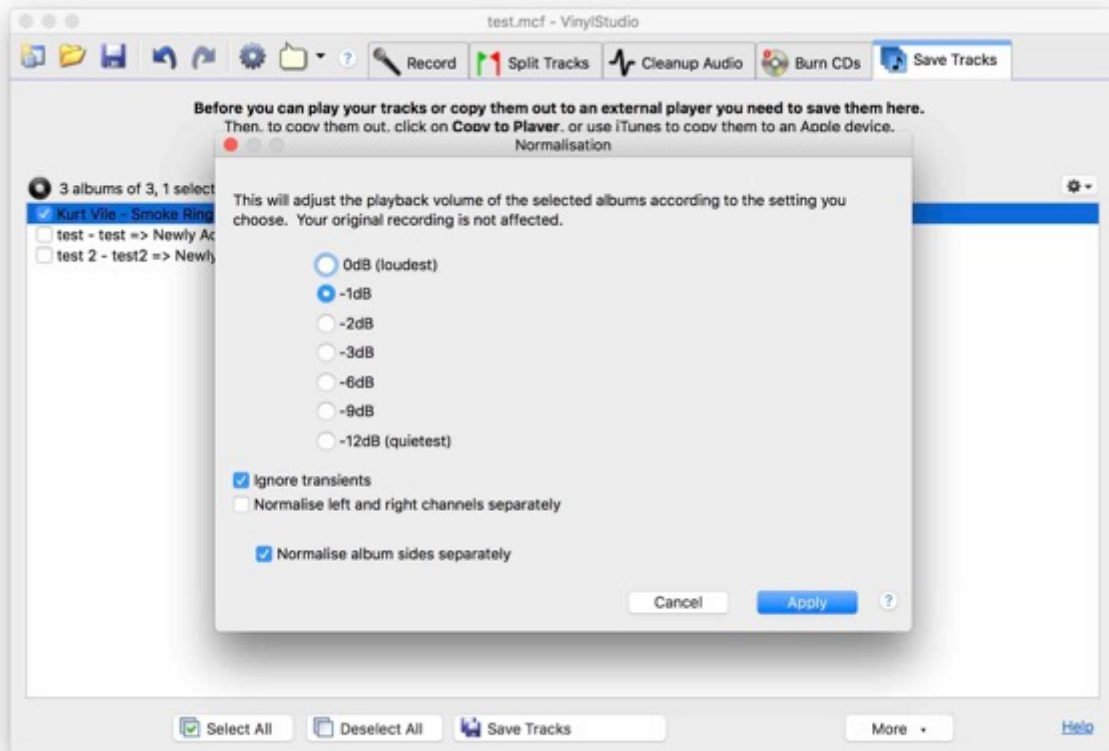Check the album and clicking "More" will give you a variety of options:
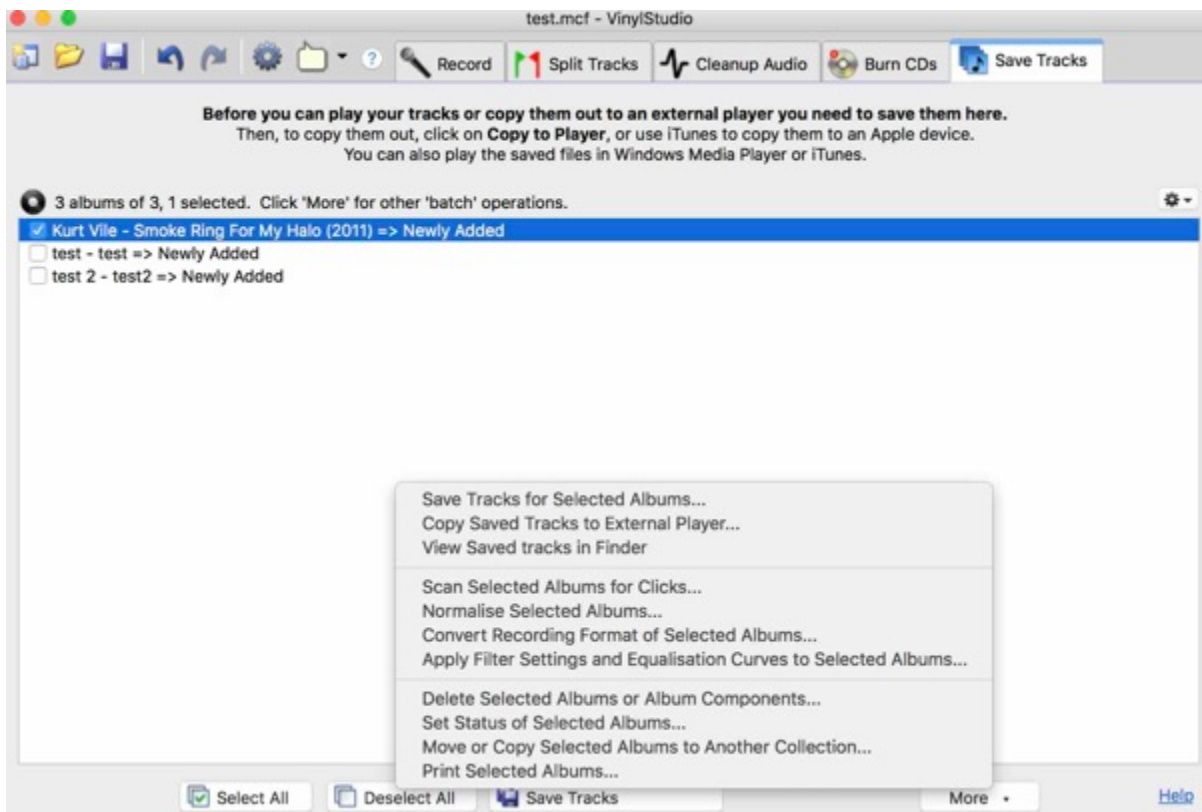
I usually scan an album for clicks (I know Linn LP12 Owners do not have any bad records so they can skip this...)

Don't be shocked by the number of possible "Clicks"...

and normalise the record: This is very helpful as the Phono settings of Konfig (see above) result in a comparatively low recording level:
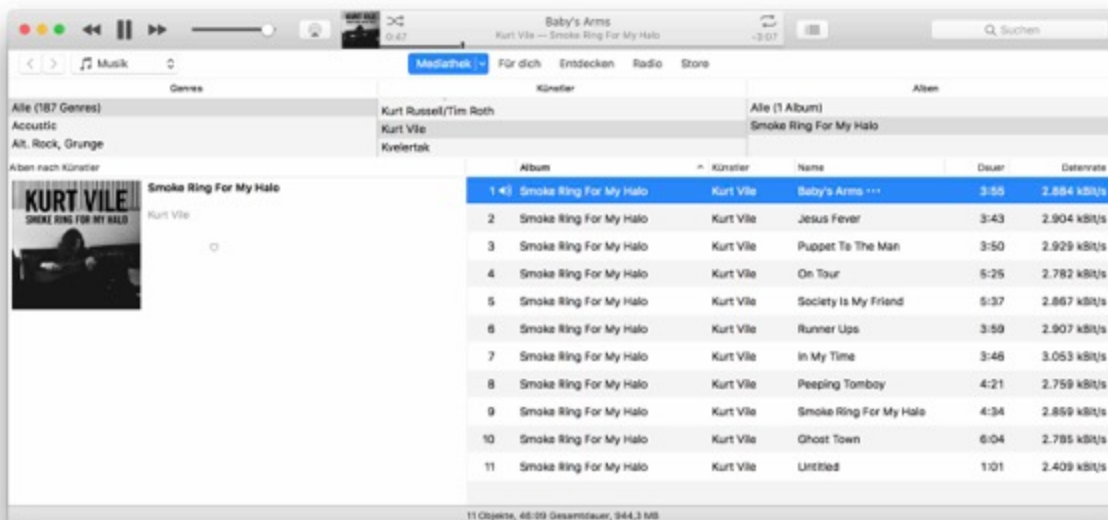
Once this is done I just add the track to my iTunes library (but this is no must, configure Vinylstuio according to your requirements). I am saving in ALAC lossless format as iTunes doesn't work with FLAC format but Vinylstudio is capable of saving files in FLAC format.
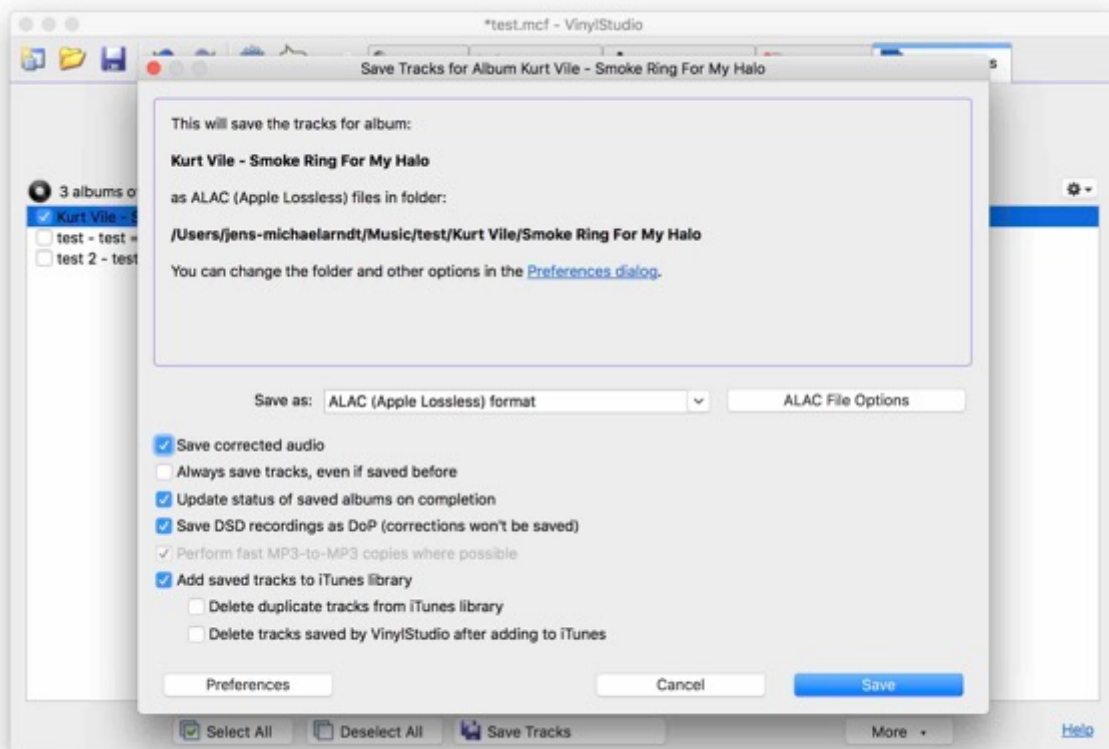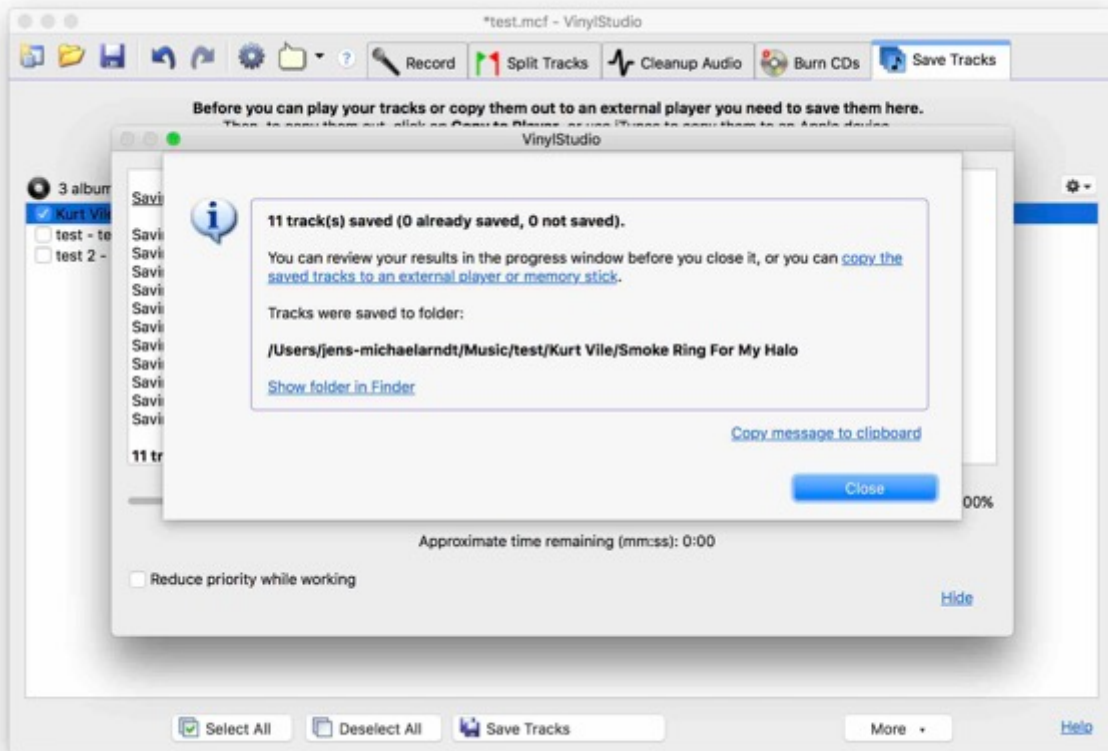
Finished!

The Vinyl Rips appear properly tagged in lossless format in my iTunes library.
Apart from manually inserting the artist, album title, year and genre all other information including song titles has been collected by VinylStudio

Have fun!

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