Songlib: processing filters

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Processing vocals

This page gives a recipe for producing a rich sounding vocal track using **songlib** and *Audacity*.

Record multiple takes

Using whatever recording software you like, record multiple takes of your vocals. One way is to use the *record* program that comes with **Songlib**. Instructions can be found near the bottom of the **Songlib** homepage. Another is Audacity.

However you record, save each take as a wave file. We will assume those takes are named:

```
take1.wav take2.wav take3.wav ...
```

Cleaning up the dead air

Often, there is a slight amount of noise in your recordings even when you are not singing. Use the *rrasilence* filter to clean up your takes. For example, to clean up *take1.wav*, you would run the command:

```
wav2rra take1.wav | rrasilence | rra2wav > clean1.wav
```

The *rrasilence* filter forces quiet sections of your vocals down to absolute zero volume. To make the filter more or less aggressive, see its options:

```
silence -h
```

Compressing your vocals

Open up Audacity and import your mastered instrument track (you will need to convert it WAV first) as an audio track. In addition, import two of your clean WAV files and save your project. Select all the tracks and the select the Compressor from the Effects menu. Run the compressor to make the loudest parts of your vocals no so loud.

Picking the best phrases

Using the Time Shift Tool (double-headed horizontal arrow on the tool bar), align the two tracks with the instrumental track.

Using the mouse, highlight the first phrase of your two vocal tracks. The keyboard combination `<Shift>-<spacebar>` will start playing the selected vocals in a loop. You should also hear your instrumentals, as well. Again,

using the mouse, mute one of the tracks; the *Mute* button is located to the left of the track. Listen to the phrase that is not muted and then mute it and unmute the other track. Listen to the newly unmuted phrase. Keep going back and forth until you decide which version you like better. Press the spacebar to stop the loop. Highlight the phrase in the track you don't like and enter `<Ctl>-L`! This will reduce the unwanted phrase to silence. If you did it correctly, the phrase you prefered will remain.

Repeat this process for every phrase in the tracks.

Once you are done, highlight a region in both tracks and enter `<Ctl>-<Shift>-M` to merge the two tracks into a new, single track. Save your project and then delete the two individual tracks.

Import your next clean take into Audacity and repeat the entire process again until you have the best phrases from all your takes.

Adjust the timings of your phrases

Play the entire song, stopping when you hear some vocals that are not quite lined up with the instrumentals. If the vocals are coming in too late, higlight a small bit of the quiet region before the phrase and enter `<Ctl>-X` to remove the section. Click on a region of quiet space immediately after the phrase and enter `<Ctl>-V` to paste in the deleted section. This procedure will move the phrase earlier in time, leaving subsequent phrases at their same positions. For phrases that come in too early, cut time after the phrase and paste the deleted portion before the phrase.

Repeat the entire process until all phrases are properly aligned.

Once you are happy with the timing, duplicate your vocal track twice with `<Ctl-D>`. The two duplicate tracks will eventually become your backing vocals.

Equalizing your vocals

Run the equalizer from the Effects menu on your vocals. See the web for the best curve for vocals.

Add backing tracks

Select one of the duplicate tracks by double-clicking and then choose *Change Pitch* on the *Effects* menu. Move the pitch up by a little bit (0.1 or 0.2 semitones). Do the same for the other track, only pitch it down (-0.1 or -0.2 semitones). At this point, the vocals should sound fuller and richer.

If the original vocals are on the sharp side, then pitch both tracks down, one more than the other. Likewise, if the original vocals are flattish, pitch both tracks up.

You can also time shift the duplicate tacks forward in time a little bit, one more than the other to add a chorus effect.

Reduce the volume of the duplicate tracks gradually until any flanging type artifacts cannot be heard.