Electric Guitar Mixing

- Setting up audio tracks
- Setting up mixer strips
- Setting up plugins
Author:
mr_glitch projekt.root@tuta.io
GitLab: Projekt:Root
Manjaro Forum: @mr_glitch
Manjaro Forum: Home Studio with RecBox

Special thanks:
Glen Fricker from Spectre Sound Studios Website | YouTube
Paweł from B L A K N O I Z Productions Facebook | YouTube
Rodney McG Website | LBRY | YouTube
Table of Contents:

- Mixing electric guitars
  - Setting up tracks
  - Mixer Strips
  - Plugins
    - Guitar A1 Plugins
    - Guitar B1 Plugins
    - Guitar A Master Plugins
    - Guitar A2 Plugins
    - Guitar B2 Plugins
    - Guitar B Master Plugins
Mixing electric guitars

The method described in the guide is slightly different from the one you can find on the web, although I don’t claim myself any discoveries or innovations. Such and similar configurations are probably used every day, it’s only method of explaining the basics. Usually tutorials are about combining audio track A with B, in this particular tutorial it is a bit more complex.

Setting up tracks

The main guitar will be mixed in the standard way (A1 + B1). The A1 track was recorded in the standard position, the microphone is placed on the edge of the speaker at a distance of two fingers from the masking grid. For track B1, the microphone was moved to the grid. This will slightly widen the range of possibilities when mixing. By recording the edge of the speaker with the “two-finger” method, we will capture more bass than the midrange and treble. After moving the microphone to the grid, the medium and high will have the advantage. There are a lot of methods for setting up the microphone and they are usually dictated by personal preferences. The described here is the standard for recording heavy guitars, although it is hard to talk about the standard when everyone uses their own solutions.

So if you have already recorded two different guitar tracks, you need to duplicate them:

- Guitar A1 - recorded track for base | microphone in regular position
- Guitar A2 - duplicate
- Guitar B1 - recorded track, supplements guitar base | microphone in second position
- Guitar B2 - duplicate
Ok, it's time to create Audio Busses which will be used as Master mixer strips for first and second guitar. Finally, signal will be routed from them to Master Bus.

```
[ Guitar – A1 ] ┌─ [ Guitar A – Master (Stereo) ] ┐
[ Guitar – B1 ] │
[ Guitar – A2 ] │
[ Guitar – B2 ]
```

Usually instruments use mono and Strict connections, but here we will use Stereo, because we will place the audio tracks in the middle and the edge of left and right channels (Panner) and Flexible connections, which will automatically set the connections between the plugins to for right and left channels. The same applies to Guitar B - Master.

For better organization and clarity of mixer strips you can now create groups for Audio Busses:
- Guitar A – Master
- Guitar B - Master

which will be connected with audio tracks.
When Audio Bus part is done we can go and set signal routing from **Guitar A1** and **B1** to our Master strip for Guitars which is **Guitar A - Master (Stereo)**.

Click on track label (Guitar A - Master Stereo) and choose **Inputs...** in menu.

In pop-up window navigate to **Ardour Tracks** and mark Right and Left Channel for **Guitar A1** and **B1**. Repeat same process for **Guitar B - Master (Stereo)**. Ok we're done here and can go to next step.

If there is only two slots here for right and left channel instead of four, get back here when you add plugins.
Now we need to connect **Guitar A** and **B Master Audio Busses** to **Master Bus**. Click on name label (Master) and choose **Inputs...** item.

In pop-up window navigate to **Ardour Busses** and mark left and right channels for **Guitar A and B - Master (Stereo)**. Ok, we’re done.

If there is only two slots here for right and left channel instead of four, get back here when you add plugins.
Mixer Strips

I think some clarification will be needed at that point. What is going on here is Guitar A is lead guitar and B is doing the rhythm job. Both guitar tracks are the same riffs but like I've mentioned upon they are recorded in different microphone positions, so we can consider it as a lazy or boring mix. However, there are some differences between how A and B are working but this will be explained in details in plugins description. Long story short, because A is in center/in front it's less dynamic than Guitar B and guitars from B are "jumping" on left and right channels, so after mix the recorded guitar is not flat even if it's the same riff.

Reducing the dynamics of the guitar in the middle has one more usage except adding the difference between the middle and the right and left channels. This adds to it a certain neutrality between kick (pumping/bumping up) and vocals, rumbling low frequencies in the middle are also not something that is nice to listen, so it is flattened in the low registers and if needed the high registers.

Proper way for rhythm guitar will be to record them separately (two tracks/microphone setups) and place them on left and right like in Guitar B.

I also need to mention that if you have good microphone for recording and amplifier plus cabinet and preamp or combo amp, GxCabinet will not be necessary. For ToneLib GFX, using extra Cabinet and probably Overdrive should be not necessary. If you already using ToneLib you probably know that it have very cool Cabinet impulses and many nicely made guitar effects.

Position of lead and rhythm guitars in Panner are fluid and depends on who is mixing songs rather than music genre. It can be done basic way, one guitar on left and second on right or rhythm guitar on right and left channels and lead on center but with small help of Automation they can be swapped in specific part of song, so final shape depends on your creativity.

Before you start. Adding all plugins at once with the same setups from tutorial will only create huge mess. Proper way it should be done is building/shaping sound from ground to top. Plugin after plugin. At first do A1 guitar, then B1. When they are set use faders to blend them, when you'll be satisfied with result go to Audio Bus (Guitar A - Master) and setup plugins like in A1 and B1 (plugin after plugin). If after setting up you will be
not happy how they blended or sound, make needed changes. Fader in Audio Bus will be used only to set created guitar in mix.

Guitar A1 Plugins

  **Calf Gate** - While A track is our base, we will use gate only for noise reduction and if you feel that you need more Attack or Release, don't mind I didn't change them.

  **GxCabinet** - Using Cabinet plugins is like a double-edged sword, it can help you a lot or mess up the whole effect, so I suggest using them carefully and check out every type of cabinet available in plugin and choose that one, which work best.

For Guitar A, I've chosen to use 1x15 because it's making recorded guitar track sound more replete and it doesn't change guitar sound much.
Calf Equalizer 12 - This is final touch before signal goes to Audio Bus, so take your time and shape sound as good as it can be at this stage. It will save you problems later in Guitar A – Master. What we need to do here is to remove (it's actually making their volume level lower) all annoying frequencies. Mandatory in probably all guitar setups is 4000 Hz, for the rest of them you need to look somewhere around 1100 Hz and 2400 Hz. Equalizer setup is not universal, so you need to set what is working for you best. Also don't bother now about Low and Mid frequencies we will work on them later in Guitar A – Master.
Guitar B1 Plugins

Calf Gate - In B1 gate is set a bit higher, but it's not caused by noise from Humbuckers. I've set it that way to have difference between A1 and B1 on first hit note which solves a bit of issues with too loud opening chords etc and make B1 behave a little different. B1 role is filling sound in A1 so it's actually don't need to sound good solo, this relates as well to Cabinet and EQ.

GxCabinet - Like in A1 GxCabinet have the same purpose here.

I've changed from 1x15 to 4x10 to add some sparkles to A1 guitar which in consequences make sound of lead guitar wider, greater. In some cases rhythm guitar sound can be build from one audio track, but when it goes to lead guitar, we need to create walking perfection. Sound need to be clear, notes easy to recognize for ear and don't torture while listening (especially when it's...
moved to center). Part about tortures is very important because the last thing we want to do is to create guitar which sound like a squeezed squirrel.

**Calf Equalizer 12** - As you see, equalizer setup here touches more frequencies than in A1, it's because I don't want them to be on the same volume level.
Calf Equalizer 12 - Ok, we are finally in Audio Bus strip. Before I'll go further I need to mention that if you have separate tracks for Intro, Outro, Solo or something else you can use Audio Bus for them as well, just route signal from them here. It will save PC power (setting up one more plugins set) and a bit of time for setting up separate Audio Busses.

Don't know how it is in other genres but in Metal music, cutting low frequencies seems to be a standard. Probably because of palm muting and leaving space for bass guitar. If you mainly use open chords you can try to set Low pass a bit lower but you need to check if this doesn't trash subwoofer or speakers when you turn music loud or making kick, toms or floor to sound unclear. Rest of Band setups are “annoying frequencies”. This will be depended on how you have set up your guitar, effects and amp but for sure you need to pay attention on frequencies between 4000 Hz and 6000 Hz. Screenshot is just example so you don't need to mimic it.
MDA Overdrive - You don't need to use the same overdrive plugin, just put here overdrive plugin you like to use. Overdrive is here to make guitar sound smoother and will be very useful if you use amp with TransTube emulation etc.

Calf Equalizer 12 - I've added one more EQ as a kinda workaround for SlickEQ (there is no Linux install, I'd didn't check if it's work via Carla) plugin.

SlickEQ have own character but it's not the case here. For me it was like inspiration to bend sound and see what happens. And it worked. The idea is to use sinusoidal shapes but without shaping them to spikes. In example showed in screenshot I've bumped up mid frequencies and turned down high frequencies for better present of mid tones in mix. I didn't do anything with low frequencies but you can try.

You can also try to do something like SlickEQ and add some distortion or preamplifier before the equalizer to give it "character". I haven't tried it myself yet, but I'll certainly explore it in the future and write something about it here.
Calf Multiband Compressor - Because Guitar A is in center I’ve decided to squash low frequencies, so volume level peak will be in fixed position and do a bit compression for high frequencies so peak is slightly above knee. In Multiband compressor it looks like low and high frequencies are over compressed, but they aren't. For recording purposes I don’t set high band on the amp too much, it’s present but Mid and Low bands dominates the setup where Low are pretty much for playing comfort. As you remember there is Lowpass filter in first equalizer which is set to remove low frequencies (turning down by an octave) from guitar track.
**Sub Band** - Not much to do here, I've only changed Threshold to have volume peak a bit above knee.

**Low Band** - Threshold here have the same purpose as in Sub Band. From other changes I've added more Attack and a bit changed Release.
**Mid Band** - Threshold setup like the others and more attack, everything else in default positions.

**High Band** - High Band probably can even be bypassed (in my case) because I don’t made any changes than Threshold.
Guitar A2 Plugins

**Calf Gate** - Gate settings in A2 are a bit different from A1 because it's on left channel and it can be a bit rough even if there will be a bit of noise from speaker.

![Calf Gate Interface](image1)

It can be right channel as well. The thing is that on left and right channels (100%) sound spectrum will not be audible as good as in center or near to center. So a bit of rough edges can benefit for end result plus there will be a little difference between guitars on right and left channels while hitting notes.

**GxCabinet** - This is interesting kinda workaround, purpose why Marshall amp style is chosen here is not because I like it or use it while recording. It's because it adds “color” to guitar sound and make it sound greater or wider even it's placed on one channel (left).

![GxCabinet Interface](image2)

It doesn't mean Marshall will work with every rig setup (guitar, effects, pre-amp, amp), it's beneficial for this particular track. So don't feel obligated to use this one, in your case other one can work better. For B2 I have other cab style but you will see.
So procedure for that particular mixing setup is: everything what is in center or near will go with 4x10, 1x15 etc. and right and left channels will use Marshal, AC30 cabinets etc. But it's not mandatory it's only idea.

Calf Equalizer 12 - Like in Guitar A, the same principles applies here. This is duplicated track from A1 but it doesn't need to have exact the same equalizer settings. Actually it can be worth to change them a bit.
**Guitar B2 Plugins**

**Calf Gate** - Settings are exactly the same as in B1, I've decided to not change them because it's working good for that track and it adds difference to played riffs between A2 and B2 (left and right channels). In my case gate don't need to be set that high, it's only to change how guitars behave when hitting notes when there are pauses. When guitar is playing continuously volume level peak is above the knee, so there is no effect like sound come from nowhere. It's my personal preference in this case, so you don't need to do the same thing as me.

**GxCabinet** - Plugin here have the same use as in A2 guitar track. I've chosen AC30 because it's work well with guitar recorded with microphone set near speaker. To be more precise, few millimeters from protective mesh (second position of choice I use is two fingers between microphone and protective mesh).
Calf Equalizer 12 - In opposite to A2 I've tuned a bit equalizer settings for B2, it's rather cosmetic because it's a few decibels less on 500Hz but still.
Guitar B Master Plugins

**Calf Equalizer 12** - Purpose of EQ is the same as in Guitar A and setup is a bit tuned for track A2 and B2 which they mixed together but set on different Panner positions.

This method is less precise, because there are the same settings for EQs, Overdrive and Multiband Compressor but because they are placed on right and left channels they can be a bit rough. Of course this not need to be something bad, it can actually add some special sauce to it.

**MDA Overdrive** - On screenshot overdrive have the same settings as in Guitar A, but Muffle can be reduced if you need less rounded/smooth guitar tones.
Calf Equalizer 12 - Second EQ also have cosmetic changes. As you see Mid frequencies are pretty much untouched. Low and High bands are set a bit lower because of its sounds better.

This is only my assumption but what I've learned is Low and High frequencies of guitars especially when they distorted can be annoying on left and right channels. If they in center or set as stereo they will sound good but in combination with Bass guitar and Cymbals on right or left channel all magic can disappear.

Usually Bass guitar plays in mix on Low and High frequencies so if we add electric guitar some frequencies will be bumped up by Bass guitar (High and Low) and to this cocktail we need to add Cymbals (majorly Crash or China, depends on kit) which plays on High frequencies as well. So in result we have Low frequencies bumped once and High frequencies bumped twice.

This will be huge simplification but it will explain a bit how it works:

Let's say we remove from electric guitar everything except 100 Hz frequency, and we do the same with bass guitar. Let's assume they on the same volume level. Now on electric guitar we change volume level down by 4 decibels and on bass guitar two decibels down, so in result our 100 Hz frequency is dropped by two decibels. Which means that there is no such thing like 100 Hz frequency for electric guitar and bass guitar, which playing in parallel. That is why every instrument has its own place in the mix, and we need to balance them. Otherwise, we will bump particular frequencies by different instruments and in result they will be less audible.

Also:

If you hear that somebody say “cut X frequencies” it means theirs volume level will be dropped by X decibels. That frequency will not be removed from the sound spectrum.
Calf Multiband Compressor - For B I've decided to compress all bands to similar level, Mid is a bit lower and Sub and Low bands are a bit louder, so in result both guitars are pretty flat, and peak volume level don’t jumping much (A2 and B2 mixer strips).

Like I mentioned before, while I was recording these tracks I didn’t use high bands too much on the amp, so there is nothing weird going on here.
**Sub Band** - Nothing unusual can be found here and all bands are in default position except Attack which is set to be weaker and Threshold which is set with the same purpose as in Guitar A. You can leave Attack Band in default position it is experiment from my side.

**Low Band** - Threshold here is set to be on similar level like in Sub Band and I've changed a bit Release Band but it actually can be left with default in my case.
**Mid Band** - Threshold is set to be on similar level as Sub and Low bands and I've set more Attack for Mid like in Guitar A.

**High Band** - If your guitar setup uses high bands then stick with similar level as in Low Band. Mid frequencies should dominate here.