

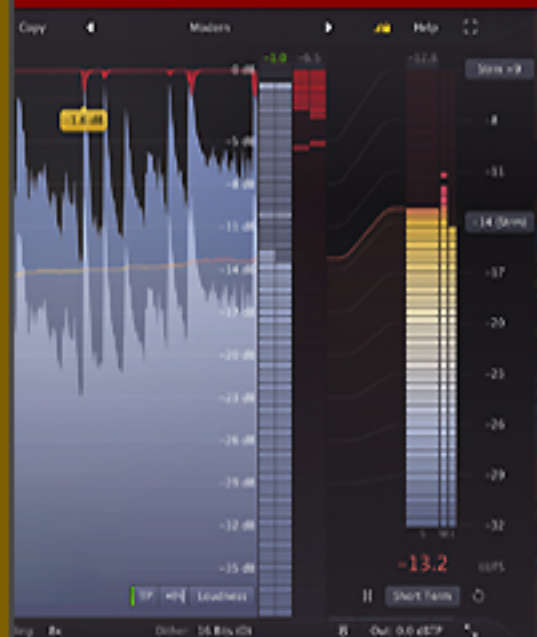
Composing Recording Mixing and Mastering



REC



MIX



MASTER

AT ONCE

All at once: Composing Recording Mixing and Mastering at 96k - DAW Setup 2022

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Introduction

So, for the last 4 Month I tested a new setup to Compose, Record, Mix and Master. All done in one Session, to increase the workflow, to be more creative and to focus on the sound and the final track.

This text only contains the possibilities (and downfalls) by connecting 3 PCs via AudioGridder (AG).

It does not explain how to Mix or Master. You will need a basic understanding of these things already, or study other documents before.

Overview of the 3 computers (Green, Yellow and Red)

Basically, the whole setup is made with 3 PCs, connected via AG over Ethernet Cables:



1) The first one (I coloured it Green ;-)) is the main DAW to Compose and to Record.



2) The second PC (Yellow) is the dedicated Mixing PC.



3) The third (Red) Mastering PC does Mastering things only.

All Computers are connected with the software AudioGridder, via ethernet cable (for stable and fast data transfer rates). The connections via AG from the first green PC to the others also will be coloured (yellow and red) to find the routing way easily. You just need to Install the AG plugin on your first main PC (green) and the AG Server Software on the other PCs (here: Mixing-Yellow PC and Mastering-Red PC)

AG just sends the incoming audio to the dedicated computer and receives it. Done only with one AG plugin on the dedicated channel (green PC). See picture below.

The 3 PC-Setups overview

The Green PC is setup like this:

Each Instrument (with Virtual- and/or Hardware Synth inputs) goes to its own Channel.

The Channel always has AudioGridder on, to make the connection to the second Yellow-Mixing PC (later, more to this...)

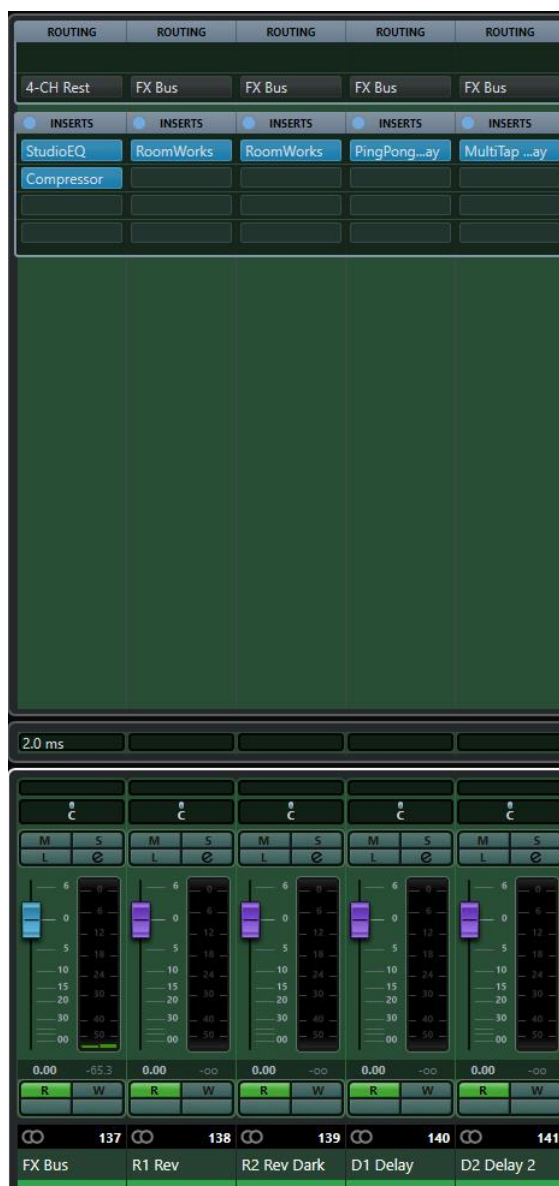
Then each Channel goes to its own Bus. So, I can do fader rides and individual sends for FX like Reverbs, Delays and so on. Later more.



Here, you can see the console from the first green recording PC. The CH in the middle (yellow) shows, that AG Plugin is loaded on this CH. Means, that this CH is sending all incoming audio to the second yellow mixing PC. Also, it receives the audio back from this second mixing PC. All done with this one AG Plugin.

The FX Bus is made of 15 different Delays, Reverbs etc. that all go to the FX Bus.

The FX Bus has an EQ and Channel strip Plugin.



The Yellow Mixing PC is setup like this:

Only AudioGridder Server and the needed mixing Plugins are installed here.

You need this to make the connection possible from the first green PC to this yellow Mixing PC.

That's it for the yellow Mixing PC.

The Red Mastering PC is setup like this:

Only AudioGridder Server and the needed mastering Plugins are installed here.

You need this to make the connection possible from the first green PC to this red Mastering PC.

That's it for the red Mastering PC.

The (green) main DAW PC in detail

The green PC in detail -

Internal Routing (blue arrows):

Instrument → CH (AG) → Bus →4 CH Bus (AG) → Masterbus (AG) → Stereo Out
→ Sends to FX → FX Bus → 4 CH Bus (AG) → Masterbus (AG) → Stereo Out



AG CH-Setup (Processed on the Yellow-Mixing PC)

AG with basic CH-Preset: EQ, CH Strip Plugin, Comp, Saturation, EQ. It's up to your choice...



AG 4-CH Bus Setup (Processed on the Red-Mastering PC):

Divided into 2 x 2 CHs. So basically 2 x Stereo CHs. One Stereo Channel for the Lows (BD, Bass) and the Second CH is for everything else (Synth, FX etc).:



4-CH Lows: AG, with Comp and Limiter

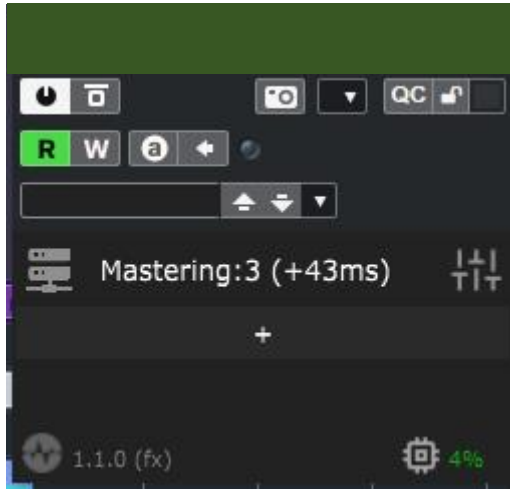
4 CH-Rest: AG with Comp and Limiter

This 4-CH Bus basically is for gluing the BD and Bass together. And the Limiter is there to make the whole Song louder.

The 4-CH Bus could be easily skipped, if these things are not necessary for the song.

AG Plugin Setup (Processed on the Red-Masterbus):

AG with basic Mastering Preset: EQ 1, Comp 1, Comp 2, Saturation (light, soft) for glue, EQ 2, Inflator (to make louder), clipper and/or Limiter. Whatever you like on the Masterbus.



Conclusions

The Good Things are:

Every song can be done at 64Bit Floating Point with 96000 Hz. That's a nice quality upgrade and sounds nice.

Due to Ethernet connection to the yellow Mixing and the red Mastering PC, the Audio signal stays digital. So, no conversion is needed and the Audio Quality stays at the same HQ 64 Bit FP at 96000 Hz. Cheap and quality consistency at the same time.

A much faster workflow is possible, especially while mixing and doing EQ and Comp corrections, because everything is always loaded (AG presets) and ready to go.

Greater focus on the sound, and no surprises (after mixing and mastering), because everything happens at once, in one session, for all the time.

After many hours in a session, it's still easy and possible to go back to the first things like composition, instruments EQ corrections etc., if necessary, because nothing has to be bounced to save CPU Power.

Even at 64 Bit FP and 96k, it's still possible to run the plugins in Oversampling Mode, to get even higher quality out of each Plugin. I am doing it all the time. In fact, all Plugins are running at 4x OS minimum. It's saved in the AG presets.

AG handles and spreads CPU power nicely above all cores. Really good multicore usage here.

The Downfalls are:

AG is causing a slight delay (around 43 ms) to the audio signal. But most DAWs do handle this difference automatically today. The delay is not gone, but you almost can't feel it anymore. Especially when you do mixing and mastering tasks, it's totally fine.

Sometimes AG crashes, but with each update it is getting more stable and reliable.

Notes

For the Green-Main DAW and the Yellow-Mixing Pc I recommend CPUs with many cores, cause multicore is major for these tasks. Especially AG handles these multicore tasks really really good. I am using the AMD 5950x CPUs.

The Connection from the green to the yellow PC has to be really good. Like 2.5 GB or higher bandwidth. Cause every single CH gets streamed to the yellow PC and this causes a pretty high bandwidth. E.g., for 20 CHs around 250 MBit/s.

The Connection to the Red-Mastering PC causes around 75 MBit/s, so 1 GB should be enough.

Each Ethernet Connection should be really stable and fast to prevent audio dropouts. So good network hardware for all 3 PCs is needed. Also, good cables to connect the PCs, are needed. Cat 6 Cables of good quality should be fine.

For the red PC you need a CPU with high clocking. 5GHz should be minimum. Cause the AG-Mastering Preset consist of many Plugins in series and this causes less multicore usage and higher single core requirements. I am running (my old) i9 overclocked CPU at 5 GHz.

AG can be setup to stream the screen from the yellow and red PC to the main green pc monitor.

If you don't want to use this function you will need 2 more monitors and keyboards and mice for the 2 PCs yellow and red.

I'm working like this, because the workflow is nicely divided with these monitors into mixing and mastering section.

That's it for this setup.

By the way: Things are changing fast in the digital world and new possibilities will be released soon. The new thing to spread audio computer calculations might be GPU Audio. Here they send the tasks to your graphic card.

For more details and some pictures of the 3 Rec, Mix ,Master PC-Setup, see PDF document here:

<https://redkeygalaxy.com/>

Greetings,

J.

AudioGridder: [Link](#)

<https://audiogridder.com/>