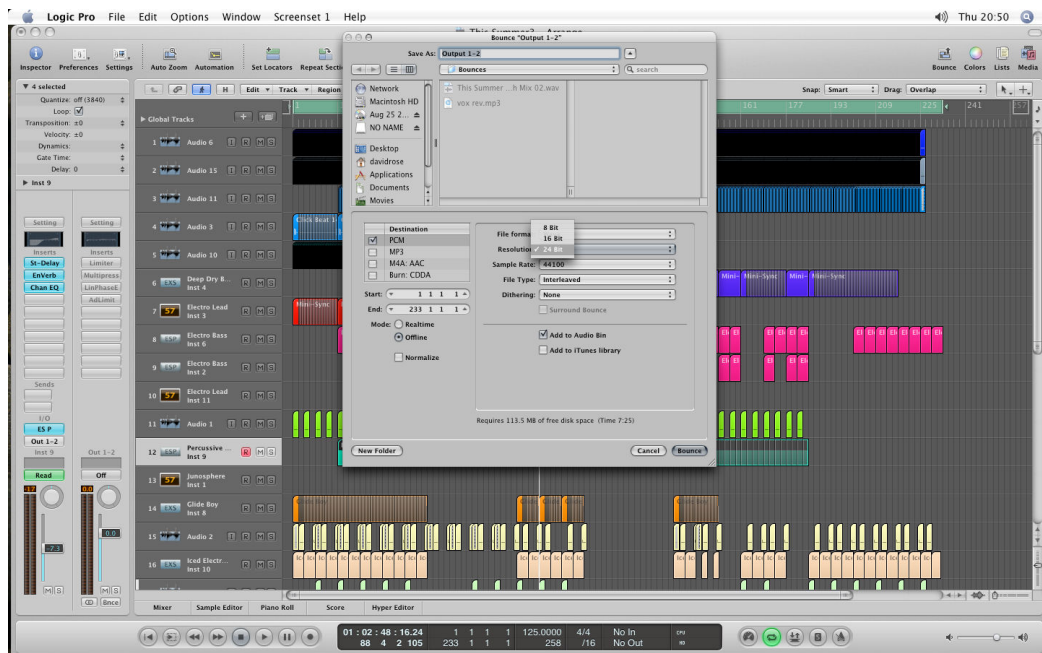




Mastering Made Easy in Logic Pro.

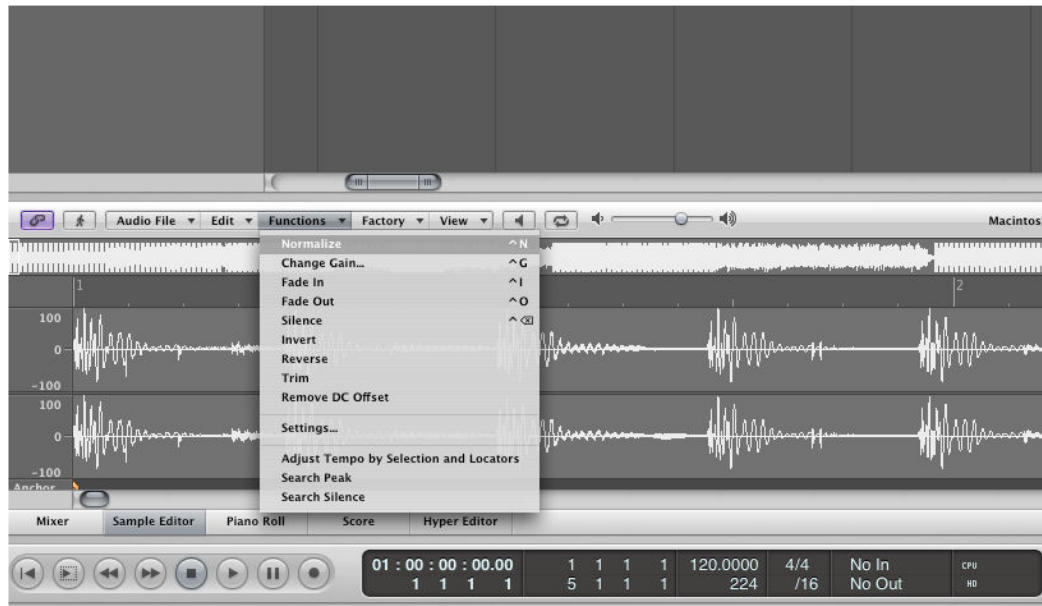
In this tutorial we will show you a simple method of how to master in Logic. There are many different ways of mastering a track, sometimes using very expensive plugins and outboard equipment, but we will show you a simple, effective method, which you can tailor to suit your track's individual needs. Mastering is the final process of creating your track, and the aim is to get it sounding as loud and as 'polished' as possible, as well as making sure it will sound good on all sound systems.

1. Get your mix sounding as perfect as you possibly can, once you are happy with it, bounce it down to a single .wav or .aiff file, (*File>Bounce.*) preferably 24 Bit, making sure that it hasn't clipped at any point, (you can do this by bringing down the master volume of the entire track, we will bring this volume back later...) Working in 24 Bit at this stage prevents any loss in quality when you create your final 16 Bit Master.



2. Now open up a new project, save it, add an audio track, then import the audio file you have just created. Double click on the audio file, and in the Sample Editor Window click

Functions > Normalize, which basically will make your track as loud as possible.

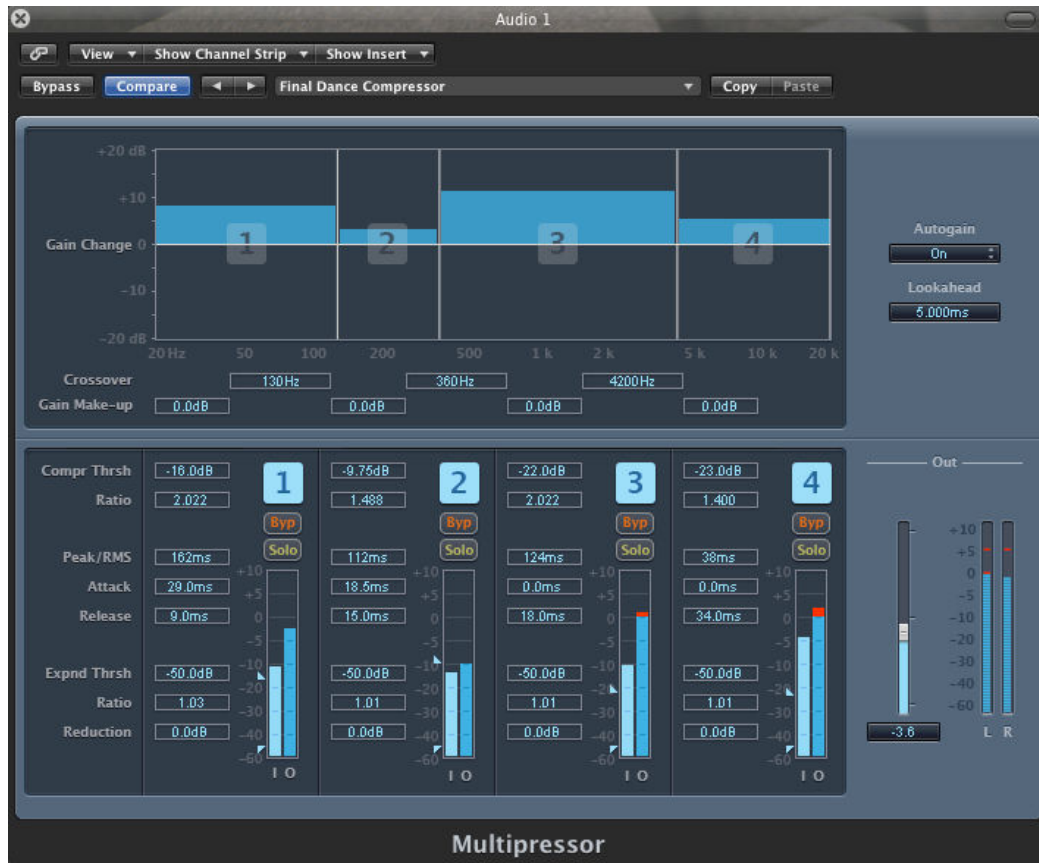


3. Now look at your waveform, and try to see if there are any peaks that stick out as being a lot louder than the rest of the track. If so, add an Adaptive Limiter (*Inserts > Dynamics > Adaptive Limiter*) and adjust the Gain control, so that the really loud peaks are effectively cut off. You may not need to add this, for an acoustic track for example, as you may not have a problem with particularly loud peaks. Try and be subtle when adjusting the gain control. Less is more, and more compression will be added later. Think of the Limiter as a pair of scissors, which will snip off the tops of your waveform. Adjusting the Gain control determines how much will be snipped off.



4. Once you are happy (and have remembered not to over do it!) add a Multipressor (*Inserts > Dynamics > Multipressor.*) This is Logic's Multi-band Compressor, which allows you to compress different frequency bands with different settings. This is very useful if you want to bring out different areas of your track, like the bass for example. Think of it as a glue, which glues different parts of your track together. The best place to start is by selecting a preset most suitable for your track, and adjusting individual settings until it sounds how you want it to. You need to listen carefully to different sections of your track, such as bass, low mid, high mid and high, and decide which frequencies need more compression than others.
- You can adjust the crossover of each frequency band by grabbing the vertical lines on the equaliser, and the gain by grabbing the horizontal lines.
 - On any compressor, the Threshold will affect at what level (dB) the compressor begins to work, and the Ratio - how much the gain will be decreased. The Attack decides how long the compressor takes to reduce the gain, and the Release - how long it takes to stop reducing the gain reduction.
 - Try not to have your attack too fast on the bass or you will lose the impact of your kick drum.

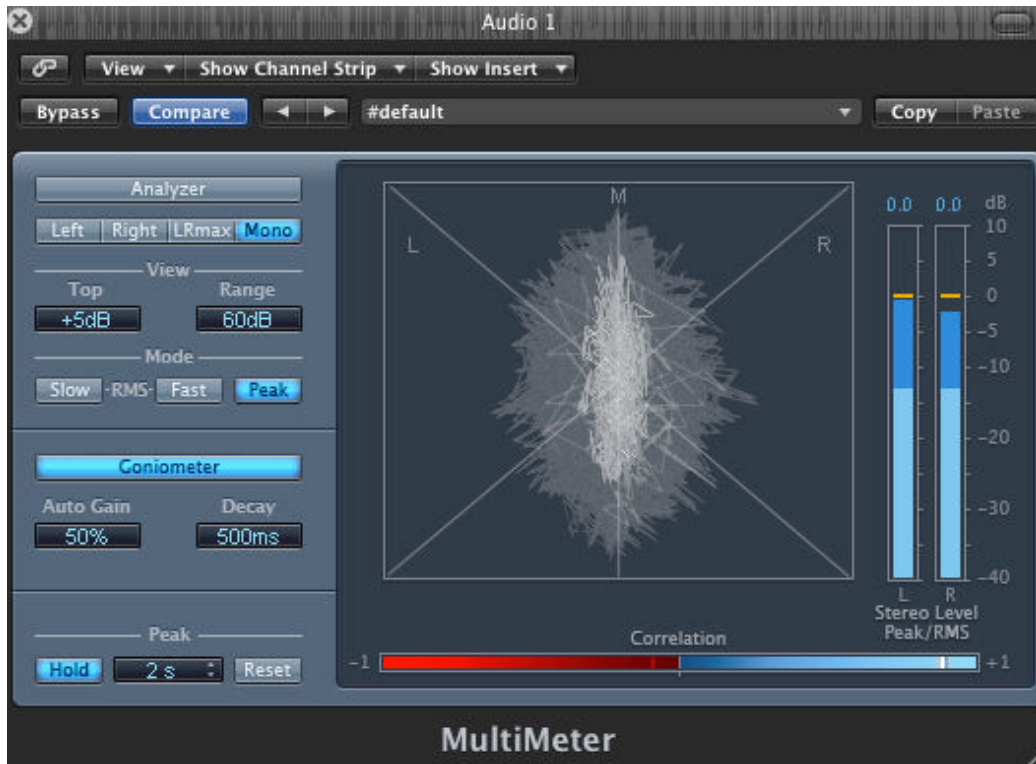
- You can Solo each frequency band to hear them individually, or bypass them.
- Also make sure your output is not too high.



5. Now add a Linear Phase EQ (*Inserts > EQ > Linear Phase EQ*), turn the Spectrum Analyser on and play your track. Listen carefully, and decide which frequencies, if any, need EQ-ing. Rolling off below about 40Hz will create more headroom and get rid of low 'rumble', a slight dip around 300Hz can get rid of muddy bass sounds, a slight gain at around 2KHz can add presence, and a gain at around 10KHz can add some sparkle. Remember though, less is more, and overdoing the EQ will kill your master, so only do it if you think you need to.



6. Now add another Adaptive Limiter to your track, and play around with the Gain control until you are satisfied. You want the loudest parts of the track, like the chorus, or where there are the most instruments, to make the Limiter comfortably bounce off the top (0dB.) too much Gain and the track will be forced and unnatural, little dynamic variation, and not enough Gain will result in the majority of the track being too quiet.
7. You may also wish to add a Multimeter (*Inserts > Helper > Multimeter*) to help you view the stereo spread and frequency analysers.



8. Finally, bounce your song down to a 16 Bit audio file.

The key when mastering is to listen hard, try your track out on different speakers, and not over do it. You could try importing a commercially released track into your project which is similar to how you want yours to sound, and compare them, using a MultiMeter and, of course, your ears!

So there you have it! Simple, professional, and highly effective mastering!

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