Analog Mixing Tips

For a lot of people who come into the Hangar B-room to mix, it will be their first time mixing 'out of the box' and using an analog console and outboard gear. This page is aimed at making that process as easy as possible, as the array of equipment and choices can seem daunting at first.

Step one: Get Comfortable. Before you can really start mixing, you need to feel at home so to speak. Bring some music in that you know well and listen to it so you can get a feeling for the monitors and the room. While you're listening, look around the room. Most DAWs like Pro Tools are modeled after an analog mixer, so the Daking Console should look kind of familiar. (Note: I am going to use the word Pro Tools for the rest of this piece because it's the most widely used DAW, but everything here applies to any DAW program like Logic, Cubase, etc.). Like the track window, the console has faders and solo and mute buttons. Each channel of the console has a high quality EQ that's like the EQ plug-ins, but sounds much better than a plug in. To your left and right are compressors and more EQs that can be plugged in (With patch cables) to the channels of the console which are analogous to plug-ins. While it might seem intimidating at first, remember, it's just like Pro Tools.

Step two: Calibrate the Console. The most basic part of the analog mixing process is to sum your tracks in the analog domain instead of digitally 'in the box'. Almost very experienced engineer will agree this sounds better.

So, the first step is to make sure that your mix you've been working on and listening to will come up on the console pretty much the same way you've been hearing it. You'll need a signal generator plug-in on one stereo track of Pro Tools set to 1k. Send it to the first two of the 16 outputs from the 16 channels of the 002 and Apogee Rosetta so that it comes up on the first two channels of the Daking Console. Make sure the stereo fader is all the way up and that the gain pot and fader on the Daking are at the nominal gain position (Dave or John will help you with this for your first session). With one of the two channels on the Daking muted and the pan pot centered, adjust the signal generator plug-in so that you get 0 VU reading on the Daking stereo meters. Now, mute that channel and un-mute the other channel, and using the fader on the Daking adjust that channel to also read 0VU. Do not change the level on the signal generator plug-in after you do the first channel! Now, switch

the output in Pro Tools to the next pair of outputs (3-4) and calibrate channels 3-4 of the Daking as you did channels 1-2. Continue until you've calibrated all 16 channels. IMPORTANT NOTE: Mixing analog will not work with a master fader in Pro Tools. If you have a master fader track, you'll need to delete it. We recommend you learn to get your mixes set up without a master fader. You will have better gain structure and you don't want to be hearing your mix through a compressor plug in that will be gone during the real mix. We have much better analog compressors for use on the stereo bus.

Step Three: Break it Out: Now, you'll re-route the tracks in Pro Tools to different outputs so they can be mixed analog through the console. You'll assign different tracks to different channels. For instance for a basic rock band mix, you could route them like this:

Output/Channel	**Instrument**
1	Kick Drum panned center
2	Snare Drum panned center
3	Stereo Mix of Toms L Panned Left
4	Stereo Mix of Toms R Panned Right
5	Stereo Mix of OH L Panned Left
6	Stereo Mix of OH R Panned Right
7	Bass panned center
8	Lead Vocal panned center
9	Stereo Mix of GTRs L Panned Left
10	Stereo Mix of GTRs R Panned Right
11	Stereo Mix of Keys L Panned Left
12	Stereo Mix of Keys R Panned Right
13	Stereo Mix of BG Voc L Panned Left
14	Stereo Mix of BG Voc R Panned Right
15	Stereo Mix of FX L Panned Left
16	Stereo Mix of FX R Panned Right

Some notes:

-The above can be changed to fit your song. For instance, if there are lots of instrumental solo tracks, you might want those on their own channel, so you could put the toms and OH on the same two channels which would free up two channels for solos somewhere. Most lead vocals and bass tracks are mono and panned to the center, but if your track is not a single point source panned to one location in the stereo field, you'll need a pair of outputs for it, so you'll need to combine something somewhere. Just look at

your song and decide what are the most important parts and break them down to 16 outputs.

-Note that any reverbs and delays would be in stereo on tracks 15 and 16 and sent to the effect from an aux send in Pro Tools NOT inserted into the channel as a plug in. The effects would be on aux inputs in stereo and then routed to channels 15 and 16. Ask Dave or John about this, if this is confusing. There are several reasons for doing it this way. One, it uses less CPU resources. Two, it keeps mono tracks like lead vocals or lead guitars mono which uses less tracks. And three, it's easier to change the reverb or delay and replace it with a better sounding one, while still maintaining all the balances of your mix. We'll come back to this later.

Once you've done the above, you should be hearing your mix through the console pretty much the way you expect it to sound, but it you listen carefully you should hear more depth, better imaging and an extended top end and transient response that wasn't 'in the box'.

Step Four: Ditch the plug-ins. Or, maybe not. Most experienced mix engineers will tell you that they think analog compressors and EQs sound better than plug-in versions. Ditto for most reverbs. On the other hand, there a lot of effects plug-ins like delays, flanges and even things that can't be done analog like transient modulation, that are useful tools. So, there is no 'right or wrong' way or steadfast rule on how to decide when to use a plug in and when to use an analog piece of hardware. Sure, it would probably be best to replace every single EQ and compressor plug in with a piece of hardware, but that will take the better part of a day per song, and since you're mixing in our B-room, that probably means you're on a tight budget, so this isn't very realistic. Take a look at your song and identify the key tracks. On a pop song, the lead vocal is always pretty crucial. Consider ditching the compressor plug-in for a real one and if you're eq-ing the vocal, use the console EQ instead. But, before you get rid of the plug-ins take note of the setting so you can use them as a starting point. You've already spent some time working on these settings and if you're fairly happy with your mix, there's no point in reinventing the wheel so to speak. For the vocal, consider the UA LA-610, an optical compressor with a tube back end based on the LA-2A. Or, try the UA 175 recreation built by Bryce Gonzales. This is a classic Vari-mu compressor with more control than the LA-610. (the famous

Fairchild 660 is a Vari-mu compressor) Our Fairchild 663 is an optical compressor with a very slow release that sounds good on quieter tracks if you don't need a lot of gain reduction. Additional pieces of signal processing can be brought into the b-room as well. Dave and John and discuss this with you when you book your session.

Next, look at the rest of the song. Are there other tracks that might need a bit of help? The bass maybe??? How about the drum overheads, did they require a lot of EQ to make them sit in the track?? Consider listening to these tracks with real gear instead of plug-ins, but don't forget to note your settings before you delete the plug-in so you can use them as a starting point. On the other hand, the background vocal that only comes in once in the whole song is probably just fine with whatever plug-ins you used on it. The idea is to find a balance that works with your budget and time constraints.

Step Five. What about the reverb? Does your track use reverb??? Most plug in reverbs sound pretty shitty compared to a real plate, chamber or high end hardware reverb. The exception is the better convolution reverbs. For Pro Tools we have TL Space, a convolution reverb which sounds pretty good. Remember earlier when we said it's good idea to put your reverbs on Aux returns and send to them with aux busses instead of inserting them in channels? Well here's why. Now, you can just change the reverb plug-in to TL Space and see if you think it sounds better than DVerb. To go one step further, talk to Dave or John about booking a few hours in the A-room between sessions and print reverb from our vintage EMT-140 plate reverb. A third option is to use our Bricasti digital reverb, a newer very high end unit that's quickly becoming a standard with mix engineers for it's very dense, and realistic reverb and space simulations. If you do decide to use a hardware reverb, as long as you've used aux sends and returns for your reverb, all you'll need to to is re-route your aux sends to a physical output. This will still preserve the balance of the reverb as you've set it up. Whichever you choose, it's bound to sound better than D-Verb and wont' take you very long to re-route and give it a listen.

Step Six. Master Buss Compression. Most mix engineers will use a buss compressor and possibly a program EQ on the stereo buss output. In the B-room, we have the Chameleon _____ which is a recreation of the SSL/Alan Smart compressors that have probably been used on half the songs played on the radio that were mixed in the last few decades. We can also bring in our Sontec parametric EQ for use as a program EQ. Both of these options

will be a big improvement on the plug-ins and master fader options within Pro Tools.

Step Seven: Analog Tape. Finally consider mixing your tracks to analog tape. Why? Well first off, tape sounds great. Especially on rock or any genre of music that dates back more than a few years. All the classic records you love were probably recorded on tape and real tape sounds better than a tape simulator plug-in. Tape is like a subtle transient compressor that you love the sound of. It really helps 'glue' a mix together and makes elements like drums sit better in the mix. Tape is also a great archive and backup. All computers crash. All digital storage mediums change and become outdated. Tape has survived for almost 50 years and you will still be able to play a properly stored tape 30 years from now. We have both Studer and Ampex machines in 1/4" and 1/2" formats that we can bring into the B-room and we can also help you source new analog tape for your project.

OK, hopefully the above has helped answer some of your questions about mixing in the b-room and what you can expect. Dave and John will be happy to discuss your project with you and answer any other questions you might have.