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### **Preparing For Mastering**

The following offers information on mixing tips to help insure the best master, formats we can accept and information you will have to provide.

1. **DYNAMICS:** While compression of individual tracks may be appropriate, PLEASE do not add compression, limiting or EQ to the overall mix (on the master fader). Receiving a heavily-processed mix or one that has been NORMALIZED right up to 0 dBFS severely limits what can be done to it in mastering to correct problems or optimize the mix. Leave from 3 to 6 dB of HEADROOM in your mixes, especially if they are done at 24 bit. It might be useful to do the initial mix with your favorite final compressor and/or limiter on the master fader just to hear what your mix might sound like with processing or to burn temporary mix copies for the band, but take off the processing before creating the final mix for mastering.
2. **LEVEL IMBALANCES:** After over-processing, the biggest problems with mixes are usually misjudging the amount of bass frequencies or the level of the lead vocal. To try to avoid this, especially in non-ideal listening environments, check your mixes on other playback systems outside of that environment, such as in your car or living room-anyplace you are accustomed to listening to music. Listening to professionally-produced CDs of music in a similar style to your own in your mix room will help you “calibrate” your ears for mixing.
3. It’s often a good idea to create ALTERNATE MIXES (vocal-up or guitar-down, for instance) along with your “favorite” mix.
4. Another common problem mastering engineers deal with is mixes that have an EQ IMBALANCE between elements in the same frequency range. For instance, having a vocal with too much SIBILANCE (too-aggressive “esses”) and drums that are too dull-sounding. Controlling the vocal sibilance also can affect the shimmer of the cymbals or snap of the snare, and brightening the drums will only make the sibilance much worse. Try to achieve a good tonal balance between elements sharing the same frequency range.
5. Listen for any CLIPPING distortion in your individual tracks or entire mix. As a mix gets polished in mastering, the “crunchy” distortions can become much more apparent.
6. Leave 2-3 seconds extra at the HEADS AND TAILS of your tracks. It’s easy to remove any count-offs or noise as part of the mastering process. An added benefit of leaving these “handles” is that a noise sample can be taken before the music begins in the event that the track needs to be de-noised. Also, it’s usually better to do a fade-out of the

stereo track in mastering than to attempt it during the multi-track mix. Just tell us at what point you want the fade-out to begin and end and we'll do it at high-resolution 64 bits.

7. **SOUNDFILE FORMATS:** Mix to WAV, BWF (Broadcast WAV) or AIFF files. SD2 (sound designer II) files are fine, but becoming obsolete. Never use a data-compressed format like MP3. Mix at 24-bit if at all possible and sample rates of 44.1KHz or 88.2KHz (16-bit and/or a 48KHz or 96KHz sample rate are also acceptable, but 16-bit offers far less resolution than 24-bit, and the sample-rate conversion from 48/96KHz to 44.1KHz is not as simple for the software as 88.2KHz). Do Not Sample-Rate convert your files! Send them in whatever bit-depth and sample rate they were recorded in. Ultra high sample rates of 176.4KHz or 192KHz have no distinct advantage, especially for CD release.

8. **DELIVERY MEDIA:** Data CD-ROMs or DVD-ROMs are far preferable to audio CDs. There are far fewer errors on a data CD or DVD than either audio CD or DAT. Also, audio CDs and most DATs are limited to 16-bits. However, we accept audio CDs or DATs. We can also handle Masterlink CD-24 discs. Minidiscs, Cassettes or vinyl records are also possible, but, obviously, not anywhere near ideal.

9. **ANALOG TAPE (Reel-to-Reel):** Again, no master-fader or stereo bus processing. We can handle 30ips, 15ips and 7.5ips. Leader between songs and store tails-out (leave on the take-up reel). Include at least 30 seconds each of 1KHz, 10KHz and 100Hz alignment tones at your 0VU reference level, recorded on the same machine and well-leadered to be isolated from the musical program (to prevent print-through). It is also useful to provide a few seconds of recorded silence at the end of the tones to show the level of hiss or noise in your audio chain. Label the tape box with the tape speed, equalization standard and reference level it was recorded at. If possible, it's always a good idea to include a DATA CD-ROM or DVD-ROM of your digitized mixes, originating from the same machine you used for mixdown, just in case of mechanical head-alignment problems. In addition, if you have mixes done on both analog tape and directly to a digital format we can choose the best-sounding mix. *We can only accept non-Dolby quarter-inch tape (1/2, 1/4 or 4-track) at this point, but will upgrade to 1/2" heads and Dolby A/SR in the future.*

10. If your mix master is a CD-Audio disc, don't play it or pass it around. Use reference copies for that purpose. It's not a bad idea to bring more than one CD mix master to the session just in case there's a problem with the first one.