CRYSTAL MASTERING

How to prepare your mixes for streaming, Vinyl & CD mastering

Crystal Mastering is a Melbourne based studio specialising in mastering audio for digital and vinyl release. The following document provides clear answers to the most commonly asked questions, plus a few tips on how to make your next mastering session run smoothly.

Contents

1. What file format do we need to supply for mastering?

Whether your mixes are being mastered for streaming, CD or vinyl release, 24 bit WAV files are the standard format to present at mastering. (32 bit is also acceptable)

Sampling rates from 44.1kHz through to 96kHz are all perfectly acceptable. If possible, we also like the mixes to be labeled in the following manner – '01. This is it 24/48'. This tells us that the song called, 'This is it', is the first track on the album. It also lets us know that the bit resolution is 24 bit and that the sampling rate used is 48kHz.

2. Listen Carefully to Your Final Bounces

This may sound like an obvious point to make, however faulty bounces are the number one reason for hick ups and delays at the mastering stage.

Don't assume that your humble PC is going to output your 132 track mix perfectly every time. Always listen to your final mixes from the beginning to the end before sending it to mastering. Make sure all tracks are playing correctly, and that there are no clicks, pops or mutes in the audio. This is especially important if there is heavy use of plug-ins on the mix.

3. Do I Normalize my mixes?

Don't use any kind of normalizing on your mix-down.

Don't use any kind of normalizing on your mix-down. It's simply not necessary, and some applications can actually degrade the audio with this process. A mastering engineer will never complain about to much headroom.

4. Do I need to limit or compress the stereo mix before mastering?

Compression on individual channels is pretty much essential in modern music production, however avoid placing a limiter or 'finalizer' plug in on the stereo buss.

Don't be concerned if your mixes are not peaking at zero or sound quieter than commercial reference tracks you may be listening to. Your mastering engineer will no doubt have access to some of the world's best compressors on hand, so he or she will take care of the final volume at the appropriate stage during mastering. Some creative compression on the stereo buss is fine, just don't use compression for the sake of raising the overall level of the track. If you've been mixing into compression and feel it has become an integral part of the mix, it's best to send 2 prints of the final mix. One with and without the stereo buss effects.

Even though we can never judge a mix based on how it looks, below is a typical example of what appears to be a healthy looking mix to present for mastering. Plenty of headroom for equalisation and other processing at the mastering stage.
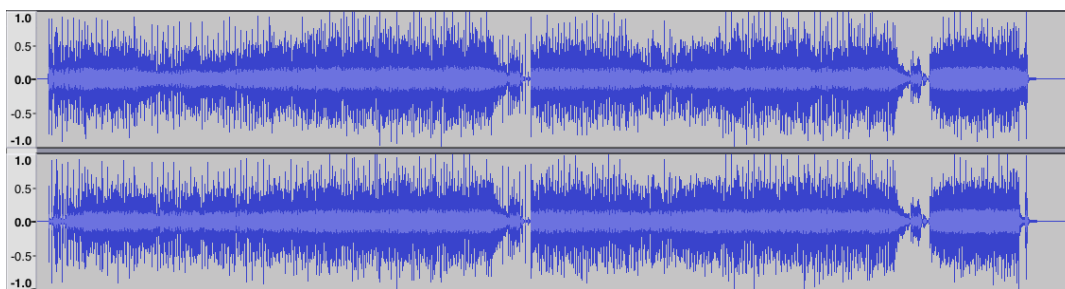
This is an example of a healthy looking mix that is acceptable to present to a mastering engineer.

The waveform below is an example of a mix with little, to no headroom. Not an ideal mix to be presenting the mastering engineer with. Mixes like this are so loud and have so little room to work with, it simply means that the mastering engineer cannot work as effectively on the mix.
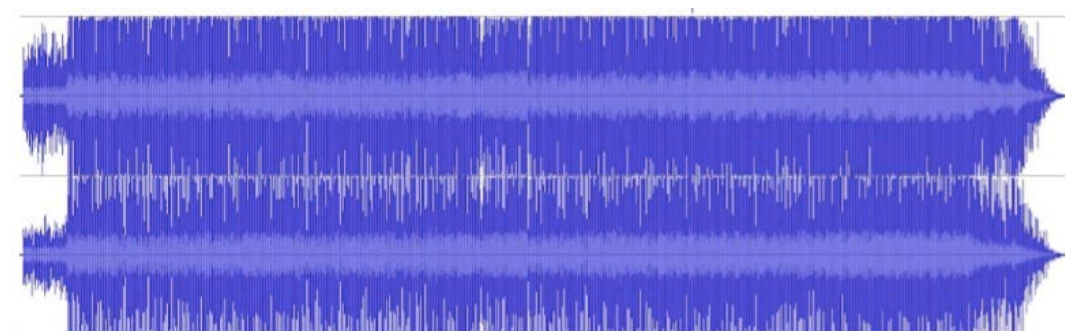
This is an example of a mix with little to no headroom - it's not an ideal mix to present to a mastering engineer.

Try and aim for a mix that has at least 5-6 dBs of headroom. An RMS (or average level) of – 15RMS is a great volume to aim for in the final mix. Most level meters in modern recording software will have comprehensive meters to show you RMS levels, but if yours doesn't, there are plenty of free metering plug-ins that are extremely useful.

5. Do I need 'ISRC' codes on my master?

In a nutshell, ISRC codes help identify your music; like a digital barcode of sorts.

If you're pressing CDs and want to add ISRC codes on your CD master, then you need to supply the codes to your mastering engineer, in order to have them embeded onto the production master. You need to apply for these codes via ARIA which may take anywhere from 2 to 5 days to arrive. Not everybody wants them or needs the codes, but you can read the literature to help you make up your mind. There's certainly no harm in having these codes on your master. The following link will direct you to the ISRC handbook on the ARIA website: http://aria.com.au/pages/isrc.htm

If you're selling your music on-line, then you most certainly will need to obtain ISRC codes. These aren't required at the mastering stage, however your digital store will ask for them when you upload your mastered wav files for distribution. Some digital distributors may even supply you with ISRC codes when you sign up with them.

6. I'm selling my tunes online as Mp3s. Can I bring Mp3s to mastering?

Even though this might seem logical, it's an absolute 'must' to bring the full resolution wav file to mastering.

Mp3s are simply not a professional nor desirable format to master from. Even though your music might eventually be streamed in some form of lossy format, mastering from high resolution audio will always yield the highest quality of audio for your release. It's important to note that streaming services such as Apple Music insist on 24bit files, so they can re-encode your music from your high resolution files as they continually update their codecs. It's also important to be aware that in this day and age, many record labels & digital distributors are providing fans with the option to download HD (hi-definition) music, so with this in mind, providing 24bit 48kHz files at the mastering stage would be an absolute minimum to aim for.

7. Should I listen to my tunes outside my studio?

Definitely!

Don't fall into the trap of only referencing your mixes in your studio. Play your mixes on a variety of systems to get a feel for how they sound in real world environments. This will give you a good indication of any obvious problems that are present in the mix.

8. How far in advance do I need to book in at Crystal Mastering?

Generally, you need to allow 2 weeks to book in a session.

If you need something mastered urgently, then we will try and arrange our schedule to make it happen for you. Please note there is generally a priority fee applied to masters that are required within 24-48 hours.

9. Do I need to attend the mastering session?

Our mastering engineers are happy to work with or without artists attending.

Approximately 95% of our work is done in unattended sessions, however we always welcome anyone who wants to sit in during the mastering. It's easy to submit your mixes to us on-line. Simply go to our website and use the 'Drop box' on our e-mastering page: http://crystalmastering.com.au/emastering/

Alternatively if your mixes are already on line, simply send your download link to info@crystalmastering.com.au

10. Do I really need to organise a listening session prior to my mastering booking?

We recommend our engineers hear your mixes prior to mastering if:

1) It's the first time you've recorded an album.
2) You're not 100% happy with the mixes, and unsure if the mastering process will be able to address certain issues.

If you're using an experienced recording engineer to produce your album, then chances are your mixes are in great shape. If you still feel like you want us to have a listen, then we'd be happy to.

11. Tips for Vinyl releases

There are physical limits to what the head of a lathe can endure when cutting vinyl. Following are some general tips for mixes destined for vinyl;

1) Have the kick and bass centered in the mix. (not panned left and right).
   Also avoid stereo panning any other 'bass heavy' instruments. Think bass, think mono.
2) Try and eliminate as much sibilance as possible on the vocal track (de-essing)
3) Avoid excessive amounts of sub bass frequencies (below 40Hz), as well as excessive top end
   (above 16kHz).
4) Avoid excessive buss compression and limiting.

Thanks for reading and best of luck with your recording,
From the staff at Crystal Mastering