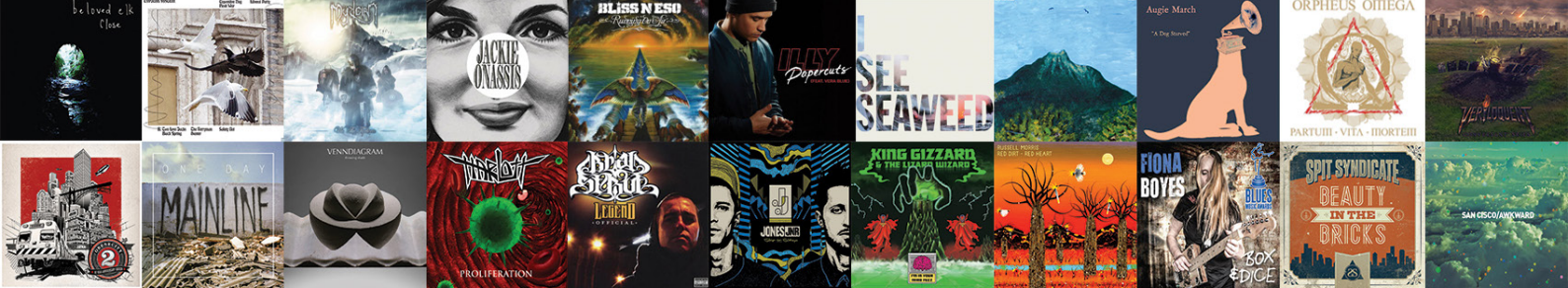


How to Prepare Your Mixes for CD, iTunes and Vinyl Mastering

Crystal Mastering is a Melbourne based studio specialising in mastering audio for digital and vinyl release. With over two decades of experience, our engineers have been asked a lot of questions about mastering over the time. This guide provides clear answers to the most commonly asked questions, plus a few tips on how to make your next mastering session run smoothly.



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1. What file format do we need to bring for CD or vinyl mastering?

Whether your mixes are being mastered for CD or vinyl release, 24-bit WAV or AIFF files are the standard format to present at mastering.

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 24/44'. 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 44.1kHz.

If you have alternative mix down formats from those listed above, feel free to contact us for some friendly advice. Our studio number is 03 9484 8814.

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.

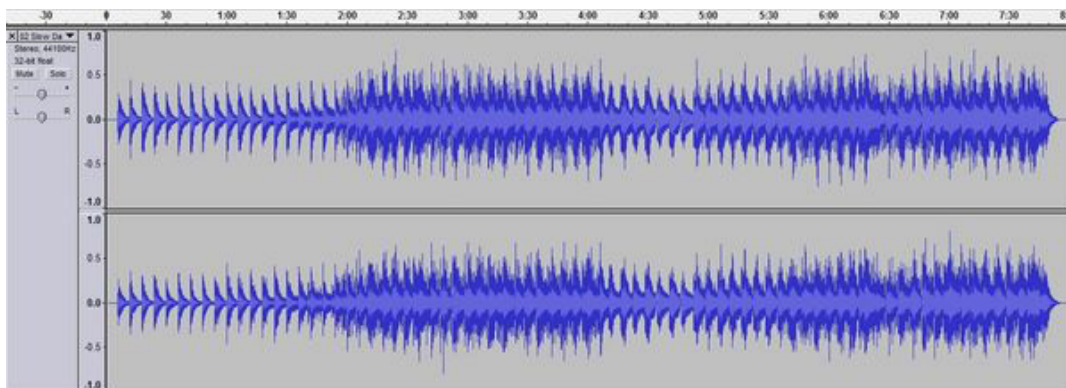
Don't use any kind of normalizing on your mix-down. It's simply not necessary, and some applications can actually degrade the audio with this process. A mastering engineer will never complain about too much headroom.

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

Compression on individual channels is perfectly fine, however avoid placing a limiter or 'finalizer' plug in on the stereo buss.

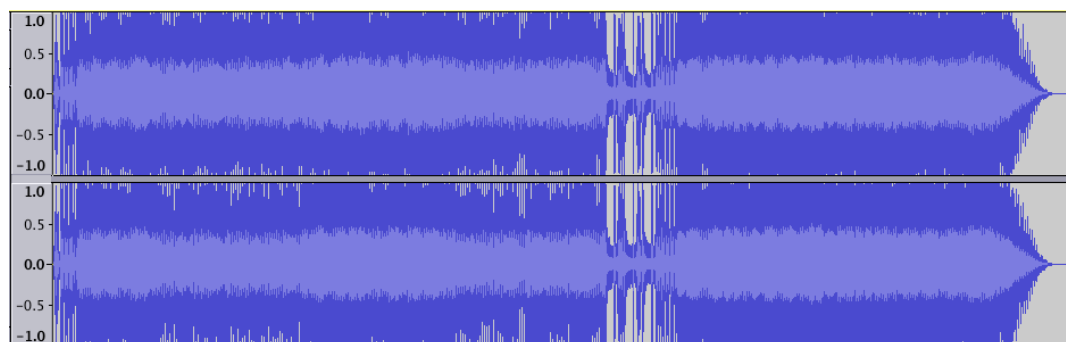
Don't be concerned if your mixes are not peaking at zero or sound quieter than commercial reference tracks you may be listening to. Your mastering engineer will take care of the final volume at the appropriate stage in your mastering session. Creative compression on the stereo buss is fine, just don't use compression for the sake of raising the overall level of the track.

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. The 'Flux Stereo Tool' is an example of a such a plug-in.

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

Physical CDs

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 bring the codes to the mastering session, so as the engineer can embed them onto the master disc. 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>

Digital Distribution

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.

6. I'm selling my tunes on line 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. It's all about giving you the best possible sounding master.

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.

9. Do I need to attend the mastering session?

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

Approximately 90% of our work is done in unattended sessions, however we always welcome anyone who wants to sit in during the mastering.

E-Mastering

Our on-line service is available to everyone. Simply go to our website and use the 'Drop box' on our e-mastering page: <http://crystalmastering.com.au/emastering/>

It's as easy as clicking 'Browse' and selecting your file. Alternatively if your mixes are already on line, simply email an invite to us at: studio@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:

- A. It's the first time you've recorded an album.
- B. You want to release your songs on vinyl, but not sure if the mixes are vinyl friendly.
- C. 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 Mastering

There are physical limits to what the head of a lathe can produce when cutting vinyl.

Following are some general tips for mixes destined for vinyl;

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

12. Post Mastering

My song titles don't show up on iTunes™, why?

So you've rushed home after a rewarding day in the mastering studio, popped your reference CD into your laptop, only to find that iTunes doesn't recognise any of the songs! Ok...take a breath. This is normal. Don't expect the reference CD from your mastering session to populate iTunes with all the song titles. It just doesn't work this way; even with 'CD-Text' embedded. If you want iTunes, or similar media players to show song titles, you need to enter this metadata manually through your digital store whom then submit the titles to a database known as 'Gracenote'. It is this database that software like iTunes gets the track names, not from the CD itself. During this process of entering titles, you'll also be prompted to enter other metadata such as Artist Name, Album Title, ISRC code, Art work etc

You can read more about how to submit your CD to the Gracenote database here:

https://support.apple.com/kb/PH12488?locale=en_US

You can read more on how Gracenote works here :

<http://www.gracenote.com/music/music-recognition/>

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

