

## [How to produce a master for analogue records]

Before you start to prepare your master it is important that you appreciate and understand a few thoughts and facts about records so that you can get the best results possible

You created your master not just to have a copy on your hard disk, MP3 player or burnt CD, but to create a vinyl record. However, before your master resembles anything like a vinyl record it must go through a long list of technological operations. All of these processes have their own specific limitations and restrictions. We are certain that you want all of these processes to take place without having any problems or imperfections on the final product. In layman's terms we can say that you are similar to a train driver who has to load up the train with goods in such a way that the wagons fit under the bridges, go through the tunnels, don't overload the bridges with excess weight, but at the same time use the maximum space possible to fit all of the goods that you want in the wagons. To successfully achieve this you can simplify and decrease and almost eliminate any problems that could occur if you fulfil and respect the following recommendations

1. Try not to exceed the maximum recommended playing lengths per side, as longer playing times will lead to a dramatic decrease in recording level and dynamics. On the other hand, the requirements of extremely high recording levels decrease the possible playing time (see the table in the next section for recommended playing times for all formats)
2. Try to place demanding, powerful and exposed tracks at the beginning of the required side and not towards the end of the record. The conditions for recording and subsequent reading of vinyl records get worse with the decreasing diameter towards the middle of the record (the label). **The worst possible format with regards to quality is a 7" record at 33rpm**
3. Try to avoid excessively using psycho acoustic processors
4. If possible, please check the master by using a correlation measurer (it must not be drastically in the red field or have negative values) and a frequency spectrum analyser to ensure the signal does not contain unreasonably large elements in the low frequency range (around 20Hz) and also the top end of the frequency zone (around 20KHz)
5. The lowest frequencies of the acoustic zone that are below 300Hz **have to be in phase**. If you discover that there is a drastic decrease in the level of the bass sounds when you try and make the signal MONO that this means that the master is not prepared well for an analogue record.
6. Filter away all sub acoustic signals below 20Hz (for better results under 40Hz) to avoid possible problems during recording and reproduction. Also filter away signals at the top end of the frequency spectrum over 16kHz. By doing this you will gain better results
7. If your recording substantially differs from natural sounds, which is caused by spreading out the energy in the acoustic zone, there is a risk of audible changes to the sound during the transcription. This is due to the limitations of mechanical recording processes and can for example be caused by singing adjusted by processors or electronically generated effects. If your recording contains anything that could drastically disrupt or ruin the final result of your record then we normally refuse the order
8. We transcribe at 2 possible levels. The first is called **STANDARD** which is a good quality transcription using standard measurements and levels, and the second is called **LOUD** which is cut using a higher level of transcription without causing distortion on good quality reading systems. However, we always try and cut the record with the loudest possible volume within the realms of what is physically possible. There are many factors that influence what level we can cut at.
9. Try to avoid 7" vinyl formats at 33 1/3 rpm as the possibilities of the recording and reproduction are most limited at this format. If there is no other solution you

have to take into account that the final product will in some way be compromised \*)

10. Remember that good reproduction results on the user's side depend on the quality, technical conditions and correct adjustment of the equipment that you are using! \*\*)
11. It is imperative that we get a complete track list with your master containing the names of all tracks (including the hidden and bonus tracks), track timings and their separation into side A and side B, plus the total time of each side!!! Please inform us of any special effects or anomalies etc. Any orders without a complete track list will be refused for production.
12. It is always a good idea to thoroughly check your master before you send it to us to make sure that there are no mistakes with the quality of the master. Please make sure that the master is placed into a suitable box or case to avoid any problems. We do not recommend using paper sleeves as these may scratch the surface of a CD or DVD. It is also good to make sure that the information that you state in your tracklist corresponds to the actual data that is on the master that you are sending us, but also that it corresponds to the information that will be printed on the central labels of the record and/or on the printed outer sleeve. Please make sure that any information that is written by hand is legible and clear.
13. Any claims against the final product, caused by errors in the production parts supplied by customer, will not be accepted!
14. If you require additional adjustments or mastering (changes in track order, disregarding some tracks, compilation....) please specify your request precisely on the order form, and note what is on the master and what needs to be done for the final product.

\*) Low groove speed limits the recording level and causes a higher decrease of the high frequencies into the middle of the record and can also cause higher distortion levels.

\*\*) The quality of the reading system, the shape, the level of the attrition, the cleanness of the needle and the adjustment of the vertical force and anti-skating.

**Theoretical length of the record for different record formats and different types of music  
(The values shown are in minutes and seconds per side of each record)**

**For standard music types**

12" / 30cm	19,38	14,36
10" / 25cm	13,62	10,09
7" / 17cm	6,92	5,13

**For techno and other types of dance music**

Deska 30 cm	11,45	8,48
Deska 25 cm	8,05	5,96
Deska 17 cm	4,09	3,03

**Extreme values**

Deska 30 cm	7,20	5,33
Deska 25 cm	5,06	3,75
Deska 17 cm	2,57	1,90

All of this information has been prepared in an effort to help avoid some of the more common problems that your master can contain. However, this help file is by no means a substitute for text book physics or professional literature which deals with the theory of

the mechanical transcription of sound, musical science, recording technology, the physics of hearing and other related trades from which professional sound engineers and technicians draw from in an attempt to accomplish optimum results