

Audio characteristics of the master

A few recommendations

Our primary goal is to transfer your audio documents to disc in a manner that is true to the original.

Therefore, first of all, **it is important that you are satisfied with the master you provide** to us for cutting!

In the production and postprocessing (“mastering”) of an audio document intended for producing a disc, we request that the following instructions are observed:

First, depending upon the target group, intended application and format of the disc, certain playing times should not be exceeded. A disc is basically able to record all of the details of a stereo audio production; the main restrictions are concerned with the high-frequency range and the differences between channels.

Intense highs, such as **strident sibilants and fricatives in speech and singing**; instruments in the foreground that produce many highs, such as hi-hats, cymbals and chimes; synthetic sounds with many high frequencies; and screeching or beeping noises frequently cause distortion during playback, and can also give rise to problems during cutting. General measures such as restricting the frequency bandwidth are often insufficient: A high-energy signal in the range of 7 kHz can result in serious problems, whereas this is rarely the case with a moderate overtone spectrum of up to 20 kHz. It is the level of intensity that creates difficulties.

With regard to low frequencies: Signals with frequencies lower than 15 Hz must not be present! They can damage the cutting equipment, and during disc playback it is very probable that such signals will cause uncontrolled resonance oscillations of the tonearm. Apart from this, frequencies lower than 20 Hz are acoustically meaningless.

Depending on playback conditions, the overall playback quality, particularly in the high-frequency range, can decline as the stylus approaches the center of the disc. If several selections are to be recorded on one side of a disc, if possible, the order of the selections should be determined in part by the relative importance of playback fidelity in each case, and by how intensively the high-frequency range is used in each selection. Maybe the inside-out cut is a possibility.

Large differences between the channels can likewise increase the probability of playback distortion. Differences should be kept small particularly in the low-frequency range since otherwise, apart from problems associated with technical limitations during cutting, the groove modulation could impair reliable tracing of the groove by the playback stylus. Audio productions that have large differences between the channels also require more disc space during cutting; as a result, less playing time may be available on the disc side and/or the level used for cutting may be reduced.