BMS Edit Pro, BMS Edit Professional 24

Audio editing.

BMS Edit Pro has an internal representation of each sample at 32 bits as a storage format.
In each internal process respectively sample is scaled to a 80 bit floating point value that is later reduced to the format you require to be put out.

This means that a sample that for example could have a value of 35521,4921 becomes 35522 since BMS Edit Pro rounds 0,4921 to 0,5 which gives 1 instead of 0 which would be the result if the sample was truncated. This leads to that BMS Edit Pro does not require dithering at scaling.

Scaling of digital audio is a problem in more than one way.
When analog audio is being digitized is this performed measuring against an as stable voltage reference as possible and the result is a sample containing a number of bits.

The important thing to understand in this process is that digital audio only describes the waveform and not the level even if this is also included in a natural way which also is the problem in itself.

Let us consider the quality aspect of this process; The incoming voltage is measured to a sample of lets say 16 bits. This means that 65536 increments are used for describing the voltage. These increments may be viewed as a ruler containing 65535 scale indents.

If 1 Volt = 0 dB corresponds to 65536 then 0 Volt = -96 dB would correspond to 0 where the noise is resident. Let us say that the audio to be digitized is scaled analog to have a peak value of -18 db then that would result in that three digital bits accuracy would disappear which leads to that already in the moment of digitization is a scaling in the form of a three bit truncation of the audio that leads to that the digital description of the audio only can contain digits in between 0 and 8191, that is 8192 increments which is the capacity of a 13 bit audio.

Thus that even if minus 18 dB does not sound very much the result is that far too few increments are left over to describe the audio thus it is extremely important to try and reach 0 dB in the peaks as close as possible which eventually will lead to digital distortion which is not very forgiving.
To make things even worse it is so that when you scale the analog audio, also the dynamics of the signal is scaled in the way that it easily removes all information which is below one bit resolution which could be the brilliance and the room characteristics of the audio.

Using 24 bit audio digitization the digital system becomes more human and peaks at -18 dB means that there are still 21 bit audio digitization that sounds fantastic since the signal is measured against 2097152 increments which indeed is nicer than 8192 as with the 13 bit case.

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A poorly digitized audio is impossible to make better but a well digitized audio is easily destroyed.

It ought to be allowed to amplify 16 bit audio but not to fade it.
Why ? Because of the same reason as mentioned above, that by recalculating the samples you lose the bit resolution.

The conclusion is that 16 bit production is unforgiving just because it imposes too many restrictions and is inhumane to use for normal audio production. To make 16 bit audio sound nice simply requires too much of those that are producing it.

24 bit corresponds to 16 777 216 increments on the reference, 20 bit 1 048 576 increments, thus the accuracy becomes so much better that you can allow for being human as well.

Utilizing BMS Edit Pro and BMS Edit Professional 24 allows for all bit depths from 8 to 24 bit audio with all sample frequencies from 8 kHz to 192 kHz and all standard Compression formats as long as there are a codec available for them in the MS Windows control panel. All of them simultaneously in the very same Edit project.
As if that was not enough, you may additionally, save to a separate file format for example 20 bit simultaneously.

When you are mixing two 16 bit audio and want to mix them to for example a 24 bit file then there is no need for scaling the audio to a lower level.

The natural today is that the audio world is becoming totally digital and steps are taken towards a decent digital audio standard that allows for production and post production. Thus the major part of the audio production industry established 24 bit production as a standard today and that you are heading for a higher samplerates today is also considered a fact. In that, the digital audio take a major step and becomes exceptionally better compared to the analog standards.

A nicety is that there are compression algorithms that support 24 bit format and they are exceptionally better than their 16 bit versions.

All this contributes to that the standard is risen and for those that uses BMS Edit Pro or BMS Edit Professional 24 may just follow thanks to that all you need is already implemented and you are free to produce whatever format you desire.

Digital audio has the development possibilities that the future requires and so has BMS.

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