

FÖRSTER AUDIOTECHNIK and DSD downloads

Downloads in DSD format currently have the highest growth rates. This could be for manufacturers of digital Wiedergabegeräte that lie in the reproduction chain for downloads to be a good reason to jump on the train rolling DSD download. And some have already done so. The High End Show 2013 presented with a considerable number of problems in computer memory and connectable USB converters that can get next to the DSD and PCM formats, format in the analog world, witness to this.

What is it about the DSD download boom? If the DSD format the PCM format (sonically) superior and therefore desirable? Or this format has other advantages that make it attractive for the consumer? Or is that DSD format even just a new marketing ploy to make the already evaluated many times in different formats back catalog without appreciably increased tonal advantage again to the electorate?

DSD (Direct Stream Digital) is nothing new. We know the format of the SACD, which was the sound promising potential for higher resolution therefore also launched due to the expiry date of the underlying at Philips and Sony license rights to the CD, and in 1999 by Philips and Sony as a potential successor to the CD but, because SACDs the right holder has an almost perfect copy of the music stored in the DSD format. Now, that years after it had been found that the SACD does not replace the CD but will remain a niche product, the DSD format is parallel to the PCM format outside of the medium SACD as a computer- compatible format of music storage for everyone and even for music downloads as an alternative to Downloads in high-resolution PCM format available. You need as a consumer an alternative high-resolution download format?

One reason for this may lie in the PCM format superior sound. DSD is based on the so-called 1-bit Delta Sigma Modulation quantization (corresponding to 1/ 16 of the CD sampling rate) with a sampling frequency of 2.8224 MHz (for SACD 64 times the CD according to the sampling rate) by using a noise shaping algorithm required for is to postpone the inevitable 1-bit conversion noise is not audible in the ultrasonic range. In comparison to the PCM format of the CD significantly higher sampling rate of the DSD format provides greater momentum (up to 120 dB) and higher frequencies (theoretically up to 100kHz) towards extended frequency response. Since intermodulation products included in the resulting final gained high frequency range and the quantization, a low pass filter must be used to meet the frequency response (in the case of the SACD to 20 kHz) to sever. The result is a digital information signal having a dynamic range of 120 dB and a resolution comparable to a PCM audio signal of 20 bits. Since entering the market now for DSD downloads are taken from the SACD catalogs, their corresponding digital signal quality inevitably those of SACDs, even if the DSD downloads should have higher sampling rates. This says everything except format recordings are technically superior to present the CD in the CD and DSD can not really know anything about the sound quality of DSD downloads from sound to be superior. In order to make a statement about it, we have to take a look at the production process of DSD recordings.

The front-end digital music recording is always independent of the digital recording format, an analog signal from microphones, audio from a connected downstream analog electronics or from an analog memory device, especially a tape. Before the analog signal in the former case enters the digital world at the output of a microphone, it goes through an analog microphone amplifiers. Usually opens up for the music signal then already at this point the digital world in

the form of an analog / digital converter, followed by a digital mixing console, other digital signal processing equipment, and ultimately a digital storage medium such as a hard disk. Tragically can DSD signals are not in a digital mixing console mix still processed in digital signal processing devices, which is why the original analog microphone signal for mixing and processing to date is always first converted signal into a PCM signal and then move to storage in a DSD. It follows that the final shot of the DSD SACD or in the form of a download, not better, mixing and processing to date is always first converted signal into a PCM signal and then only for storage in a DSD. It follows that the final shot of the DSD SACD or in the form of a download, not better due to a different conversion may possibly sound different than the forced initially created for machinability between PCM format. For the download practice therefore results in this scenario for the end user no sonic benefit from the choice of DSD download rail against the high-resolution PCM Download track when the PCM to DSD recording underlying is transported version of the digital recording on this thing with a fair download offer should be the case. Interestingly, however, all DSD downloads on download provider as long as the DSD downloads offer significantly more expensive than high-resolution PCM downloads.

Not much different are the sonic things when an analog tape recording serves as the analog front-end, as mentioned above, is converted directly into a digital recording in DSD or PCM format without digital manipulation or a long analog production line is used, in which the microphone signal up to the analog / digital converter only analog mixing and processing electronics through. The latter scenario is realized in practice rarely seen and even more rarely reported to the consumer. Digital copies of analog tape recordings, especially from the time before the introduction of the CD can be found in the evaluation of back catalogs abound, however, mainly in PCM format of the CD in circulation. Directly in DSD format digitized recordings - Sony has first SACDs commendably created directly from the original analog material without going through cached in PCM format analog tape recordings - once again to be the exception and may justify the use of these other more expensive Downloads hard, especially as a high-resolution PCM counterpart is hardly original analog sound from up to caused by different filter technology sound differences other than the DSD competition.

It imposes itself on the suspicion that the recently offered in the DSD format downloads are a marketing ploy in the first place, to bring the already evaluated many times in different formats back catalog without sonic advantage over PCM downloads again the people.

Since it is done because of the complex, continuous jitter realized digital structure of the FA digital device chain for an upgrade to the reproduction capability of DSD downloads are not compatible with the implementation of a DSD D/A converter, the RANGER AUDIO ENGINEERING GmbH, given the fact that downloads in DSD format compared to high-resolution downloads in PCM format does not offer the sonic progress that is suggested by an increased acquisition prices, determined not to jump on the train DSD digital downloads. The playback of DSD from SACD recordings of liberty : SACDs can be combined with high-resolution PCM music CDs and downloads on the FA chain digital devices and enjoy playback on FA speaker by fully exploiting the potential of their digital recording.