

Goldmund White Paper

## ALIZE DA/AD CONVERTER TECHNOLOGY



The Goldmund Mimesis 20.6 D/A converter

Goldmund started late in the digital field by introducing its first digital component only in 1990, after 5 years of research on D/A converters time linearity. This research demonstrated, among other things, that the main sources of digital sound inaccuracy were not to be found in the conversion circuits themselves, but in the difficulty to provide them with a low-jitter digital signal, and in the difficulty to design a time-coherent analog output filter.

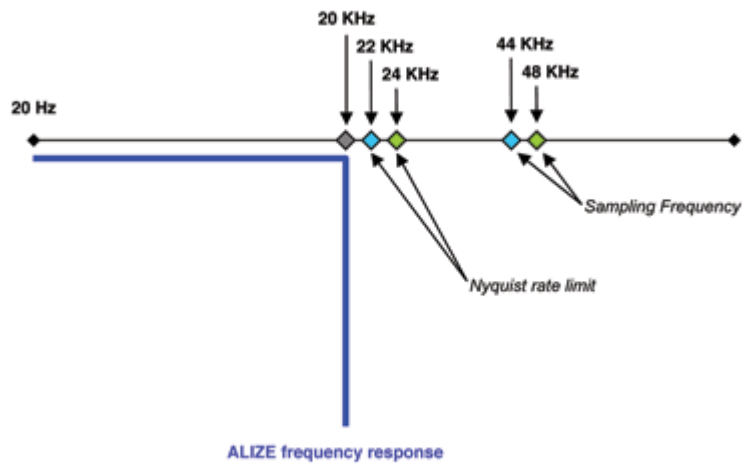
So, over the years the Alize technology concentrated on:

- The creation of an extremely precise and advanced analog filter.
- The prevention of interference from sampling frequency (ripple interference at 22k and 24kHz for CD and DVD).
- Avoiding oversampling of the signal at all costs. Over-sampling creates more jitter and will always be detrimental to the signal.
- The perfect Time Alignment, using Goldmund proprietary time reconstruction algorithms.

Today, all comments are the same when listening to a Goldmund DA converter: "it sounds absolutely analog!"

## Sampling Frequency Interference

The ALIZE extremely precise analogue filter prevents sampling frequency interference.

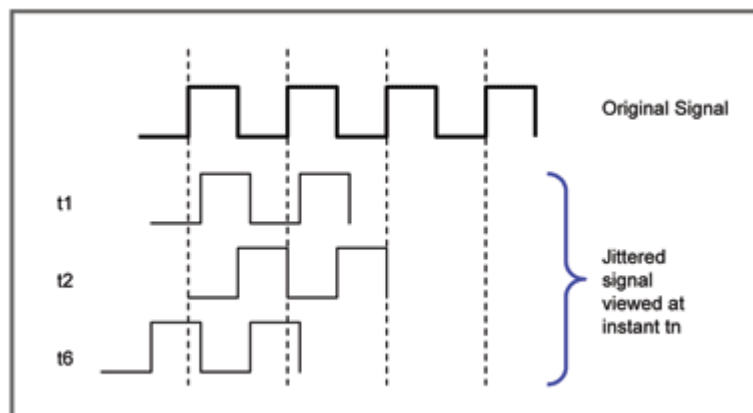


## Jitter

Jitter creates a misalignment of the significant edges in a sequence of data bits from their ideal positions. Misalignments can result in data errors.

Jitter causes bit errors by preventing the correct sampling of the digital signal by the clock recovery circuit.

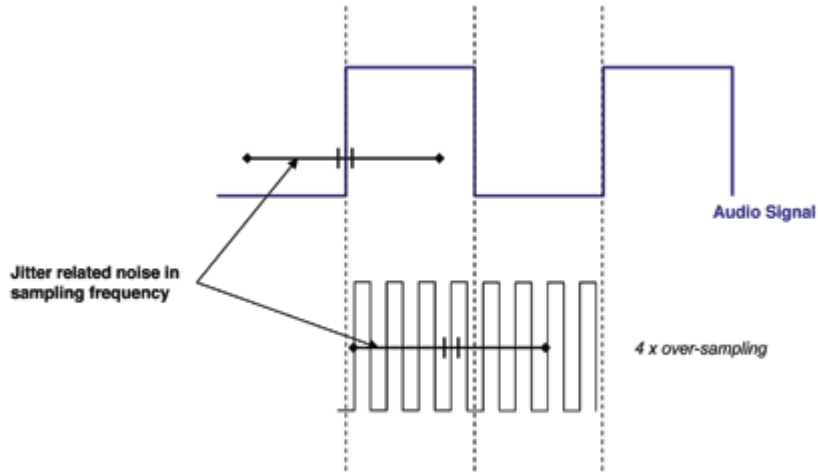
Frequency oversampling increase jitter related errors by missing signal transition change.



## Oversampling & Amp - Jitter

Frequency oversampling increases jitter related errors by missing signal transition change.

As oversampling does not reduce jitter related noise for each sample, in the illustration below, you actually may miss the second signal transition.



## Alize Flowchart

The Goldmund ALIZE unique topology ensures maximum performance. Our proprietary Digital Interface is canceling all jitter from the signal, based on a quartz locked frequency.

