

Digital Baseline Stabilization (DBS)

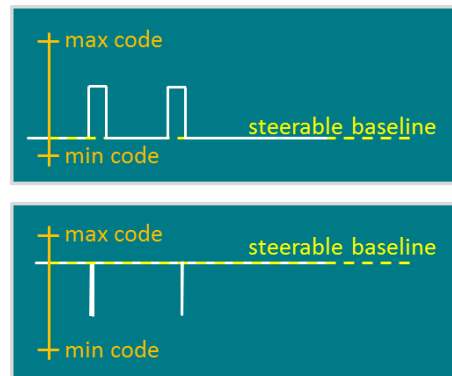
In many applications where digitizers are used to record time-domain data, pulses carry the desired information and it may be of interest to accurately determine the time between pulses or to extract information from the shape of the pulses.

Signal Processing Devices digitizers are available with embedded, user-selectable Digital Baseline Stabilization technology (DBS) which is a real-time stabilization of the short-term average value of the output signal. Pulses can be recorded from a very stable baseline without any influence of temperature drift

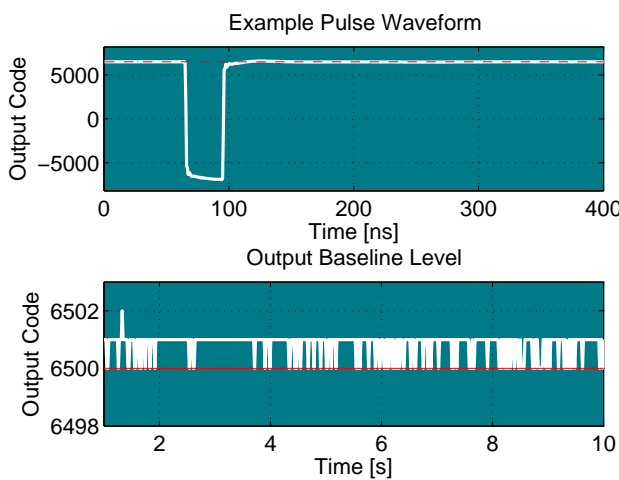
The DBS technology removes low-frequency undesired contents of the input signal below the lower cut-off frequency of digitizers with AC-coupled front-ends. It is also applicable to DC-coupled digitizers in pulsed-data applications.

Digitally-programmable pulse baseline can be achieved that is stable to a few LSBs resolution.

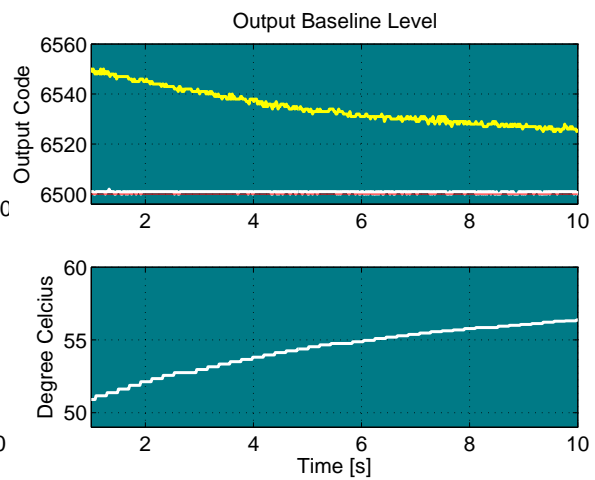
Please contact Signal Processing Devices or visit www.spdevices.com for further information.



DBS steers the average value of the output signal to a user-programmed level. The steerable average level can be placed anywhere between the minimum and maximum output code.



An example pulse waveform with a baseline programmed to the output code 6500 (top). A close-up showing the pulse baseline from an ADQ1600 digitizer as the digitizer is heated (bottom).



Comparison between a non-stabilized (yellow) and stabilized baseline (white) as the digitizer is heated during 10 seconds and is subject to repeated pulses (top). The corresponding measured digitizer temperature (bottom).

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