23AC097 Design of seismic acquisition system for volcanology

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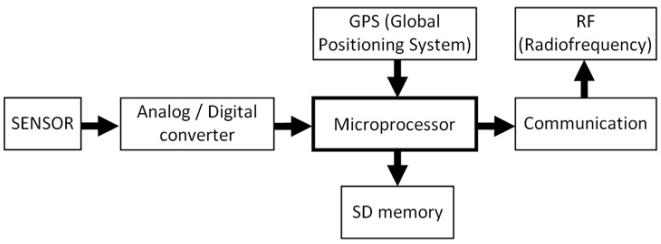
This paper presents a new design based on acquisition system of the volcanic seismic data. Mainly, this system is composed of a microcontroller to manage the peripherals, a module to acquire the information of seismic sensor and a module of communications that contains the RF and GPS system. The prototype aims to be a very low power system allowing also working during a complete year.



Block diagram of the acquisition system

24MO049 A Novel Blind Adaptive Correction Algorithm for 2-Channel Time-Interleaved ADCs

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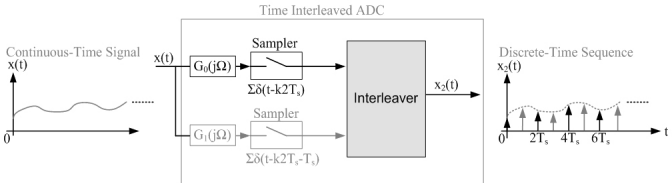
Time interleaved ADC (TI-ADC) enables effectively sampling at integer multiples of the single ADC's sampling frequency but its performance is limited due to the mismatches between the individual ADCs. In this contribution, a novel fully blind adaptive compensation structure for 2-channel time interleaved ADC frequency response mismatch correction is proposed. The proposed method overcomes the existing methods in the sense that the TI-ADC mismatch identification can be performed without reducing the bandwidth e.g. by allocating an interleaving mismatch spur band (IMSB) in the spectrum via oversampling. The performance of the proposed approach is illustrated through simulation and verified with actual hardware measurements.



2-channel TI-ADC with frequency response mismatch