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In this paper we present low-power seismic acquisition equipment for long-range telemetry, developed as a compact system for easy transportation. This acquisition system has been developed to detect the seismic activity of volcanoes, and represents the achievement of joint work from different scientific and technological disciplines such as geophysics, electronics, communications, mechanics, and information technology. The paper includes the laboratory validation results by means of automated measuring systems and calibration procedures, and the final validation results of different measurement campaigns on the *El Hierro* and Tenerife islands (Canary Islands). The seismic acquisition equipment includes an on board signal processing system developed to reduce the size of seismic data transmitted and to increase the autonomy of the equipment. Moreover, the seismic acquisition equipment has been designed based on a low cost electromagnetic sensor, which has been conditioned to achieve our goals. In a volcanic seismic survey, a series of seismic acquisition systems are placed near the area under study, where they record the natural seismic activity of volcanoes.

Keywords: volcanic monitoring, seismic acquisition, analogue to digital conversion, event detection, geophone