

Preliminary design of portable electromyography (emg) system for clinical signal acquisition

ABSTRACT

The surface electromyogram was found very useful in muscle activity scanning and diagnosis purposes. With the high demand from the physiotherapist and neurophysiologist, electromyography (EMG) has been developing rapidly to meet the needs. The quantitative analysis of the EMG signal is required to provide particular characteristics of the EMG signal. In this paper, the EMG signals system's design is presented, and the proposed portable EMG system design concept is discussed to improve the current difficulties of EMG signal collection. The sampling frequency of the EMG signal is between 20-500Hz. The EMG signal is received successfully using the wired devices during the contraction of the muscle. The portable non-invasive EMG system was successfully reduce the interference of the signal whereby the movement of the muscle can be easily detected during the data collection.