

## **Low cost and wearable multichannel surface electromyography data acquisition system architecture**

### **ABSTRACT**

Electromyography signals is one of the most important studies of muscle function used in wide area including kinesiology, rehabilitation, and occupational and sports medicine. The measurement of electromyogram always requires multichannel as every movement will involve a group of muscles. Commercial single or multichannel surface electromyogram data acquisition system is very expensive for beginner researcher. Some of the systems are available in bulky device, heavy and not portable. As electromyogram detected once muscle is active and contract, a wearable device is desired since several movement will involve during measurement is taken. Therefore, this paper presents architecture of low cost and wearable multichannel surface electromyogram data acquisition system. It is light weight, low power consumption and using stacking system as numbers of electromyography channels used can be varied based on application.

**Keyword:** Data acquisition system; Multichannel EMG; Surface electromyography