**Data acquisition for Sit-to-Stand assessment through the BENCH device: Users Guide**

This document contains detailed instructions for recording data from the BENCH device.

Device setup:

NI-Daq

BTS amplifier

Trigger board

Shimmer sensors

Connect sensors:

description

Calibration sequence:

This is a sequence to be performed once before the beginning of the trials. This sequence is needed for obtaining a functional calibration of the Shimmer sensors, in order to estimate lower limb and trunk kinematics in the sagittal plane.

Trials:

Before each acquisition, a quiet standing phase is needed for determining the quiet standing parameters, in particular for what concerns the CoP coordinates of the ground force plates and the joint angles (assumed to be 0° in this position). The subject stands for 10s, and then sits on the BENCH device without changing the position of the feet. After few seconds, the subject receives the GO signal for performing either the 5STS or the 30sSTS protocol.