

## ActiGraph White Paper

### Low Frequency Extension Filter

ActiGraph's new low frequency extension filter option now allows users to capture data previously unavailable. By adjusting filter criteria to allow more data to be retained in low activity and/or low frequency environments, elderly or other slow moving subjects can be studied. This filter significantly improves response to both activity as well as step counts. Lab testing indicates significant improvement down to 0.5 mph on a treadmill.

While minimal changes were made to the filter response itself, the post filter handling of data has been updated to allow more data to be retained. Each filtered sample is compared against an activity threshold to determine if the measured activity was indeed in response to human movement or rather an artifact of the environment. This new low frequency extension filter has a reduced threshold to allow passage of subtle movements that would have otherwise been discarded.

ActiGraph has worked to ensure activity counts that result from standard activities such as walking and running are not impacted, although slight deviation is possible when compared to the traditional filter. As always, we will continue to work to improve upon this feature and will provide updates as they become available.