AsTeRICS ModelGuide

Acceleration_headMouse_switch_local

Model Characteristics:

Model Name	Acceleration_headMouse_switch_local.asc
Model file location	ACS\models\userEvaluation\harpo
Purpose	Use the Acceleromenter as a mouse replacement. Three switches are used to emulate the mouse buttons.
Requirements	DigitalIn module is connected via USB. Two or three switches are connected to the DigitalIn module. The Accelerometer module is connected via USB.
Model Description	Accelerometer, mounted on the user head, is used to control the movements of the mouse pointer. Three switches are used to control the mouse buttons: Switch 1 controls the left mouse button. Switch 2 controls the right mouse button. Switch 3 controls the double left mouse button click.

1   Model Setup

- Connect the Accelerometer Module to a USB port of the computer and put it on the user head (using a band), behind the left ear, cable down (see figure 1).

- Connect the DigitalIn module to a USB port of the computer and attach 2 or 3 switches to the Digital In connectors: 1 - 3.

- Start the ARE and the ACS (the ACS can be started on the same machine or alternatively on a different computer)

- Load and start the model (refer to the AsTeRICS user manual if these steps are not clear). The graphical user interface (GUI) of the ARE will appear.

- The user should move the head to the neutral position. When both plots are nearly horizontal (see figure 2), click the Calibrate/Start button on the GUI.

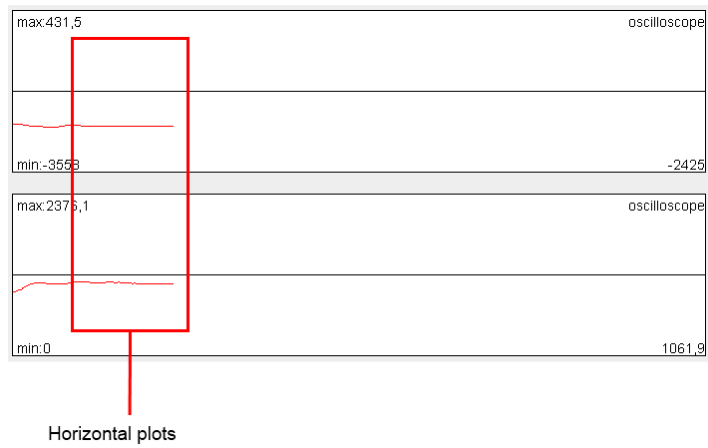Figure 1: Mounting of the Accelerometer module on the user head.

Figure 2: Example of the horizontal plots.

2 Model usage and GUI elements

When the model has been started, the graphical user interface appears. The user can configure the model using five buttons:

- Calibrate/Start – Starts and calibrates the mouse. This button should be chosen when the plots are nearly horizontal.

- Stop – Stops the mouse.

- Change direction: horizontal<->vertical – Changes the reaction of the mouse pointer. The horizontal and vertical directions will be changed.

- Change direction: left<-> right – Changes the reaction of the mouse pointer. The left and right directions will be changed.

- Change direction: top<->down – Changes the reaction of the mouse pointer. The up and down directions will be changed.
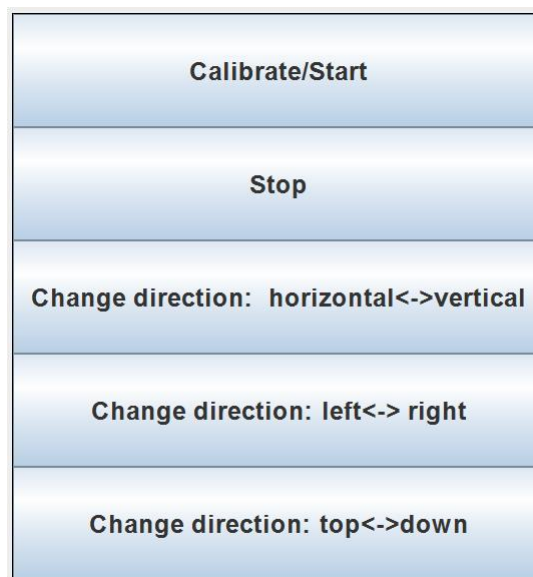
Calibrate/Start
Stop
Change direction: horizontal<->vertical
Change direction: left<-> right
Change direction: top<->down

Figure 3: GUI interfaces