

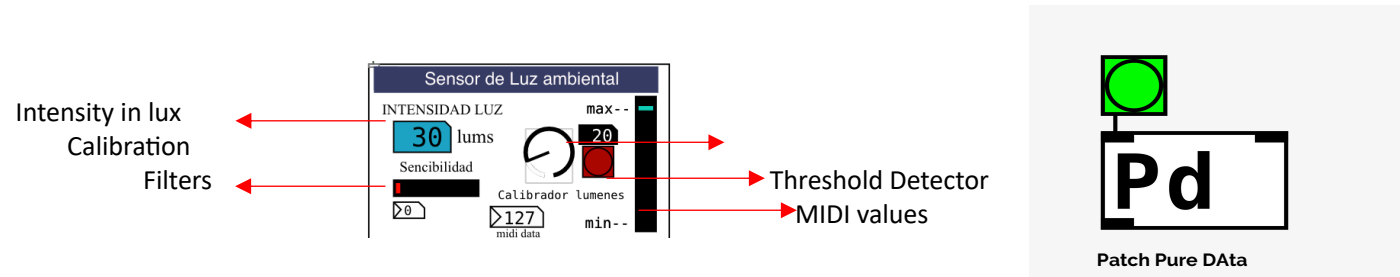
Patch Pure DATA

AMBIENT SENSOR MODULE

Diseño y desarrollo de sistemas MMHCI híbridos con bioseñales y un DMI de smartphones, para obras bio-interactivas mixtas y performáticas

Pure Data Patches for the PhD Thesis: Juan Pablo posada Alvarez





- **Light Intensity:** This value is the measurement in lumens of the ambient light sensor. Values below 5 reduce the system's ability to interact.
- **Filter window adjustment** (moving average): Reduced values in this parameter allow an uninterrupted flow of the signal with noise, while high values contribute to stability in data variation by decreasing the noise level. It is recommended to adjust this parameter according to the tests carried out with each device.
- **MIDI data:** The ambient light sensor measurement is displayed in a range of MIDI values from 0 to 127, which are transmitted through the module's outlet. To ensure that these values properly reflect the maximum and minimum amount of light captured by the smartphone, calibration must be carried out to suit the user's specific environment.
- **Lumens calibrator:** Allows the module to be adjusted to suit the user's environmental conditions. The calibration procedure is as follows: The device must be located without any object that interferes with the light reaching the sensor. Then, the top of the smartphone (where the sensor is located) must be completely covered with the hand or other object so that the sensor captures the minimum amount of incident light. Subsequently, the obstruction is removed and the maximum light incidence value is observed. This value is used as a reference to adjust the corresponding knob. Once set, the calibration button (Aut) is pressed. This calibrates the module and reduces the light incidence as much as possible, and the MIDI values and the display

must reach zero. On the other hand, when exposing the sensor to maximum light incidence, the MIDI values should oscillate at 127 and the vertical display should indicate "max".

- **Aut:** This button performs the calibration adjustment once the reference value is selected on the lumen calibrator knob
- **Light slider:** Through this display, it is possible to observe the amount of light captured by the sensor. When light is obstructed, the slider drops to the minimum values and vice versa.
- **Outlets 1:** Proximity Sensor MIDI Value Output