

This section gives an introduction on a specific hard- and software setup that is used in conjunction with the [Curvave Viewer](#) for interfacing the cylindrical CURVACE sensor. In this setup we use an intermediate [readout board](#) which connects to the cylindrical CURVACE and a PC.

This setup consists of three hardware components each running a specific software:

- A **PC** running the [Curvace Viewer](#)
- The [readout board](#) running a **processing software**
- The **cylindrical CURVACE** sensor, consisting of a top and bottom controller, each running a **readout software**

The readout software on both controllers of the cylindrical CURVACE sensor together read the columns of ommatidia and transfer the data over an SPI connection. *Details and source of this controller code is currently not available.*

We present to processing software implementations for this readout board.

The [Visualisation software](#) performs the [configuration](#) and [readout of sensor data](#) from both CURVACE controllers, [fuses the data](#) in a single frame, performs [bias removal](#) and [transfers the visual data](#) with a robust transmission protocol to the PC

The [Optic Flow software](#) performs the same initial operations ( [configuration](#) , [readout, fusion](#) and [bias removal](#) ). The visual data itself is not transferred to the PC. Instead the software [computes optic flow](#) information and transmits this data to the PC.

The [Universal software](#) features capabilities for visualisation as well as optic flow with configurable optic flow parameters.

All readout board software implementations are available withing the [Visual Processing Library](#)

[download microcontroller code samples \(.zip\)](#)