

## Experiment HH-12: Pulse and Heart Rate Variability (HRV)

### Equipment Required

PC or Mac Computer

IWX/214, USB cable, IWX/214 power supply

PT-104 Pulse plethysmograph

Mechanical or electronic metronome

Step or platform, 30cm high

### Start the Software

1. Click on LabScribe
2. Click Settings → Human Heart → Pulse-HRV
3. Once the settings file has been loaded, click the **Experiment** button on the toolbar to open any of the following documents:
  - Appendix
  - Background
  - Labs
  - Setup (opens automatically)

### Pulse Sensor Setup

1. Locate the PT-104 ([Figure HH-6-S1](#)) in the iWorx kit.



*Figure HH-12-S1: The PT-104 pulse plethysmograph.*

2. Insert the DIN8 connector of the PT-104 into channel 3 of the IWX/214 ([Figure HH-6-S2](#)).

3. Place the plethysmograph on the volar surface (where the fingerprints are located) of the distal segment of the subject's left middle finger or thumb, and wrap the Velcro strap around the end of the finger to attach the unit firmly in place. It is important that the sensor fit snugly, but not be too tight as to cut off circulation.
4. Instruct the subject to sit quietly with their hands in their lap. If the subject moves, the ECG trace may move off the top or bottom of the screen. If any muscles in the arms or upper body are moved, electromyograms (EMGs) from the muscles will appear on the ECG recording as noise.



*Figure HH-6-S2: The PT-104 pulse sensor connected to an IWX/214.*