

## Experiment HH-4: The Six-Lead Electrocardiogram

### Equipment Required

PC or Mac Computer

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

C-AAMI-504 ECG cable and electrode lead wires

Alcohol swabs

Disposable ECG electrodes

### Start the Software

1. Click on LabScribe
2. Click Settings → Human Heart → SixLeadECG
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)

### ECG Cable Setup

1. Locate the C-AAMI-504 ECG cable and electrode lead wires ([Figure HH-4-S1](#)) in the iWorx kit.



*Figure HH-4-S1: The C-AAMI-504 ECG cable with five lead wires attached.*

2. Insert the black AAMI connector on the end of the ECG cable into the isolated inputs of Channels 1 and 2 of the IWX/214 ([Figure HH-4-S2](#)).

3. Insert the connectors on the five color-coded electrode lead wires into the matching sockets on the lead pedestal of the ECG cable.
4. Instruct the subject to remove all jewelry from their wrists and ankles.
5. Use an alcohol swab to clean and scrub a region with little or no hair, on the inside of the subject's right wrist or clavicle. Let the area dry.
6. Remove a disposable ECG electrode from its plastic shield, and apply the electrode to the scrubbed area on the wrist or clavicle.
7. Repeat Steps 5 and 6 for electrodes on the inside of the right ankle, the inside of the left wrist, and the insides of right calf.
8. Snap the lead wires onto the electrodes, so that:
  - the red (+1) lead is attached to the right wrist or under right clavicle,
  - the black (-1) lead is connected to the left wrist or under left clavicle,
  - the green (C or ground) lead is connected to the right ankle.
  - the white (+2) lead is attached to the right leg – mid calf,
  - the brown (-2) lead is connected to the left arm.
9. Instruct the subject to sit quietly with their hands in their lap. If the subject moves, the ECG trace will move off the top or bottom of the screen. If the subject moves any muscles in the arms or upper body, electromyograms (EMGs) from the muscles will appear on the ECG recording as noise.



*Figure HH-4-S2: The C-AAMI-504 ECG cable connected to an IWX/214.*