

Experiment HH-4: The Six-Lead Electrocardiogram

Equipment Required

PC or Mac Computer

IXTA, USB cable, IXTA power supply

iWire-B3G ECG cable and electrode lead wires

Alcohol swabs

Disposable ECG electrodes

Note – You must connect the iWire-B3G to the IXTA prior to turning it on.

ECG Cable Setup

1. Locate the iWire-B3G ECG cable and electrode lead wires in the iWorx kit.
2. Insert the connector on the end of the iWire-B3G ECG cable into the iWire 1 input on the front of the IXTA.
3. Insert the connectors on the five color-coded electrode lead wires into the matching sockets on 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 under the right 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 under the 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 left calf.
8. Snap the lead wires onto the electrodes, so that:
 - the red (+1) lead is attached to the left wrist or under the left clavicle,
 - the black (-1) lead is connected to the right wrist or under the right clavicle,
 - the green (C or ground) lead is connected to the right ankle.
 - the white (+2) lead is attached to the left leg – mid calf,
 - the brown (-2) lead is connected to the right 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-S1: The iWire-B3G ECG cable connected to an IXTA.