

Experiment HP-5: Heart Rate, Blood Pressure, and Vagal Tone

Personality and Vagal Tone Section

Equipment Required

PC or Mac Computer

IWX/214 data acquisition unit

USB cable

IWX/214 power supply

PT-104 Pulse plethysmograph

RM-204 Respiration monitor

BP-600 Non-invasive blood pressure transducer – used in the HeartRate-BP-Vagal Tone section

IWX/214 Setup

1. Place the IWX/214 on the bench, close to the computer.
2. Check Figure T-1-1 in the Tutorial chapter for the location of the USB port and the power socket on the IWX/214.
3. Check Figure T-1-2 in the Tutorial chapter for a picture of the IWX/214 power supply.
4. Use the USB cable to connect the computer to the USB port on the rear panel of the IWX/214.
5. Plug the power supply for the IWX/214 into the electrical outlet. Insert the plug on the end of the power supply cable into the labeled socket on the rear of the IWX/214. Use the power switch to turn on the unit. Confirm that the power light is on.

Start the Software

1. Click on the LabScribe shortcut on the computer's desktop to open the program. If a shortcut is not available, click on the Windows Start menu, move the cursor to All Programs and then to the listing for iWorx. Select LabScribe from the iWorx submenu. The LabScribe Main window will appear as the program opens.
2. On the Main window, pull down the Settings menu and select Load Group.
3. Locate the folder that contains the settings group, IPLMv6Complete.iwxgrp. Select this group and click Open.
4. Pull down the Settings menu again. Select the Personality-VagalTone settings file.
5. After a short time, LabScribe will appear on the computer screen as configured by the Personality-VagalTone settings.
6. For your information, the settings used to configure the LabScribe software and the IWX/214 unit for Exercises 1 and 2 are programmed on the Preferences Dialog window which can be viewed by selecting Preferences from the Edit menu on the LabScribe Main window.

7. 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)

RM-204 Setup

1. Plug the PT-104 into channel 3 of the IWX/214 ([Figure-HP-5-S1](#)).
2. Plug the DIN connector of the RM-204 respiration monitor ([Figure-HP-5-S2](#)) into Channel 4 input ([Figure-HP-5-S3](#)).



Figure HP-5-S1: The PT-104 pulse plethysmograph.

3. Wrap the elastic belt of the respiration monitor around the subject's chest at a level that is below the sternum. Place the sensor inside the belt so that the sensor is in the center of chest at a level that is even with the subject's elbows.



Figure HP-5-S2: The RM-204 respiration monitor.



Figure HP-5-S3: The PT-104 and RM-204 connected to an IWX/214.