

Experiment HP-6: Cynicism/Hostility and the “Hot Reactor”

Equipment Required

PC or Mac Computer

IXTA, USB cable, IXTA power supply

PT-104 Pulse plethysmograph

BP-220 Non-invasive blood pressure transducer and black tygon tubing

Blood Pressure and Pulse Transducers Setup

1. Locate the BP-220 non-invasive blood pressure (NIBP) transducer and PT-104 pulse plethysmograph.
2. Plug the DIN8 connector of the PT-104 into the Channel A5 input of the IXTA.
3. Plug the tubing connector of the BP-220 into the channel labeled A2 on the front of the IXTA.

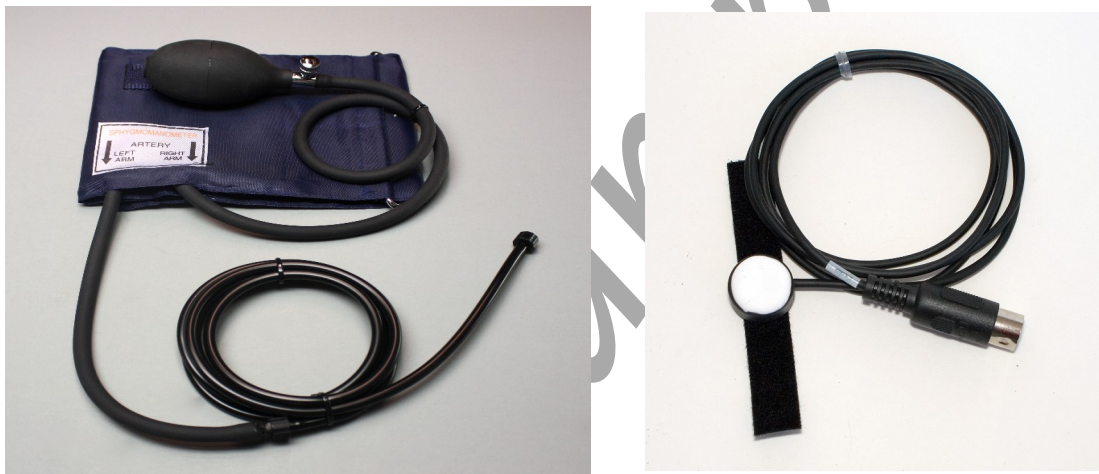


Figure HP-6-S1: The BP-220 non-invasive blood pressure transducer and PT-104 pulse sensor

Calibration of the Non-Invasive BP Transducer

Procedure

1. Lay the cuff of the BP-220 on the lab table.
2. Click on the Record button.



Figure HP-6-S3: The PT-104 pulse transducer and the BP-220 non-invasive blood pressure transducer connected to an IXTA.

3. Click on the AutoScale button at the upper margin of the Pulse and Blood Pressure channels.
4. Record data while the cuff is laying on the table for about 10 seconds.
5. Select Save As in the File menu, type a name for the file. Click on the Save button to save the data file.

Units Conversion

1. Scroll to the beginning of the calibration data for the BP-220 non-invasive blood pressure transducer.
2. Use the Display Time icons to adjust the Display Time of the Main window to show the data collected for 10 seconds on the Main window at the same time. The required data can also be selected by:
 - Placing the cursors on either side of data required;
 - Clicking the Zoom between Cursors button on the LabScribe toolbar to expand the segment with the four selected pulse cycles to the width of the Main window.
3. Click the 2-Cursor icon. Place one cursor on the beginning of the flat section of data and the second cursor on the flat section of data collected approximately 10 seconds later.
4. Click V2-V1 to the right of the Blood Pressure channel and click Set Offset.
5. On the units conversion window, put a check mark in the box next to Apply units to all blocks. Enter "0" in the box: Set Mean Value between Cursors to:. Click on the OK button in the lower right corner of the window to activate the units conversion.

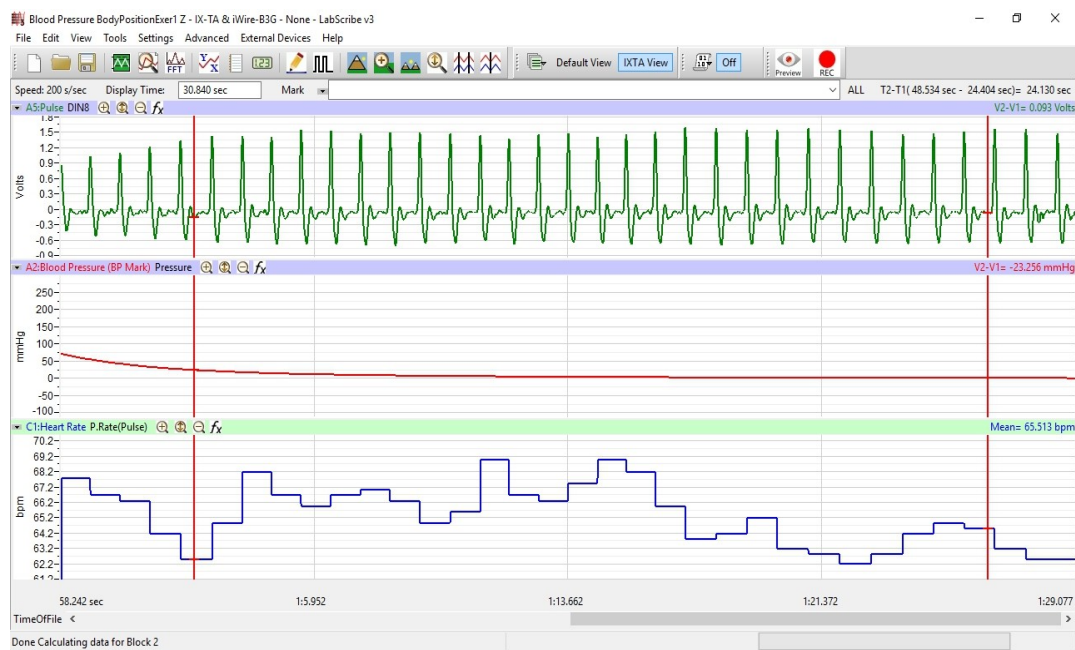


Figure HP-6-S4: The output of the BP-220 non-invasive blood pressure transducer displayed on the middle channel of the Main window. Pulse is shown on the top channel and heart rate on the bottom.

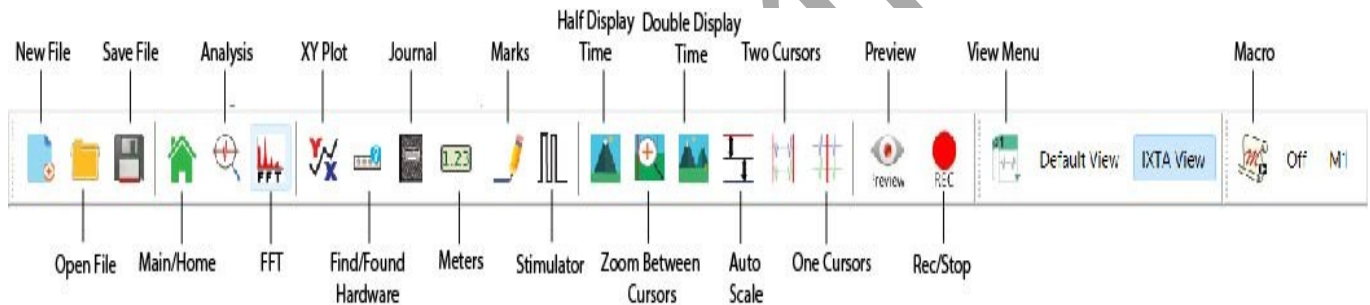


Figure HP-6-S5: The LabScribe toolbar.

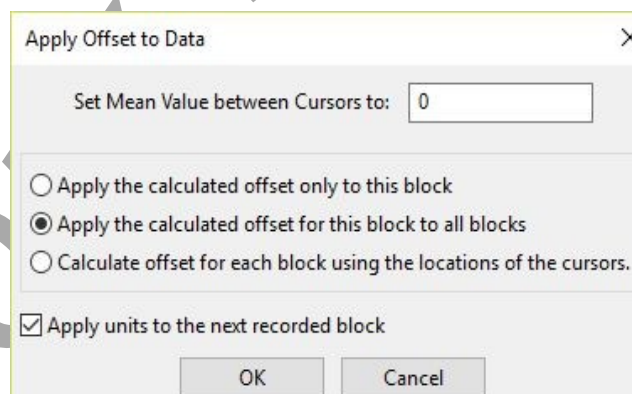


Figure HP-6-S6: The Units Offset dialogue window with the mean values set to "0".

This lab is part 4 of a series of 4 labs. All labs can be done individually, but it is best to do them in this order:

- 1) Heart Rate, Blood Pressure, and Vagal Tone
- 2) Personality and Vagal Tone
- 3) Vigilance and Reaction Time
- 4) Hot Reactor