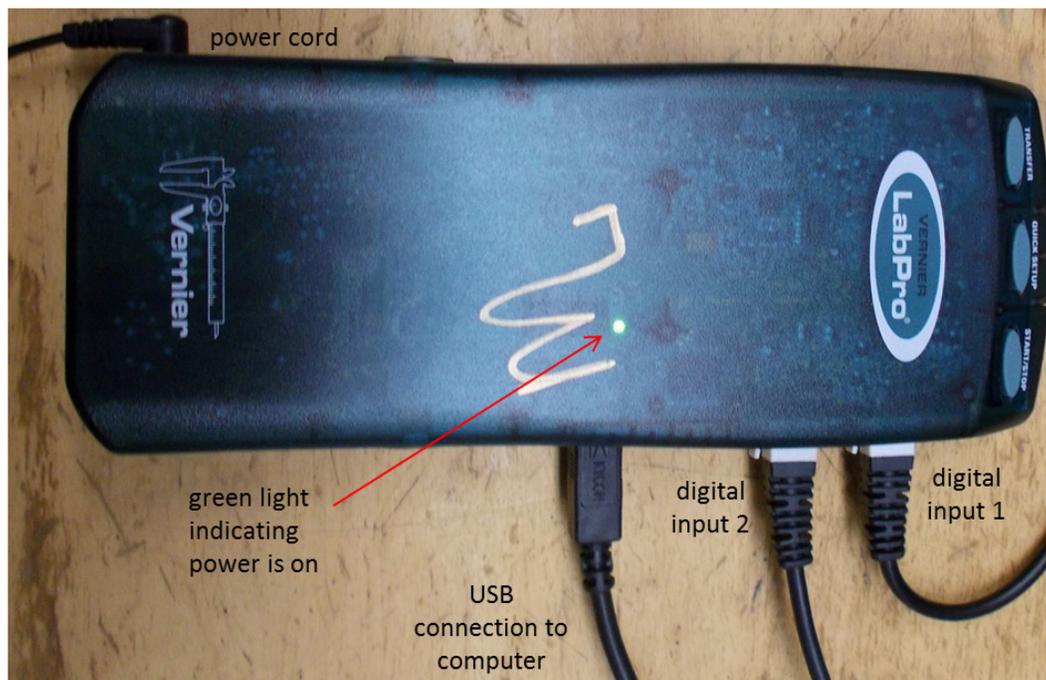


## Appendix C: The Vernier LabPro Interface Box



**Figure 1.** The Vernier LabPro Interface box.

The Vernier LabPro interface shown in Figure 1 is a dark green plastic box that you will typically find on the lab bench in Physics 261. The box allows the computer to connect to and read out different sensors, such as the sonic ranger, optical gate pressure sensor or thermometer. Figure 1 shows the LabPro interface configured to read out two sonic rangers, as used in Lab IV with three external wires.

### Trouble-shooting start-up

If you are having trouble setting up the LabPro interface box, and you don't get a green light on the box, you can trouble-shoot it by following these steps:

- (1) Check that all the power strips on your bench are switched on - your computer or other equipment might be plugged into a different power strip than the LabPro interface.
- (2) Check that your computer is on - if it isn't, start it up. You can't use the LabPro interface without a computer.
- (3) Check that the "Vernier AC Adapter Class 2 Transformer" is plugged into the power strip and that the other end of the power cord is plugged into LabPro's power port (---) (see Figure 1).
- (4) Check that the USB cord is plugged into the LabPro box (see Figure 1) and that the other end of this cord is plugged into a USB port on the computer. If you are still encountering difficulties, try plugging into a different USB port on the computer.
- (5) Check that you have the sensor or sensors connected to the proper channel on the LabPro interface box. Figure 1 shows the layout for connecting two Ultrasonic Motion

Detectors, one goes to the LabPro digital channel DIG/SONIC 1 and the other goes to the DIG/SONIC 2 channel.

### **Normal start-up Sequence**

When the LabPro is first powered, all three of its lights (red, yellow and green) will flash once. It will then proceed to go through its power up sequence, which should conclude in about 5 seconds. If this is successful, the LabPro box will produce a sequence of 6 beeps, as it cycles through the three lights. It will do this even if nothing but the power wire is connected. The **yellow light** will flash briefly just before the LabPro commences taking data, indicating it is ready to receive data. The **green light** will glow continuously while the instrument is collecting data. The **red light** will glow if there is a malfunction.

### **Pushbuttons**

The three pushbuttons on the LabPro box are disabled for the current lab applications – it will not improve the experiment to push them.

### **Logger Pro**

To use the interface, you need to start the **Logger Pro** software.

If a Logger Pro program has been left running from the previous lab, it is best to shut it down and restart.

To start up LoggerPro, go to the computer desktop, click *Lab Templates*, then select the template appropriate for your experiment. Once the template opens, click on *sensor setup*. Check that the appropriate sensor has been selected (default), and that this matches the actual connection to the LabPro interface, and then click “ok.

The computer should now have a graph with the x and y-axes labeled for your experiment.

If Logger Pro does not detect the sensor, check that it is actually plugged in and its power light is on (if it has a power light).

If the green collect button does not appear in the menu, try restarting the file. If that does not work, try re-booting the LabPro interface by disconnecting and plugging in its power.