

### Introduction

Using the LabPro you can collect data using a PC or Mac computer, a TI-82 (or higher) calculator, or by itself to download the data later.

The probes used with the LabPro are temperature, light, voltage, conductivity, sound, pH, atm. Oxygen, atm. Carbon Dioxide, motion, and more than forty others. The first three were included with the kit we ordered, so we have plenty of those. The others are available from loan by US Science department. We will order those that seem particularly useful (pH, sound, etc).

Recognize that use of this Quick Reference Guide will not replace reading and using the User's Guide that is published by Vernier. It simply puts several important facts and hints together on one easy to access sheet.

### Using LabPro with a computer or in Remote function

To use the LabPro with a computer you must install the software, connect the LabPro with a serial or USB port cable, attach one or more sensors, and start the Logger Pro software. Most sensors are auto ID sensors, meaning that the LabPro recognizes the sensor and will automatically tell you it is ready for communication.

The Logger Pro program must be installed on your computer. We have a site license to install Logger Pro on all the computers we will use for data collection. Plug in the LogPro, connect the sensor(s) you wish to use, and pull up the Logger Pro program. The computer program will automatically identify the sensor. If it does not, go to the **Setup** interface button and **Scan** for the sensor.

A screen showing a chart and graph for that sensor will appear. You can change the way data is collected by pulling down the **Data** button on the tool bar. The number, frequency, and duration of data collection points can be changed using this button.

To begin collecting data, push the **Collect** data button and it will begin collecting data. To use the LabPro for remote data collection, push the **Remote** tool button and follow the instructions on the screen. When you are done collecting data, you again pull down the **Remote** button and select retrieve data. It will automatically transfer and display the data.

If you wish to change the settings on your sensor, push the **Setup** button and follow the instructions. If you wish to use more than one sensor at a time, you can plug in up to three sensors and collect data simultaneously.

### Using LabPro with a TI-82 or TI-83

Attach the sensor to the LabPro and the LabPro to the calculator, using the interface cradle and short calculator interface cable. Start the DataMate calculator program and you are ready to start collecting data.

### To print the Graph or Chart

If you wish to print out the graph and/or chart that displays the data that you have collected, you must connect to a computer that is hooked up to the network or download that data to a disk that can be transferred to such a computer. Remember that the IMacs have no disk drive.

Available Vernier Lab Pro Sensors	Order code	Price	Rev. 8/3/01
3-Axis Accelerometer	3D-BTA	\$199	
25-g Accelerometer	ACC-BTA	\$91	
Low-g Accelerometer	LGA-BTA	\$90	
Barometer	BAR-BTA	\$58	
CO2 Gas Sensor	CO2-BTA	\$261	
Colorimeter	COL-BTA	\$99	
Conductivity Probe	CON-BTA	\$89	
Current & Voltage Probe	CV-BTA	\$89	
Digital Control Unit	DCU-BTD	\$61	
Dissolved Oxygen Probe	DO-BTA	\$191	
Dual-Range Force Sensor	DFS-BTA	\$99	
EKG Sensor	EKG-BTA	\$142	
Exercise Heart Rate Monitor	EHR-BTA	\$91	
Extra Long Temperature Probe	TPL-BTA	\$70	
Gas Pressure Sensor	GPS-BTA	\$71	
Flow Rate Sensor	FLO-BTA	\$129	
Instrumentation Amplifier	INA-BTA	\$51	
Ammonium Ion-Selective Electrode	NH4-BTA	\$165	
Calcium Ion-Selective Electrode	CA-BTA	\$165	
Chloride Ion-Selective Electrode	CL-BTA	\$165	
Nitrate Ion-Selective Electrode	NO3-BTA	\$165	
Light Sensor	LS-BTA	\$45	
Magnetic Field Sensor	MG-BTA	\$54	
Microphone	MCA-BTA	\$35	
Motion Detector	MD-BTD	\$64	
O2 Gas Sensor	O2-BTA	\$186	
pH Sensor	PH-BTA	\$74	
Radiation Monitor	RM-BTD	\$205	
Relative Humidity Sensor	RH-BTA	\$67	
Respiration Monitor Belt (requires GPS-BTA)	RMB	\$58	
Rotary Motion Sensor	RMS-BTD	\$195	
Stainless Steel Temperature Probe	TMP-BTA	\$29	
Student Radiation Monitor	SRM-BTD	\$145	
Turbidity Sensor	TRB-BTA	\$99	
Thermocouple	TCA-BTA	\$37	
Vernier Photogate	VPG-BTD	\$41	
Voltage Probe	VP-BTA	\$9	

Vernier Accessories to LabPro	Order code	Price
Serial to USB Adaptor	DIN-BTA	\$5
USB to Serial Adaptor	BTA-DIN	\$5
Data Vest	DV	\$26
CO2-O2 Tee	CO2-TEE	\$5
Extension Sensor Cable (Analog)	EXT-BTA	\$12
Extension Sensor Cable (Digital)	EXT-BTD	\$12
Pressure Sensor Accessories Kit	PS-ACC	\$7
Plastic Tubing Clamps (pkg. of 100)	PTC	\$20