

# Electrode Amplifier

## (Order Code EA-BTA)



Use our Electrode Amplifier to collect data with almost any electrode that has a BNC connector. This includes electrodes from Vernier such as one of our pH, ISE, or ORP electrodes, or third-party electrodes, such as pH, ISE (ion-selective electrode), or ORP (oxidation-reduction potential). The Electrode Amplifier can produce an output in mV, pH (when using a pH electrode). You can also perform your own 2-point linear calibration.

**Note:** Vernier products are designed for educational use. Our products are not designed nor are they recommended for any industrial, medical, or commercial process such as life support, patient diagnosis, control of a manufacturing process, or industrial testing of any kind.

### Compatible Software

See [www.vernier.com/manuals/ea-bta](http://www.vernier.com/manuals/ea-bta) for a list of software compatible with the Electrode Amplifier.

### Getting Started

1. Connect the sensor to the interface (LabQuest Mini, LabQuest 2, etc.).
2. Start the appropriate data-collection software (Logger Pro, Logger Lite, LabQuest App, or Graphical Analysis 4) if not already running, and choose New from File menu. The software will identify the sensor and load a default data-collection setup. You are now ready to collect data.

If you are collecting data using a Chromebook™, mobile device such as iPad® or Android™ tablet, or a Vernier wireless interface, please see the following link for up-to-date connection information:

[www.vernier.com/start/ea-bta](http://www.vernier.com/start/ea-bta)

### Specifications

Power	7 mA @ 5VDC
Input range	-450 mV to +1100 mV
Impedance	100 M Ohm
Gain	2.2 V/V
Offset	120 V (nominal)

Stored calibration (mV)	slope: 466.875
	intercept: -559.793
Stored calibration (pH)	slope: -7.752
	intercept: 16.237

### Care and Maintenance

Do not wrap the cable tightly around the sensor for storage. Repeatedly doing so can irreparably damage the wires and is not covered under warranty.

### How the Sensor Works

The Electrode Amplifier is a circuit that allows the millivolt output of an electrode to be monitored by an interface. The electrode is connected to the BNC connector on one end of the amplifier. The cable from the Electrode Amplifier connects to the interface.

The Electrode Amplifier will report values in units of pH. If an ORP or ISE electrode is attached, however, you can choose to read in units of mV. Custom linear 2-point calibrations can also be performed if desired.

### Troubleshooting

For troubleshooting and FAQs, see [www.vernier.com/til/1430](http://www.vernier.com/til/1430)

### Repair Information

If you have watched the related product video(s), followed the troubleshooting steps, and are still having trouble with your Electrode Amplifier, contact Vernier Technical Support at [support@vernier.com](mailto:support@vernier.com) or call 888-837-6437. Support specialists will work with you to determine if the unit needs to be sent in for repair. At that time, a Return Merchandise Authorization (RMA) number will be issued and instructions will be communicated on how to return the unit for repair.

### Accessories/Replacements

Item	Order Code
Ammonium Ion-Selective Electrode BNC	NH4-BNC
Calcium Ion-Selective Electrode BNC	CA-BNC
Chloride Ion-Selective Electrode BNC	CL-BNC
Flat pH Electrode BNC	FPH-BNC
Glass-Body pH Electrode BNC	GPH-BNC
Nitrate Ion-Selective Electrode BNC	NO3-BNC
ORP Electrode BNC	ORP-BNC
pH Electrode BNC	PH-BNC
Potassium Ion-Selective Electrode BNC	K-BNC

## Warranty

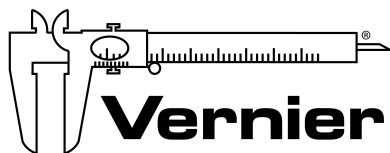
Vernier warrants this product to be free from defects in materials and workmanship for a period of five years from the date of shipment to the customer. This warranty does not cover damage to the product caused by abuse or improper use. This warranty covers educational institutions only.

## Disposal

When disposing of this electronic product, do not treat it as household waste. Its disposal is subject to regulations that vary by country and region. This item should be given to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring that this product is disposed of correctly, you help prevent potential negative consequences on human health or on the environment. The recycling of materials will help to conserve natural resources. For more detailed information about recycling this product, contact your local city office or your disposal service.



The symbol, shown here, indicates that this product must not be disposed of in a standard waste container.



Vernier Software & Technology  
13979 SW Millikan Way • Beaverton, OR 97005-2886  
Toll Free (888) 837-6437 • (503) 277-2299 • Fax (503) 277-2440  
info@vernier.com • www.vernier.com

Rev. 01/31/20

Logger *Pro*, Logger *Lite*, Graphical Analysis, Vernier LabQuest, Vernier LabQuest Mini, and other marks shown are our trademarks or registered trademarks in the United States.

iPad is a trademark of Apple Inc., registered in the U.S. and other countries.

All other marks not owned by us that appear herein are the property of their respective owners, who may or may not be affiliated with, connected to, or sponsored by us.