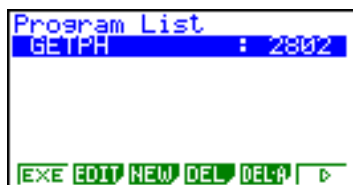




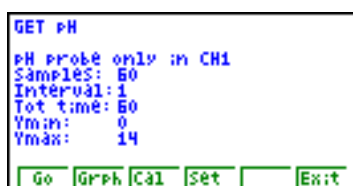
# Using the GETPH program for pH monitoring and data collection



Connect the EA-100 to a CFX9850G or later calculator, turn both on and start the program GETPH.

Make sure the Vernier pH System consisting of the amplifier box and separate electrode (PH-DIN) is connected to CH1 using the DIN adaptor (CBL-DIN).

It is not possible to use any other probe at the same time.

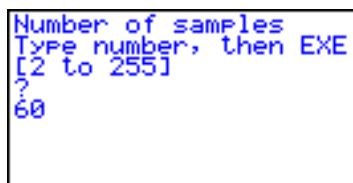


You can choose from the sampling default values displayed when the program starts....

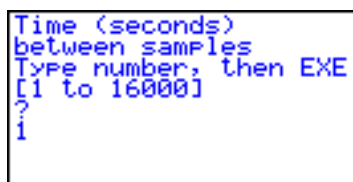


Or choose **Set** to enter the setup view and alter the values one at a time.

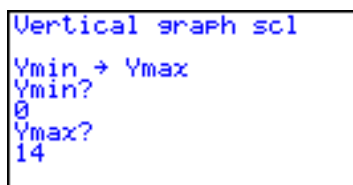
**Rset** resets all values and clears any calibration equations.



**Smpl** allows you to change the number of samples.



**Intv** allows you to change the time between samples.



**Yscl** allows you to change the scale on the vertical graph axis to match the expected values during your experiment.

Choose **Done** to return to the main menu.

## *Calibration*

Choose **Cal** from the main menu if you want to run a calibration experiment for the probe. This is not usually needed since the program produces accurate results using the built in calibration equation recommended by Vernier.



# Using the GETPH program for pH monitoring and data collection

```
Point 1 Wait for
steady reading then
long press EXE
Reading= 1.7512
* recorded *
Value?
7
```

First enter the number of calibration points you plan to use (minimum of 2) and then a screen similar to the one shown will appear.

**When you first start using the probe, the electrode amplifier can take up to 1 or 2 minutes to fully ‘warm up’ so allow at least this time before storing the first reading.**

```
Using y=ax+b coeffs
a=-3.789792825
b=13.63668519
EXE to cont..
```

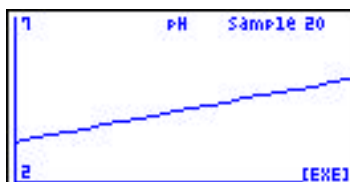
A pH of 7 will usually give a reading of about 1.7 to 1.8 as shown. A pH of 4 gives a reading of about 2.5 to 2.6. Finally, the calculated calibration equation (which will be used automatically by the program) is displayed.

```
GET PH
USing Calib Eqn
PH probe only in CH1
Samples: 50
Interval: 1
Tot time: 50
Ymin: 0
Ymax: 14
Go Grph Cal Set Exit
```

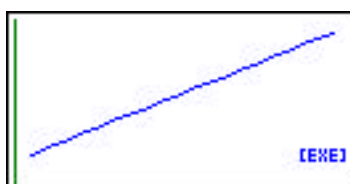
A reminder about the calibration equation is shown after calibration.

```
GET PH
PH probe only in CH1
Samples: 20
Interval: 1
Tot time: 20
Ymin: 2
Ymax: 7
F1 to Start when Steady 3.243
Go
```

Choose **Go** from the main menu to initiate sampling. Wait until the reading shown is steady before choosing **Go** again. **When you first start using the probe, the electrode amplifier can take up to 1 or 2 minutes to fully ‘warm up’ so wait at least this time before starting the experiment.**



The screen clears and the graph is plotted as points are sampled. When finished press **EXE**.



You can replot the graph (auto-scaled) by choosing **Grph** from the main menu.

Choose **Exit** and switch to STAT mode to see:  
List 1 – Last sample times.  
List 2 – Last sample pH data.

GETPH is freely available from the ACES website at <http://www.school.casio.com.au>

GETPH was written and documented by Charlie Watson in September 1999.

Email comments or suggestions to him via his website at

<http://carmen.murdoch.edu.au/~cwatson/casio.html>