Accuracy & Calibration of Water Quality Meters

The accuracy of water quality meters and when and how often to calibrate a meter are both subjects which seem to be somewhat misunderstood. Van Walt's view on these topics is:

1. Quoted accuracy of a water quality meter system:

All water quality meter manufacturers quote the accuracy of the meter itself. So, for example for pH this will usually be 0.1 or 0.2 but don't be fooled because no one uses a meter on its own as it will be connected to a cable and an electrode or a cluster of electrodes. Most manufacturers, with the exception of YSI, do NOT quote an accuracy of a system i.e. meter-cable-electrode which will be much lower than that of the meter alone. The comparison of accuracy between systems should, in our view, only be made for a total system which we call the SYSTEM accuracy.

While on this subject, it's worth mentioning that FIELD meters will generally have a lower accuracy than LABORATORY meters and it is well worth considering the SYSTEM accuracy when writing or reading a report.

2. Yearly Calibration:

Often customers want to send us their meters back for a yearly calibration. Whereas we can certainly do this and charge you for the service, this is, in our view, nonsensical and a waste of your money. All we could do would be to declare the instrument as calibrated AT THAT MOMENT IN TIME but as soon as we repackage the equipment and return it to the customer, calibration could be upset; for example by a knock while in transit. We cannot stress enough that a calibration, or, as a minimum a check against a "confidence" solution is done before any important batch of measurements. Of course, you can do this quite easily yourself and we supply both calibration standards and confidence solutions. Please be aware that calibration cannot be done with the confidence solution.