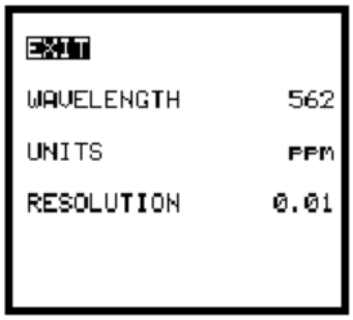
3.6 PROTEIN MODE

Select **PROTEIN MODE** from the main menu options.

The following display will be shown:

NOTE: B.C.A., Bradford, Lowry and Biuret, although using different wavelength settings, are all performed using the same procedures as detailed below.
Measurement method is by Standard Curve (i.e. absorbance versus concentration).
Curve fit - Quadratic

Select **SETUP** and the following display will be shown:



EXIT Allows the user to exit this menu

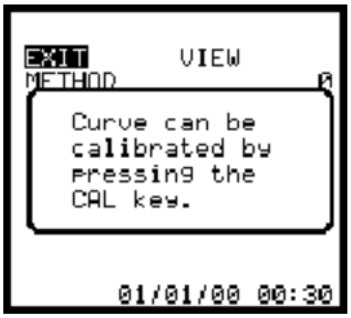
WAVELENGTH Allows the user to select the appropriate wavelength if different from the standard default values of:

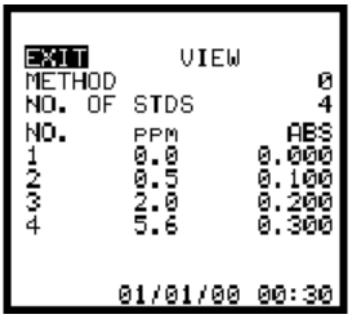
B.C.A.	562nm
Bradford	590nm
Lowry	750nm
Biuret	540nm

UNITS Allows the user to select the preferred measurement unit (ppm, mg/l, g/l, M, %, μg/l, μg/ml, mg/ml, ng/ml, none, mM)

RESOLUTION Allows the user to select the preferred resolution (1, 0.1, 0.01 or 0.001).
The final figure shown will be reduced in resolution if it not possible to show all the required decimal places on the screen.

Prior to sample measurement it is necessary to construct a curve using a number of standards.
Select **CURVE** and the following display will be shown:





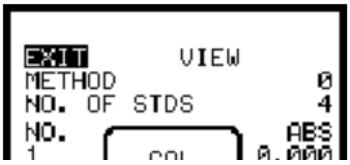
EXIT Allows the user to exit this menu
VIEW Allows the user to view the calibration curve as a graphic
METHOD Allows the user to select which of the 10 methods available they are working on (numbered 0-9). When the method number is changed the data previously displayed is stored against the previous number, and you are presented with the data stored against the current method number
NO. OF STDS Number of standards being used for the calibration curve
NO. ppm ABS Column headings for the calibration points

NOTE: Date and time will be shown at the bottom of the display. This indicates the last time the method was modified.

Measurements will be displayed in Absorbance only.
Enter the values of the standards being used with the lowest concentration value being entered first (lowest to highest value) in the centre column having first selected the unit of measurement required. A minimum of 3 standards to a maximum of 6 is required.
Standard curve absorbance values can be manually entered, if known,by the user, or by calibration with known standard solutions.

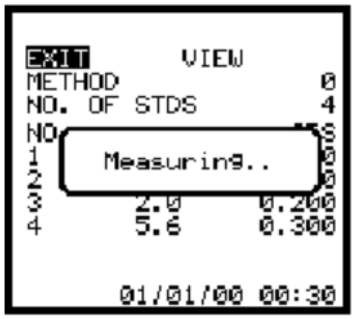
Press the **CAL** key and the following message will be displayed:

Press the **CAL** key again with a sample blank present in the sample chamber. The display will momentarily show **CAL**.



and the instrument display will update to show the following:

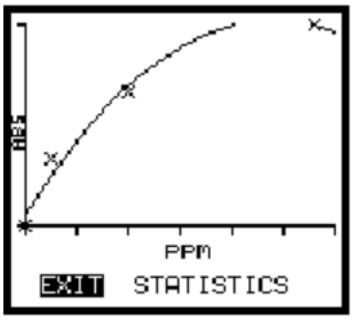
Each time a calibration is performed the display will momentarily show **MEASURING**



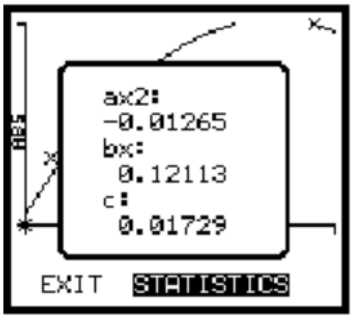
and then update, requesting the next standard to be placed in the sample chamber until the specified number of standards has been calibrated.

If it is necessary to abort the calibration sequence before all standards have been measured, this can be carried out by pressing any keys other than **CAL** or **ENTER**. Only information entered up to that point will be retained.

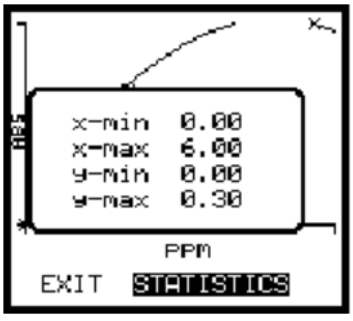
Once entry of these values is completed, selection of the **VIEW** option will allow the user access to the graphical calibration curve constructed from these values. An X displayed on the graph indicates the position of a calibration point.



Selecting **STATISTICS** from this menu will show the terms used for the calculated quadratic curve fit. The curve fit is of the form $y = ax^2+bx+c$, so the statistics page shows the ax^2, bx and c terms separately.



Pressing any key again allows the user to view the x and y min/max values (i.e. the axis limits to which the graph is plotted). The x-axis = concentration; the y-axis = absorbance.



If unlocked it is possible to adjust/amend the standard or Absorbance values by using the right arrow key to move over to Absorbance values.

Performing a measurement

Press any key to clear the above screen.

Place a sample blank into the sample chamber and close the sample chamber lid. Press the **CAL** key to initiate a calibration.

Remove the sample blank from the sample chamber and replace with the unknown sample. The Absorbance value is read and plotted against the curve to determine the concentration value. This value is presented in large figures at the top of the screen.