

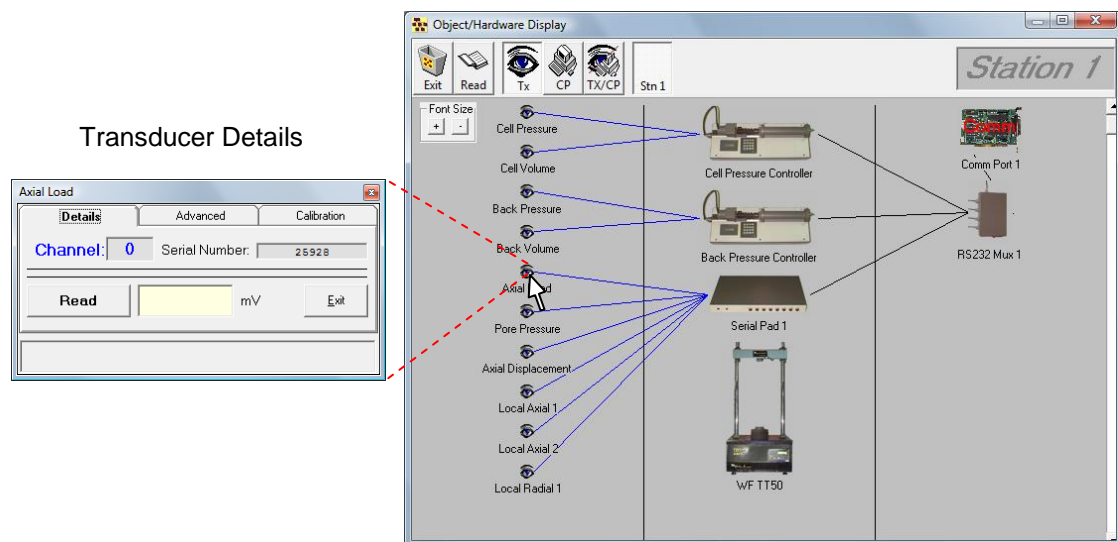
142 Helpsheet

Software

GDS Lab

Editing and Entering New Transducer Calibration Data

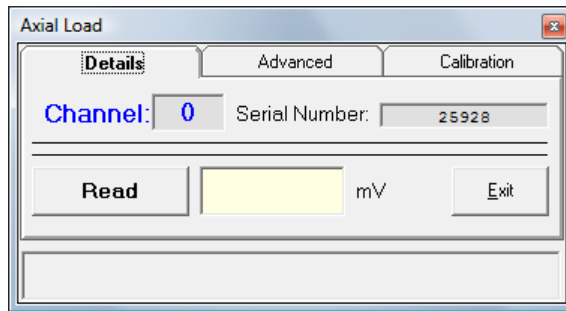
1. Introduction



GDSLab allows you to easily change the sensitivity and input other calibration parameters of transducers connected to a system. It also allows you to create point by point manual calibration curves and use these for your transducers. All this information is stored in the x:\GDSLAB\Calibration Files directory.

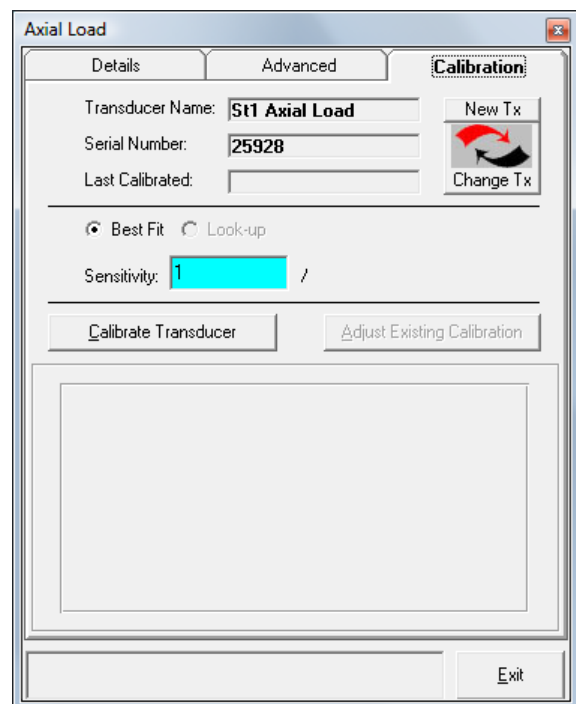
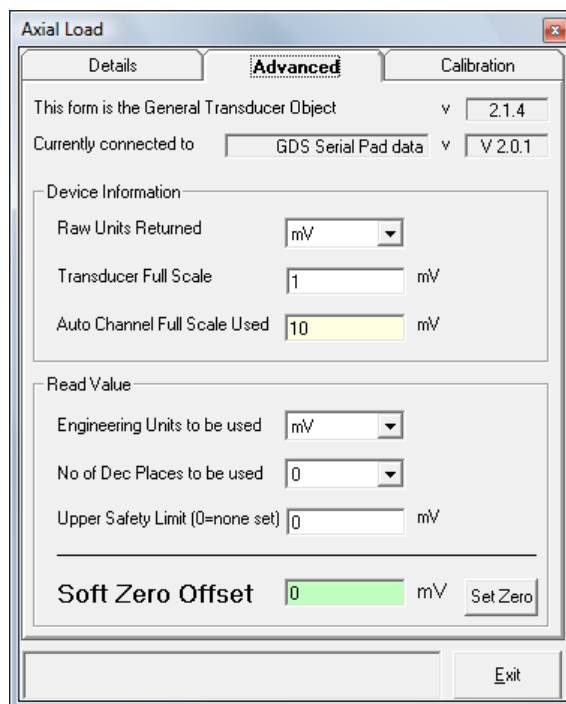
It also allows for fast and simple switching between pre-entered transducer calibration details if you wish to move transducers between stations, or use different transducers for different test types within a single station.

2. Editing Transducer Calibration Parameters



First open the transducer details box from the object display. This is the box shown on the left.

To modify the currently selected transducer use the 'Advanced' and 'Calibration' tabs.

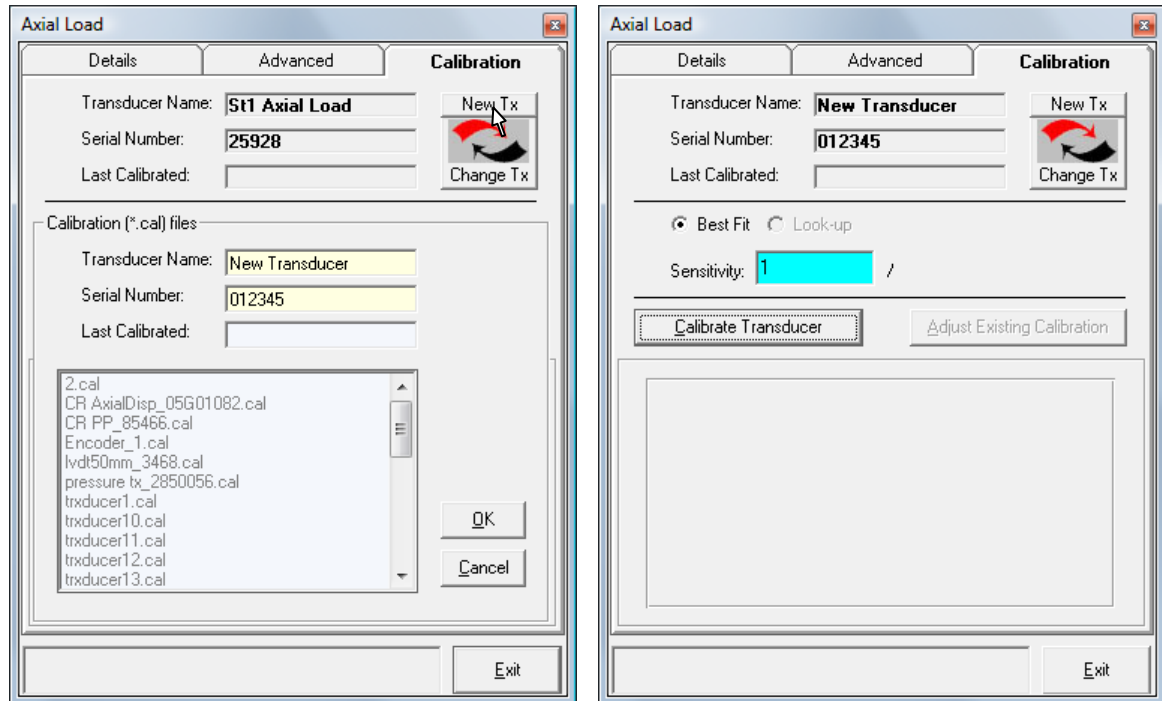


The advanced tab allows you to change the 'raw' and 'engineering' units, 'full scale output', 'no. decimal places' and upper safety limit relating to the currently selected transducer as well as allowing you to set or remove custom 'zero offsets' (note, a zero offset of 0 returns the raw calculated value from the transducer). Clicking on the 'set zero' button will set the current read value as zero. Depending on the device selected different options may be available for these inputs.

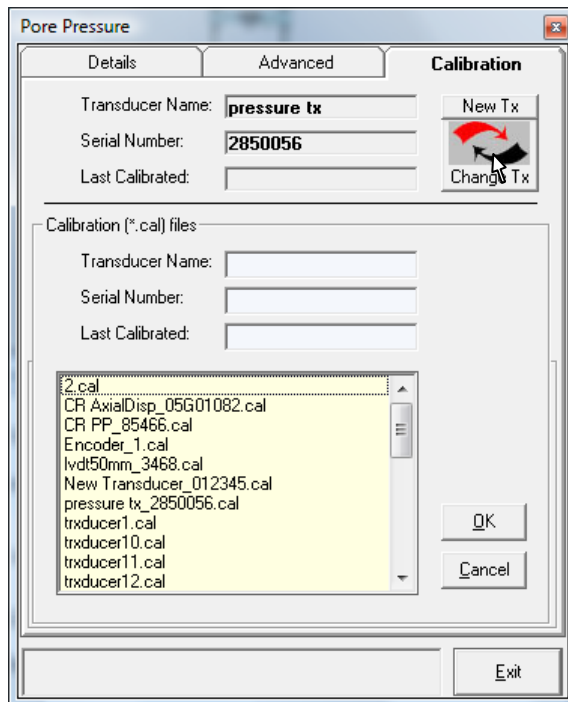
The calibration tab is most commonly used to input the transducer sensitivity values for the selected transducer in terms of engineering units per raw unit (eg kPa/mv). This is entered in the blue box shown above. A full explanation of how to calculate these values is given in Helpsheet 125 'Calculating sensitivity and full scale output'.

3. Creating New Transducer Calibration Files

New transducer calibration files can be made using the 'New Tx' button. After clicking the button you must enter in a name and/or serial number for the transducer before clicking OK. You can then enter the sensitivity and other parameters for the new transducer as usual.



4. Switching Between Transducer Calibration Files



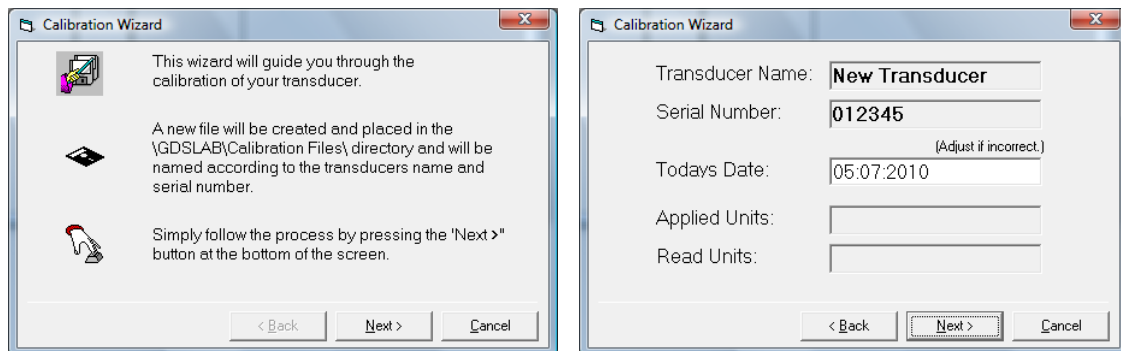
To switch between saved calibration files simply use the 'Change Tx' button in the calibration tab. This will show a list of all the saved calibration files on your system. Click on the desired file then OK to set it.

This will store the new transducer calibration file as the default one to use in your system *.ini file.

5. Entering Tabulated Calibration Data and Performing Point Calibrations

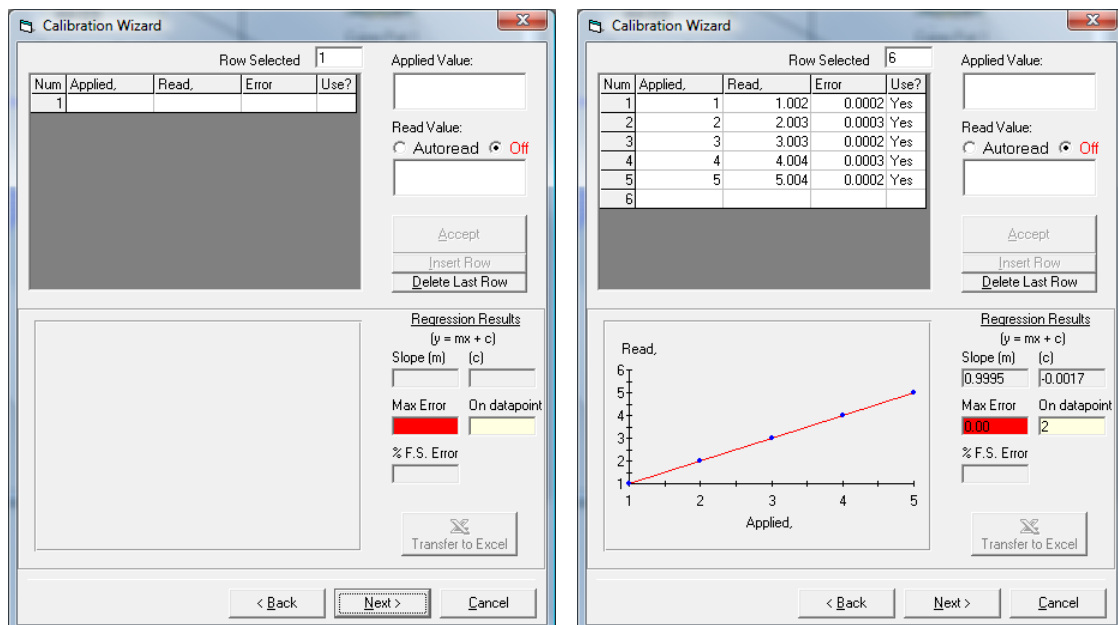
GDS Lab includes a wizard for entering tabulated calibration data and performing point by point calibrations where a single sensitivity value is not available or where there the relationship between raw output and engineering units is not linear. To use this wizard click on the 'Calibrate Transducer' button from the calibration tab.

If you wish to store the old calibration details you must first create a new transducer as described earlier in this Helpsheet. The wizard will overwrite the calibration information for the currently selected transducer.

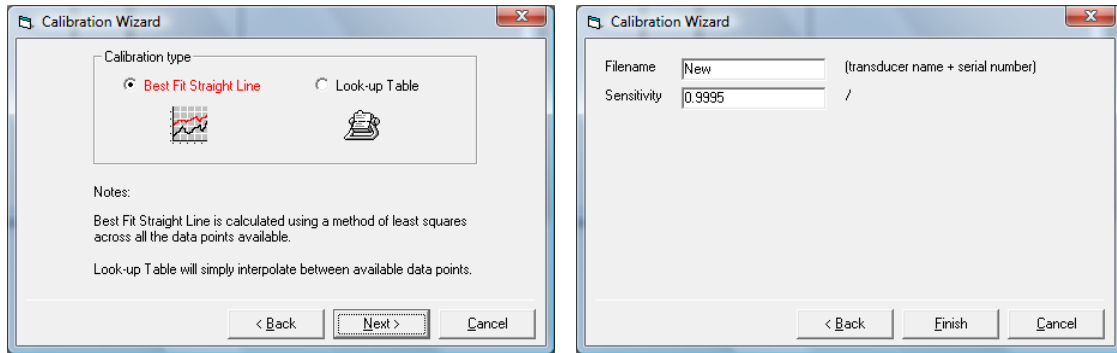


The screenshot below left shows the wizard's main window. For tabulated calibration data you input the 'Applied Value' and 'Read Value', clicking 'Accept' after each pair is entered. To perform a point by point calibration you enter the applied value manually, then having selected 'Autoread' click accept when you have applied the force/displacement etc.

The graph and error values will update with each new data point (see below right). When you have entered sufficient data points click next to continue.



You can then choose whether to use a single best fit line for the calibration or linear interpolation between each data point (Look-up Table). The wizard will remind you of the filename used and what the equivalent sensitivity value is for the entered information.



Finally the new calibration details will be set and you are returned to the calibration tab.

