	TECHNICAL SUPPORT BULLETIN	Tech. Support Bulletin No. TTSB-0362
	STYLUS FORCE CALIBRATION ON THE DEKTAKXT	**Page 1 of 7**
		Products: DektakXT
Revision	**Description**	**Date**
B	Revised- JRyan	Mar. 7, 2013

Subject: Stylus Force Calibration on the DektakXT

Systems Affected: DektakXT

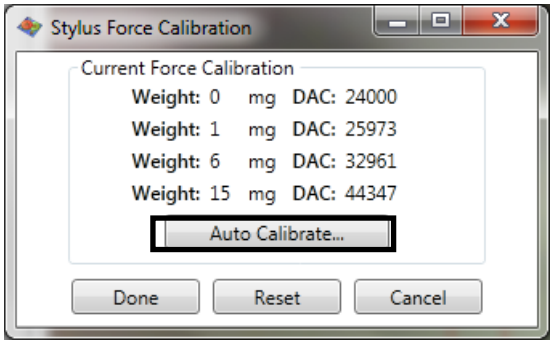
Action Category: On Next Use

Summary: Stylus Force Calibration in Vision64 Software for the DektakXT

In the Vision64 software for the DektakXT, the Stylus Force Calibration is done automatically. The software also allows you to calculate and store force values separately for each different radius stylus. Select the appropriate radius in Measurement Setup before calibrating.

1. Click on the Stylus Force Calibration icon in the "Configuration" section of the top menu bar.

2. The following window will appear. Click "Auto Calibrate."



You might be able to notice that the DAC values – the default values – are, from top to bottom:

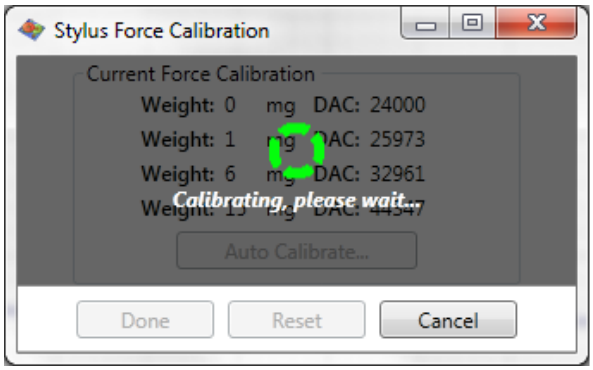
DAC: 24000

DAC: 25973

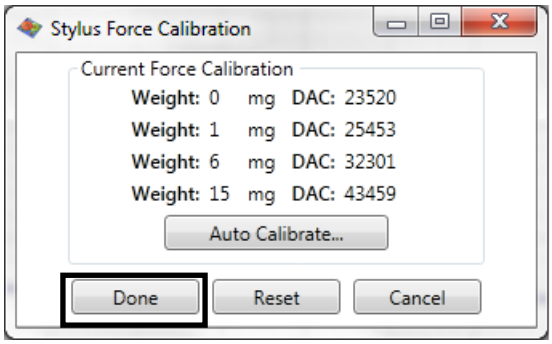
DAC: 32961

DAC: 44347

3. The following window will now appear. This has the same effect as clicking the "Balance" button in previous versions of the Dektak software.



4. In about a minute or so, the following window will appear. The Weight 0 DAC count value is what you would have gotten by using the "Balance" button in previous versions of the Dektak software. New DAC values have also been calculated. Click on "Done."



5. Compare these new DAC values to those from the screen capture in item 2. The values here are all slightly lower.

6. In the Auto Calibrate method of Stylus Force Calibration performed by the Vision64 software, we still begin with the value generated by the Balance function. After that, the stylus force calibration is calculated via a series of percentages based on the previous value.

   For example:

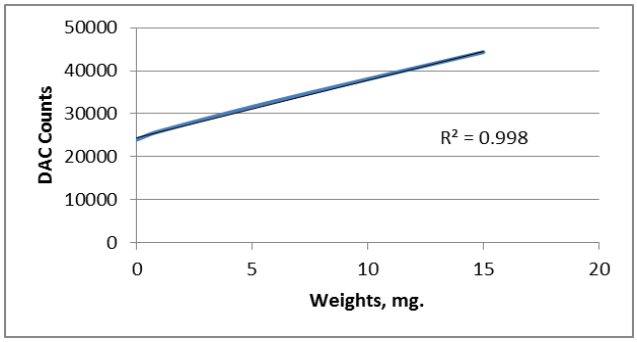
   The new D0 = the actual measured Balance value.

   The new D1 = (the default D1 value)/(the default D0 value) * the measured D0

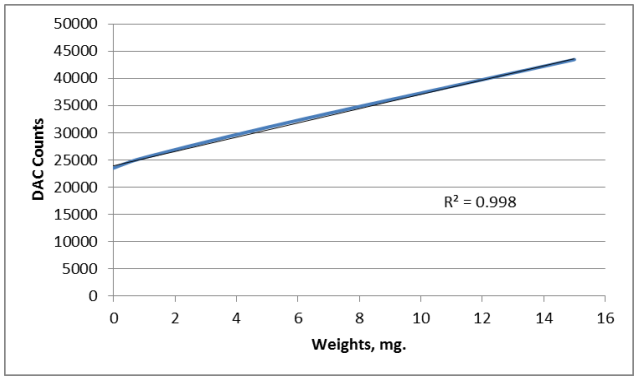
   The new D2 = (the default D2 value)/(the default D1 value) * the calculated D1

   The new D3 = (the default D3 value)/(the default D2 value) * the calculated D2

7. How do these calculated values compare to the default values?



The fit to the Default values plot has an R-squared value of 0.998.

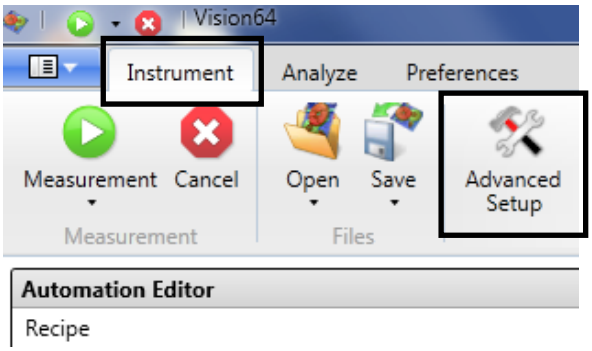


The fit to the calculated values plot also has an R-squared value of 0.998.

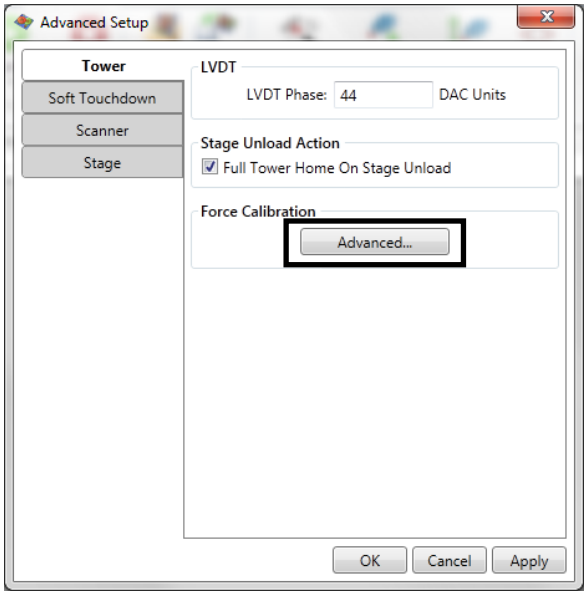
ALTERNATE METHOD:

The Vision64 Dektak XT software will still allow you to do the stylus force calibration using the set of three calibrated weights, as follows.

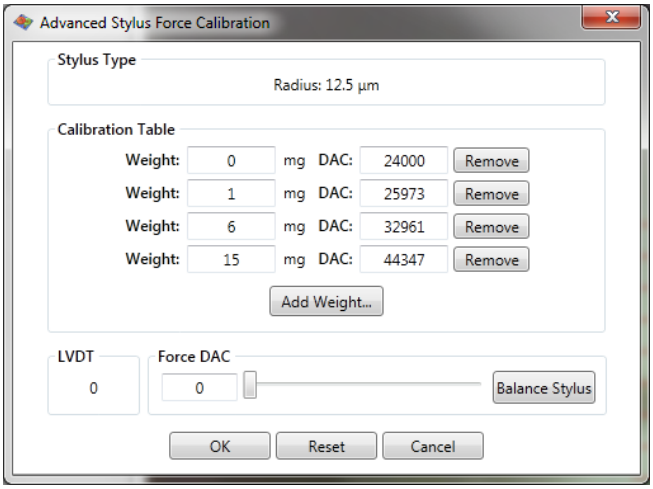
1. In the "Instrument" tab click "Advanced Setup."



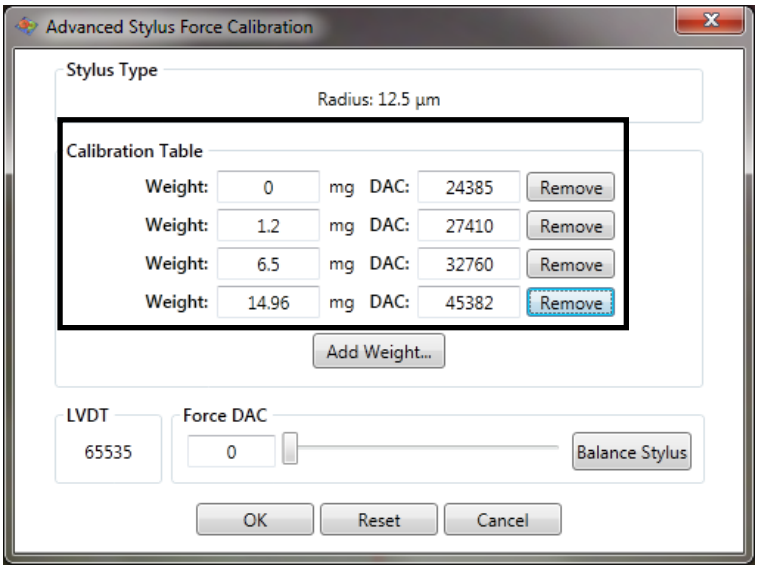
2. That will put you in this window. Click "Advanced."



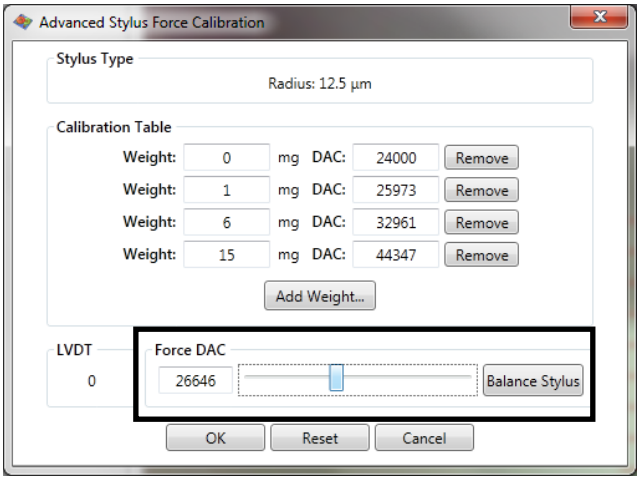
3. This is the next window that appears. The values shown below are the Default values. In reality they might not be.



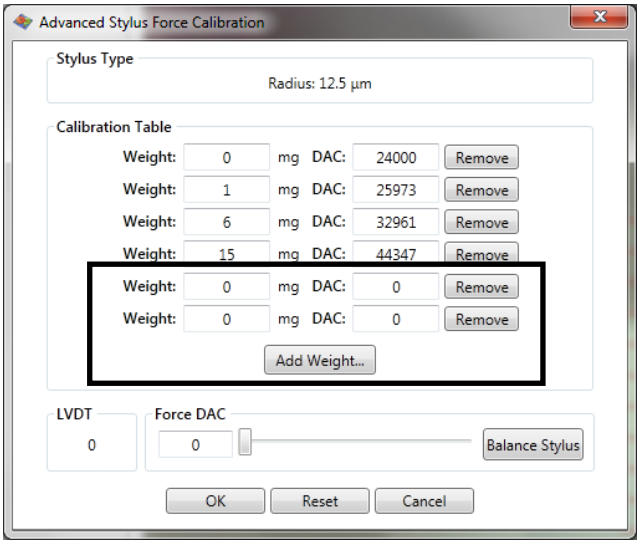
4. This is the window where you would enter your new Weight and DAC count values obtained through the process of using the three calibrated weights. After that has been done, click "OK." Clicking on "Balance Stylus" will do just that.



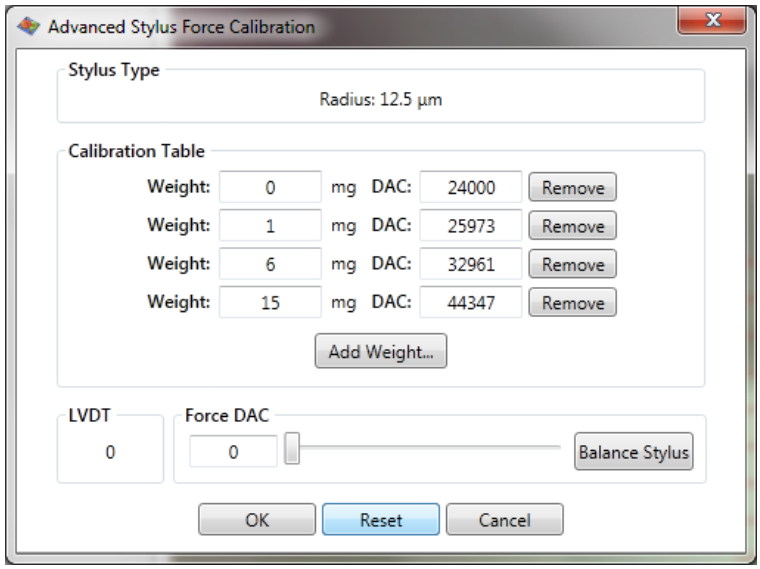
5. In this window you can use the slider bar as in the previous (32 bit) versions of Dektak software.



6. You can also add weights (usually non-zero)



7. By clicking "Remove" you can remove the Weights that had previously been added. (In this case, from six weights back down to four).



8. By clicking on "Reset" you will see this window. Click "OK" and the software changes all data back to the default settings.