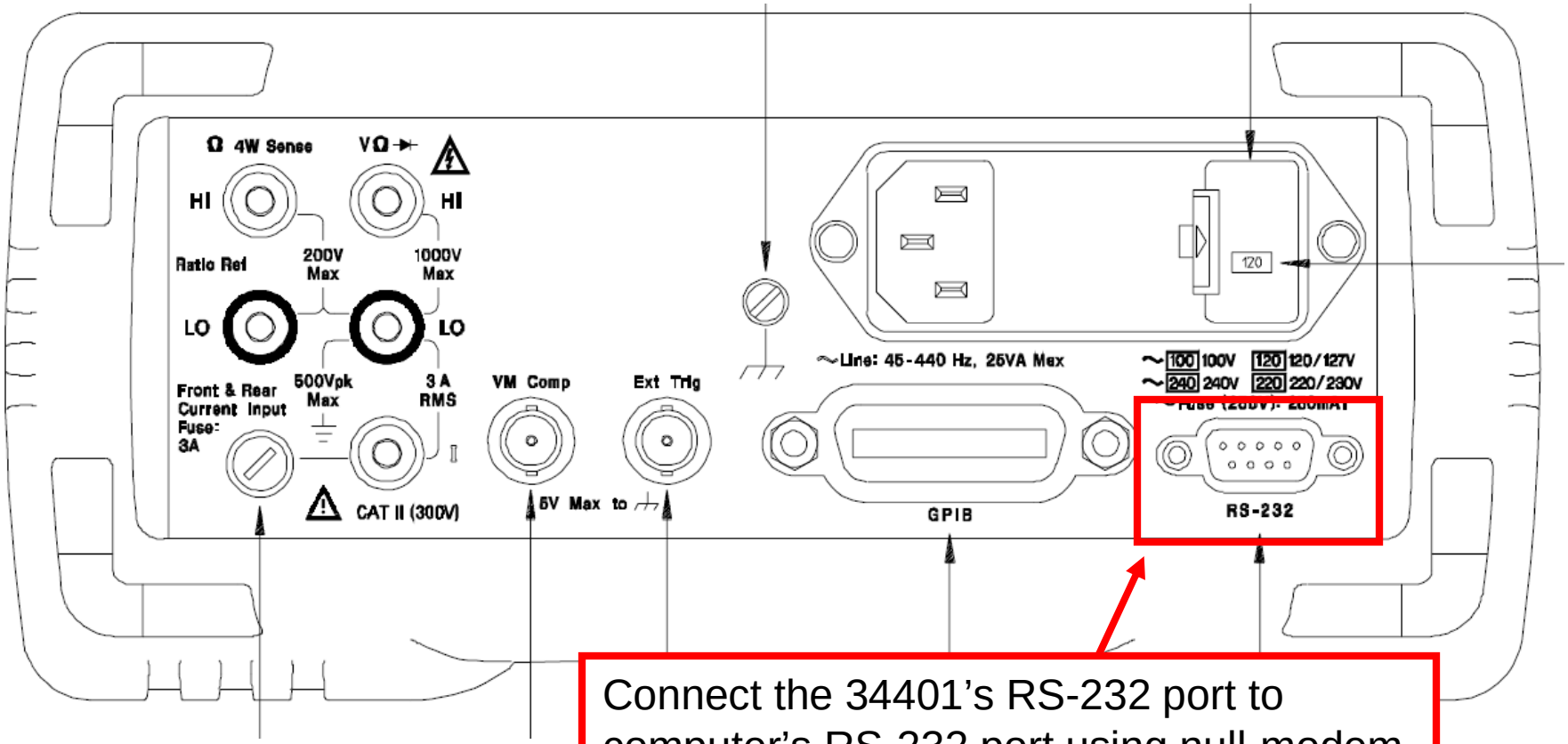
Connecting HP34401A to PGA308EVM

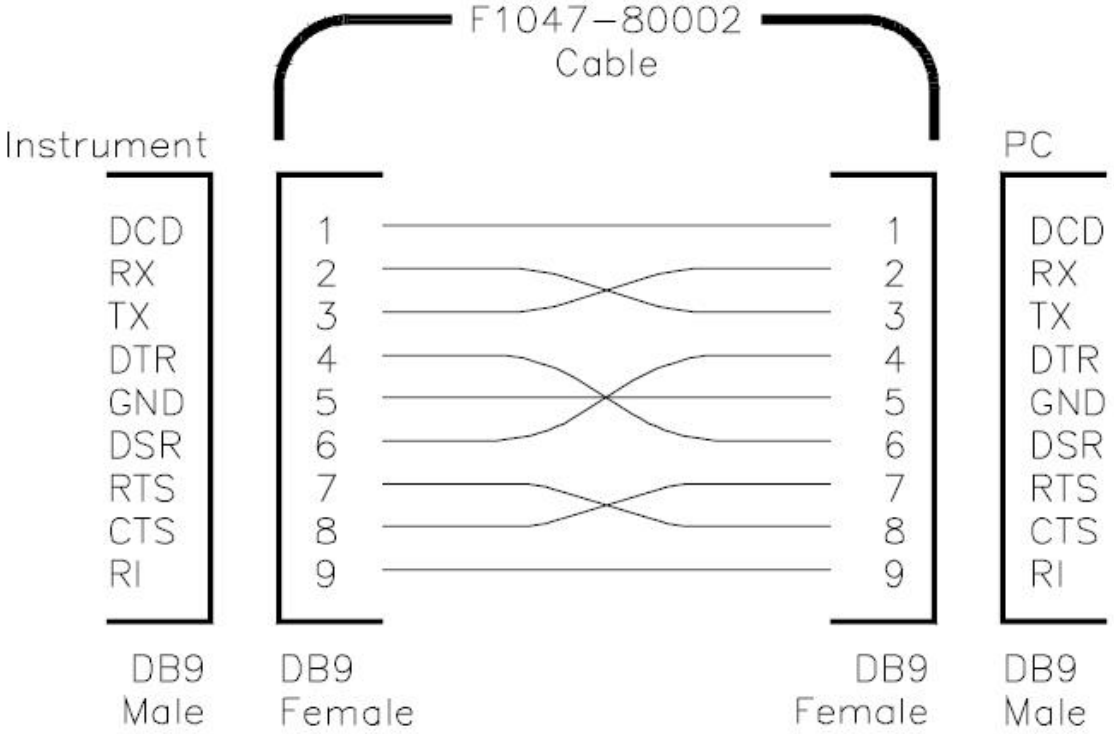
This shows the location of the RS-232 connector on the back side of the meter.



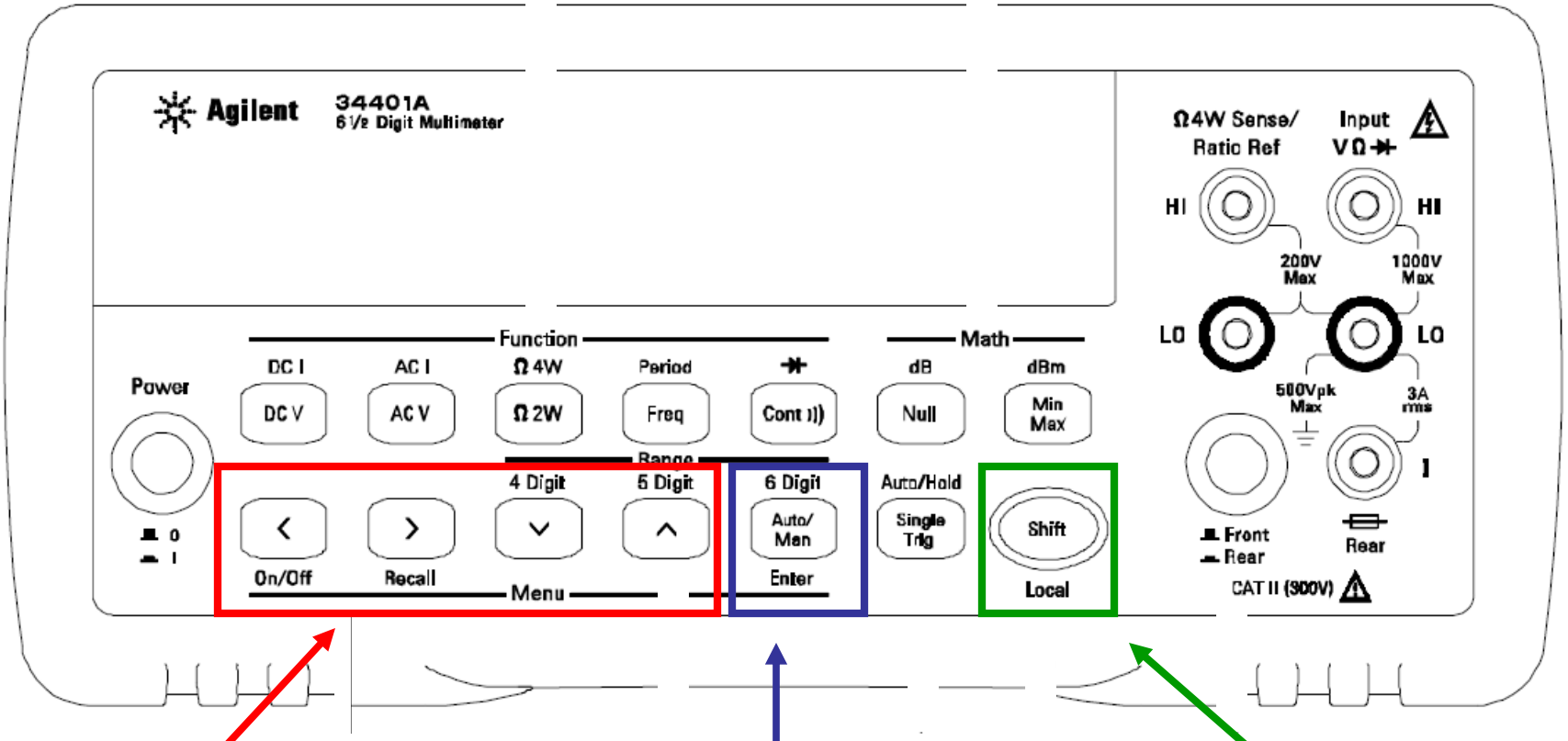
Connect the 34401's RS-232 port to computer's RS-232 port using null-modem cable. The next slide describes the "null-modem cable".

Build a cable according to the diagram below or purchase from Agilent.

DB-9 Serial Connection If your computer or terminal has a 9-pin serial port with a male connector, use the null-modem cable included with the *Agilent 34398A Cable Kit*. This cable has a 9-pin female connector on each end. The cable pin diagram is shown below.



Set up the HP34401 for RS-232 communications. The picture below shows the buttons that will be used to enter the menus and edit the settings. The following slides show the specific sequence of buttons to change the settings.

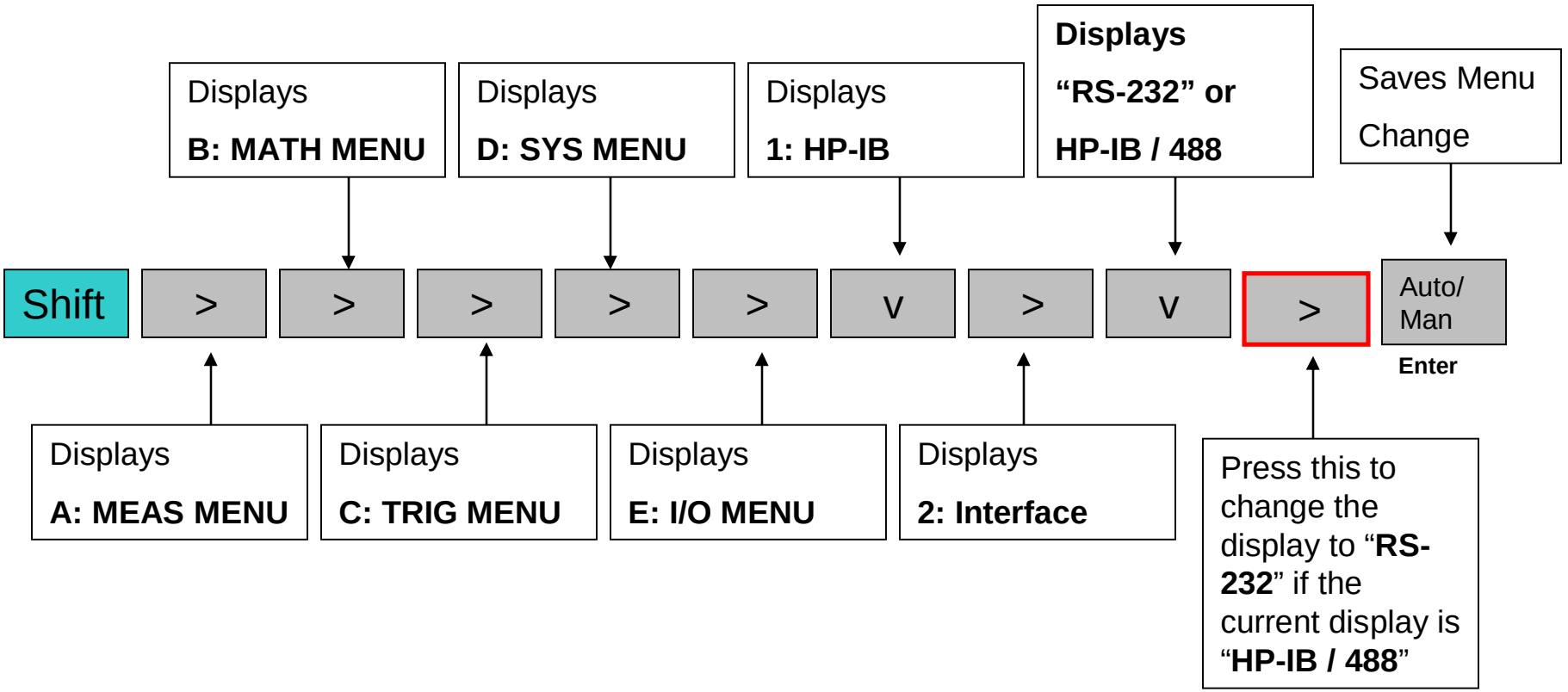


Move through the menus.

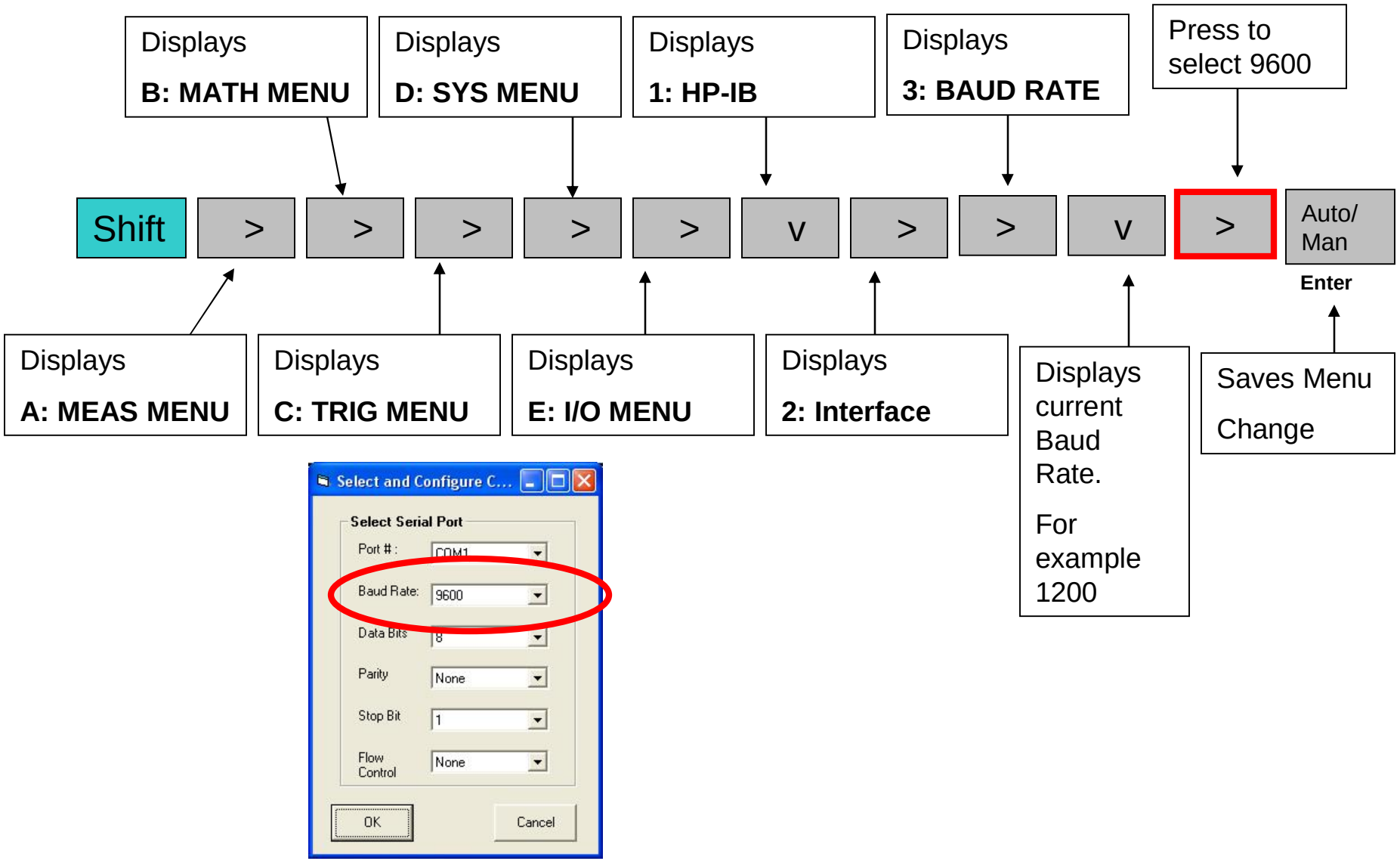
Save Changes

Shift to select menu mode.

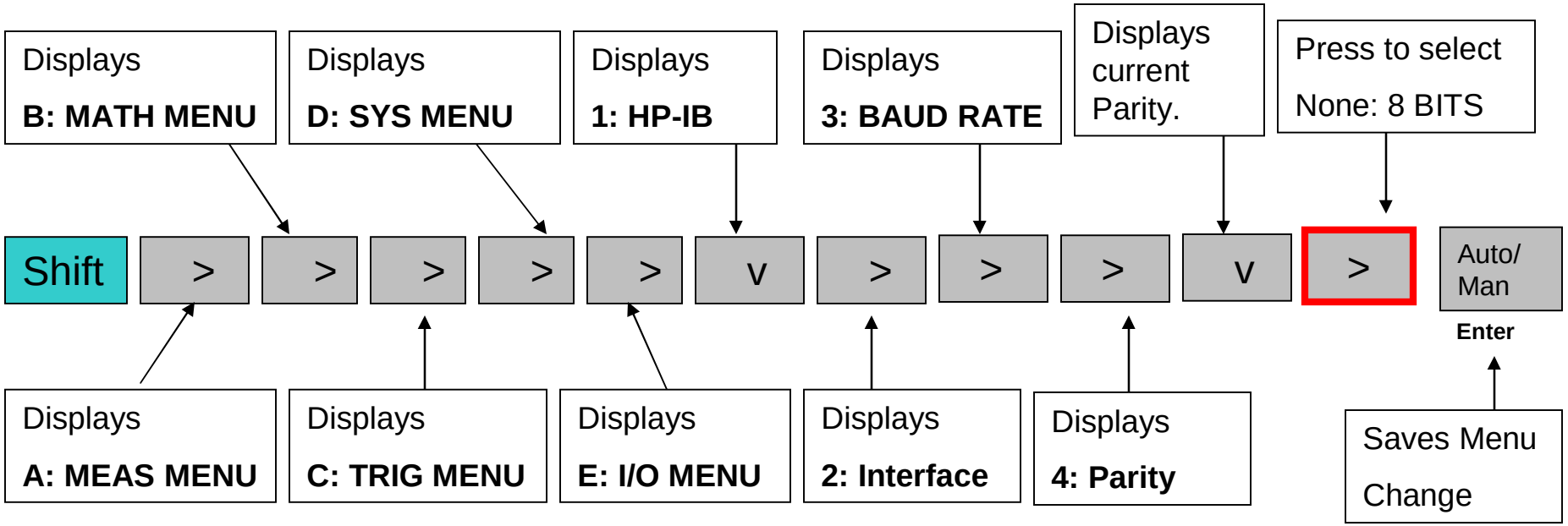
Press the keys on the HP34401 to set “interface” to **RS-232**.

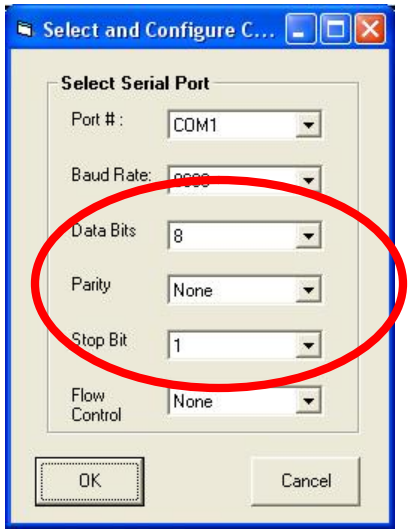


Press the keys on the HP34401 to set “Baud Rate” to **9600**.

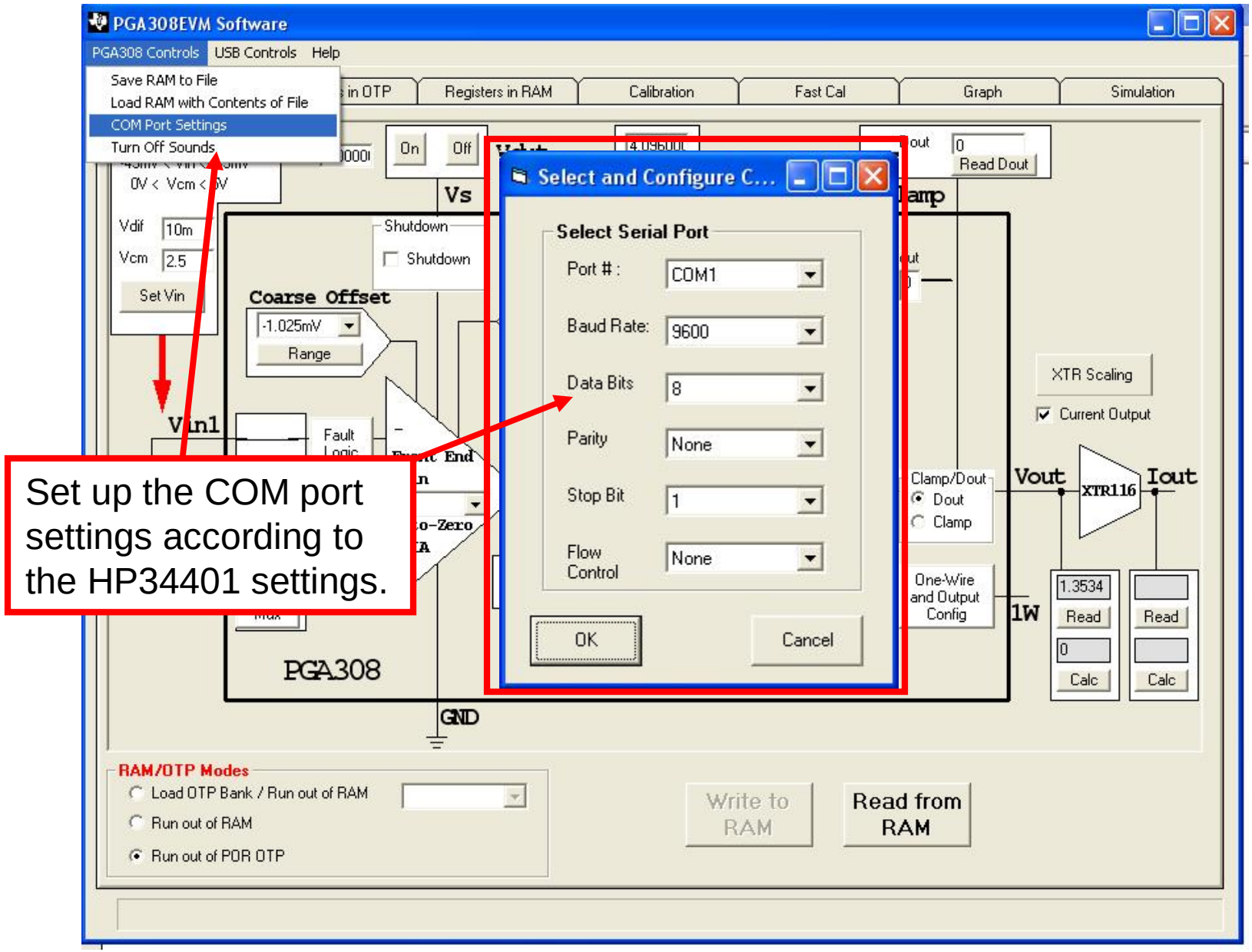


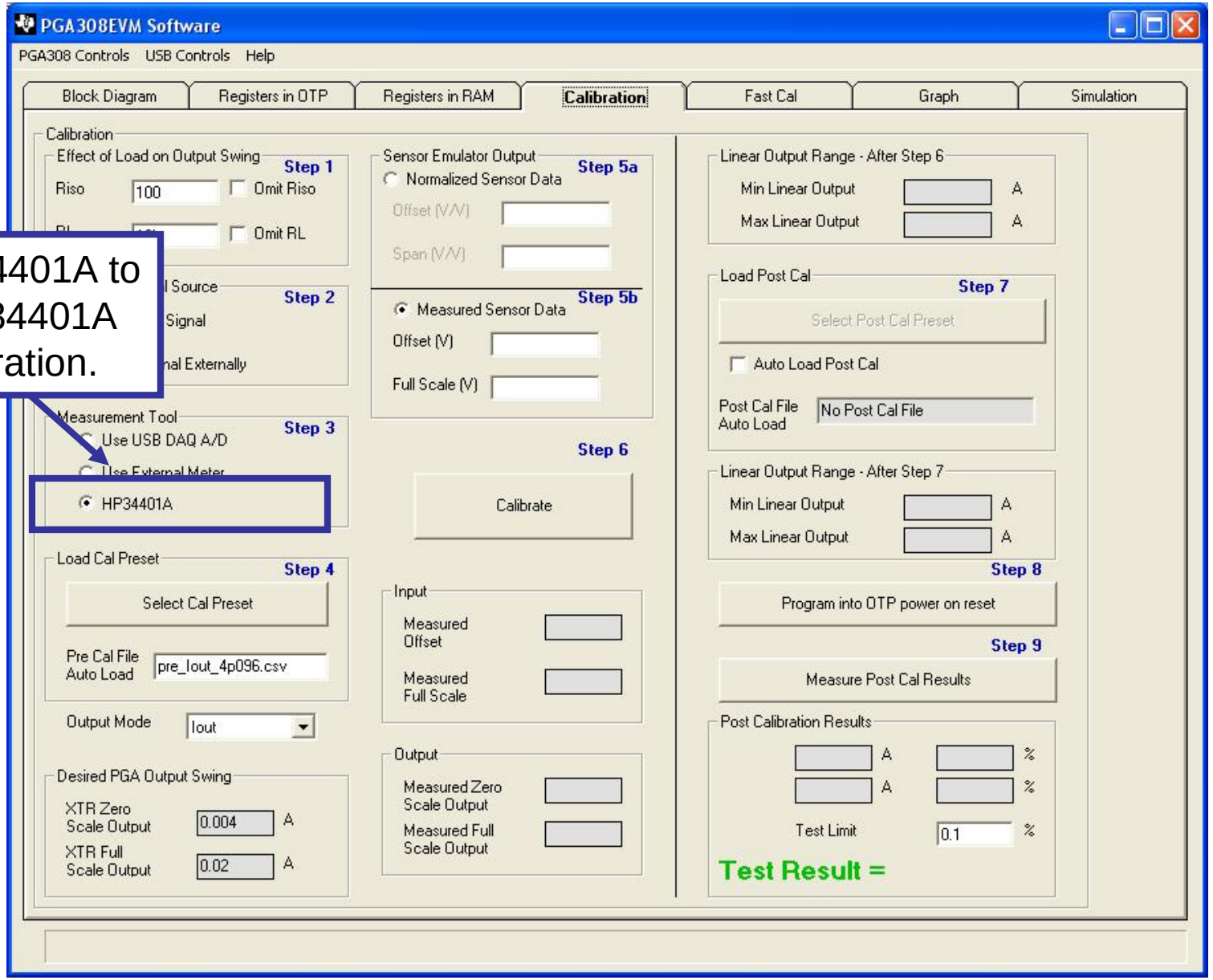
Press the keys on the HP34401 to set “Parity” to “**None: 8 BITS**”.



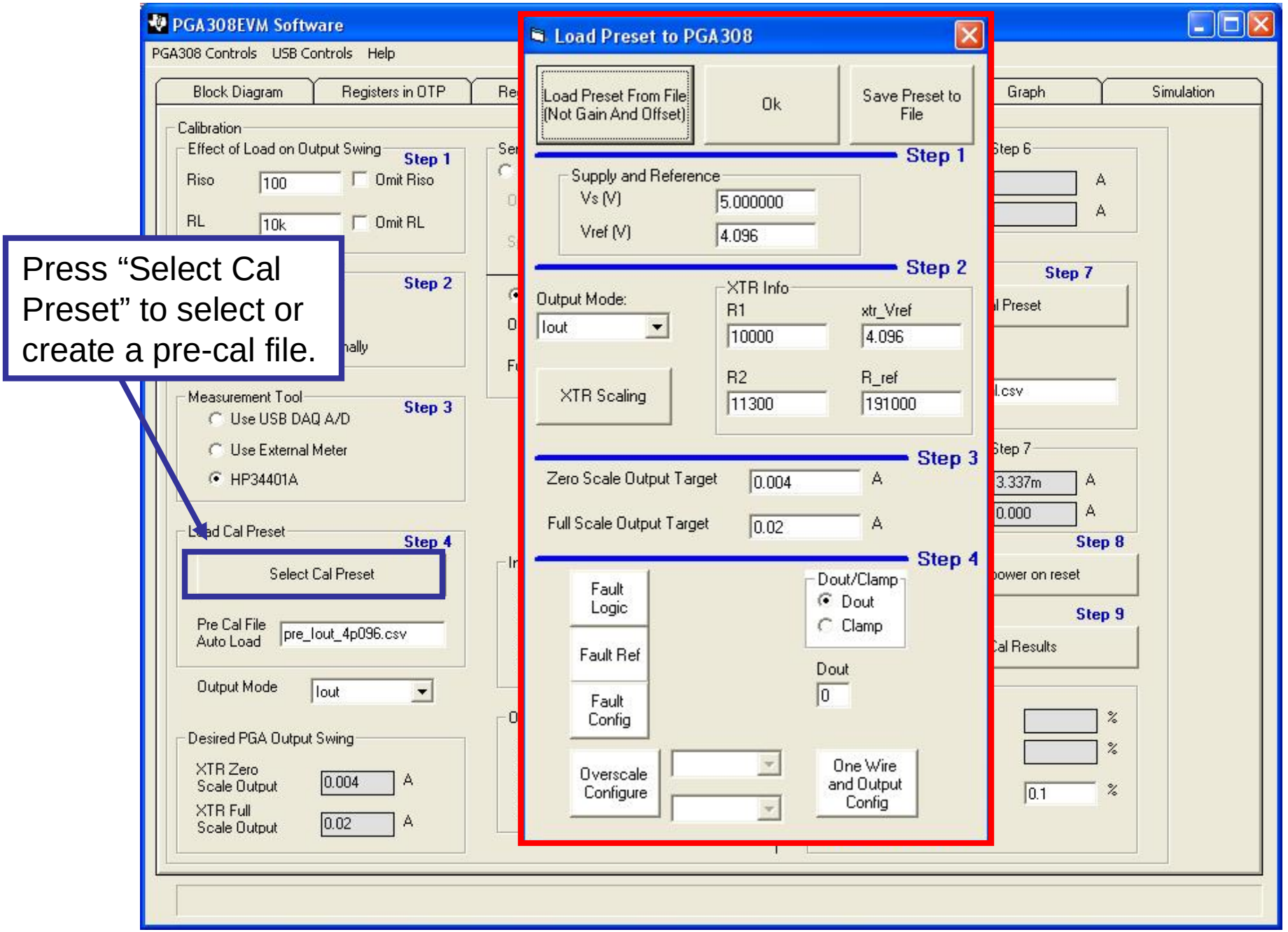


Start the software and select the settings to match the HP34401A.



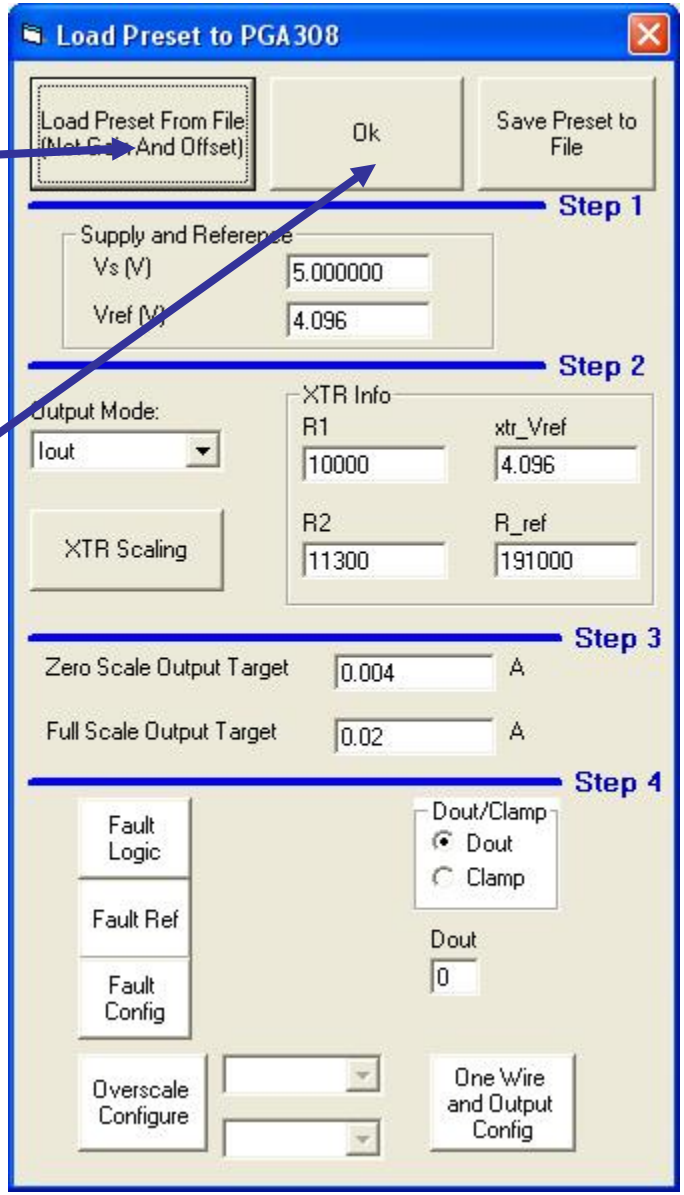


Select HP34401A to use the HP34401A during calibration.



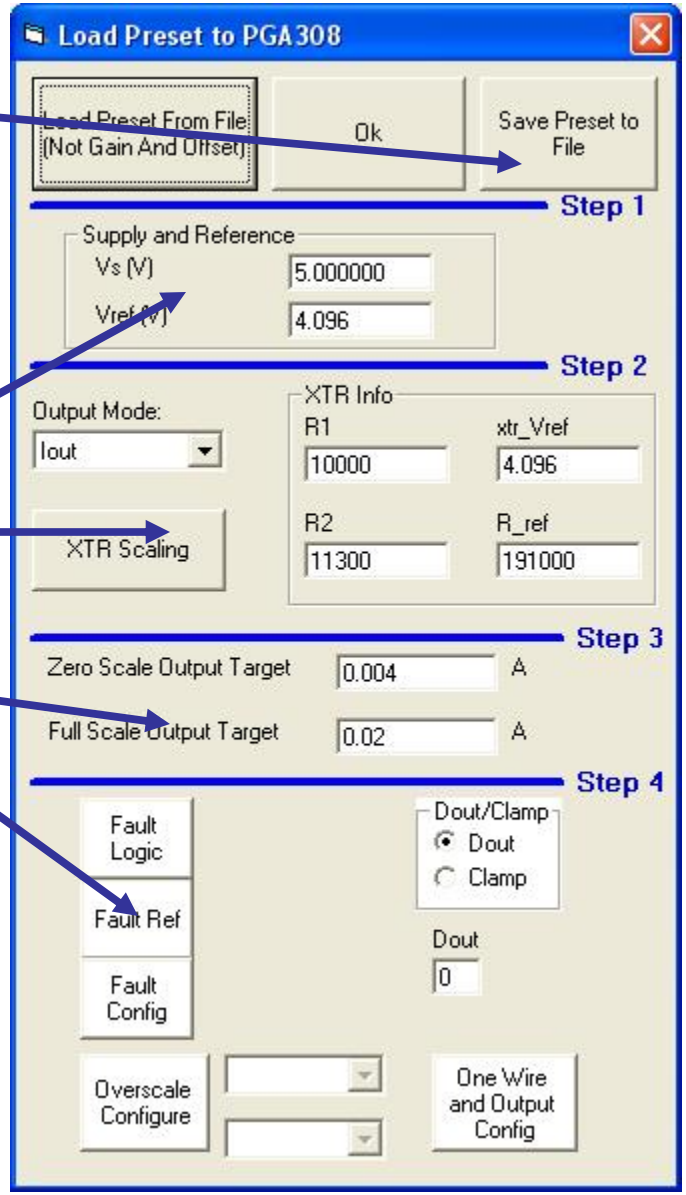
Pressing “Load Preset from File” will display the settings stored in the file. It will also select this file so that it is used in calibration.

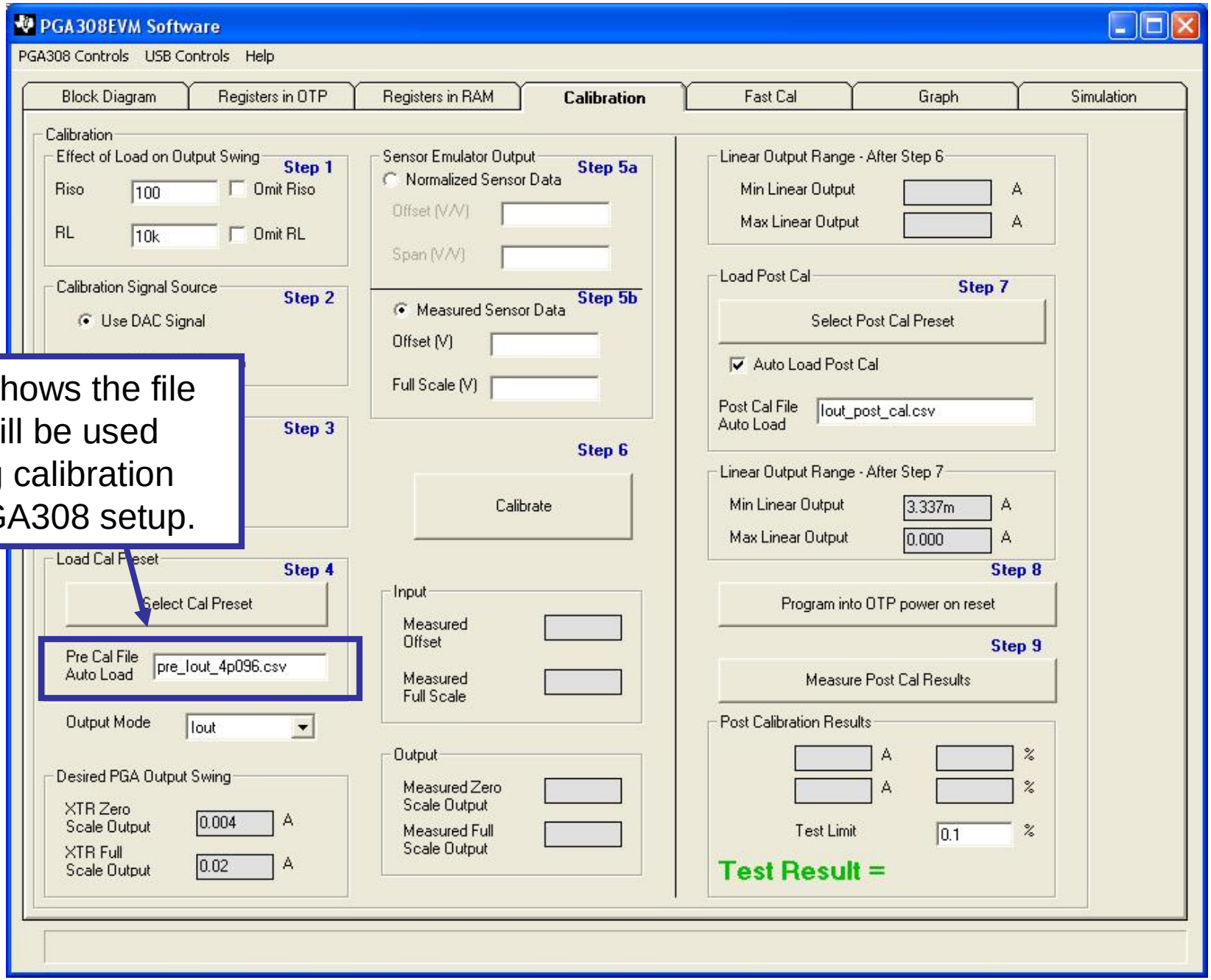
Pressing “Ok” will close the “Load Preset to PGA308 form.



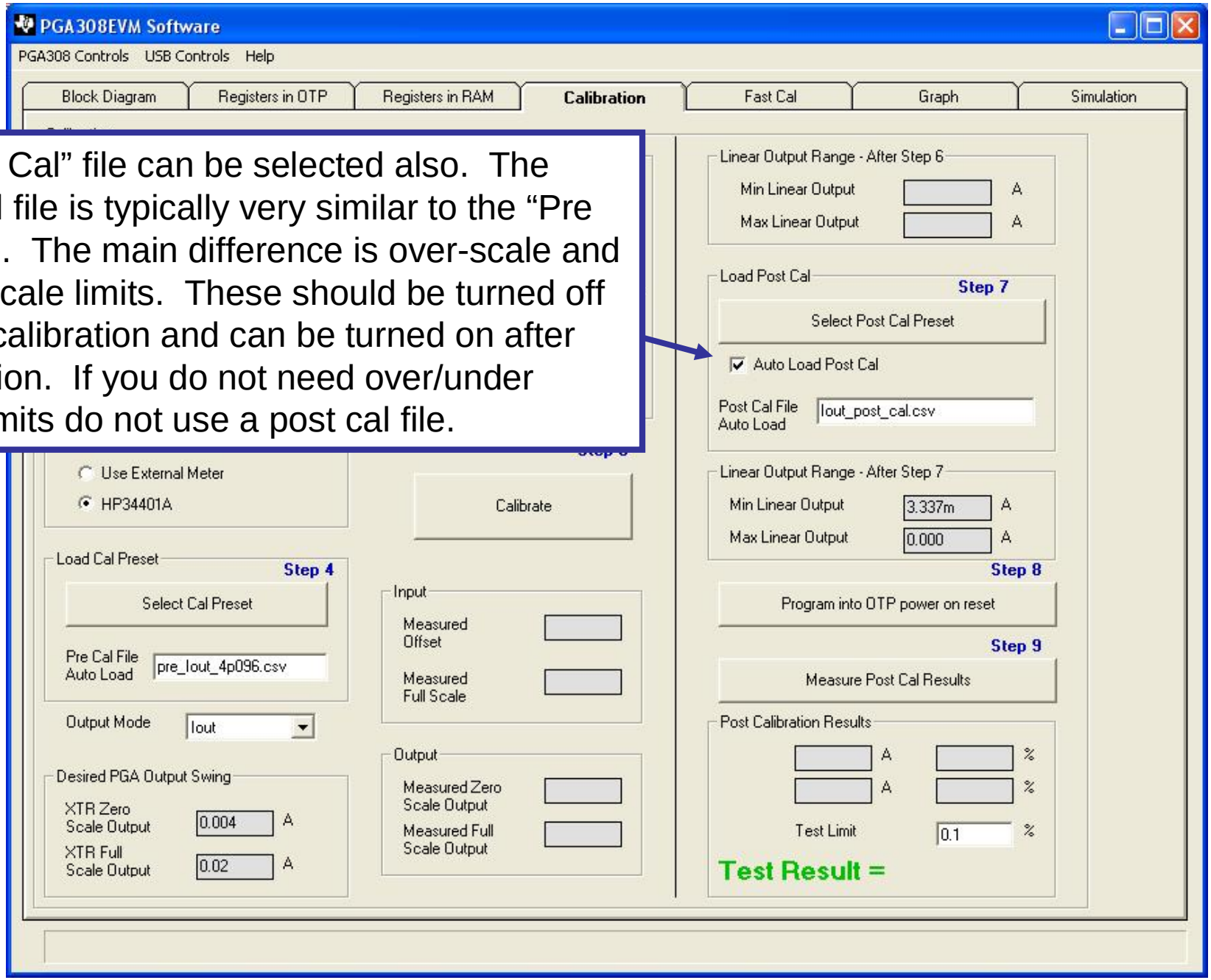
To create a new file edit the settings and press “Save Preset to File”. This will save the results to a file and select the file so that it is used during calibration.

Be careful to edit all the settings to match your hardware setup. Edit them in the order shown; because changes in step 1 affect step 2 and 3.



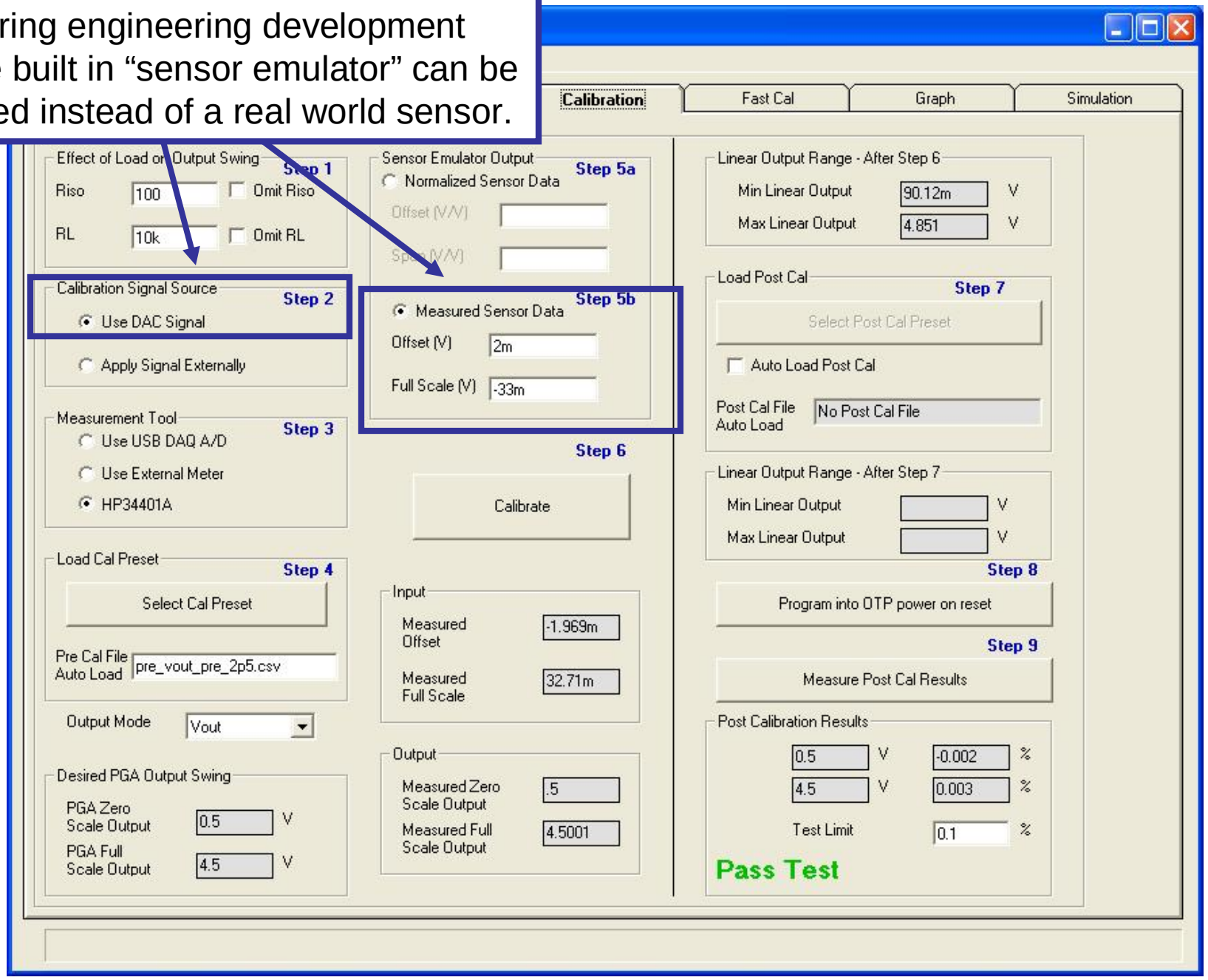


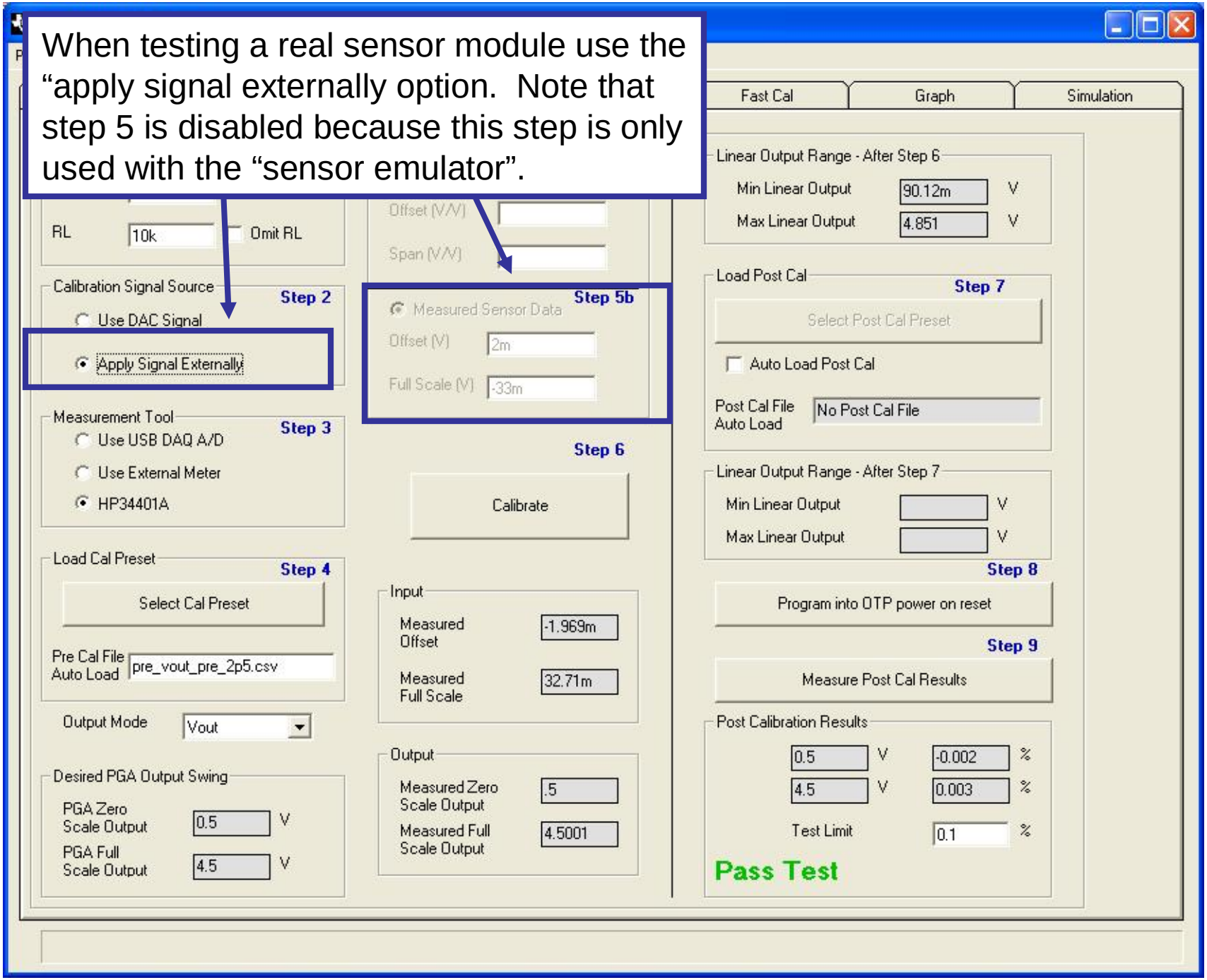
This shows the file that will be used during calibration for PGA308 setup.

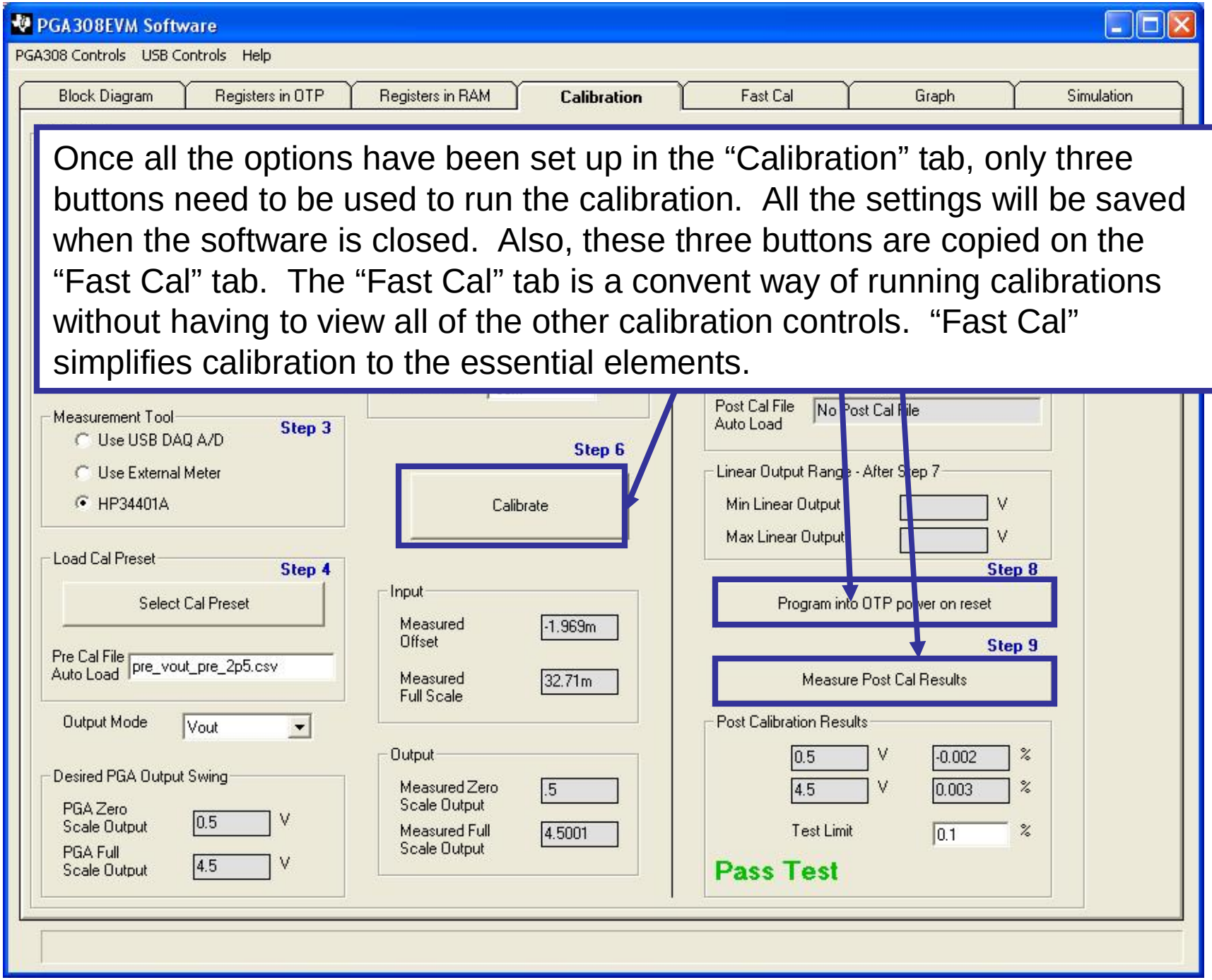


A “Post Cal” file can be selected also. The post cal file is typically very similar to the “Pre Cal” file. The main difference is over-scale and under scale limits. These should be turned off during calibration and can be turned on after calibration. If you do not need over/under scale limits do not use a post cal file.

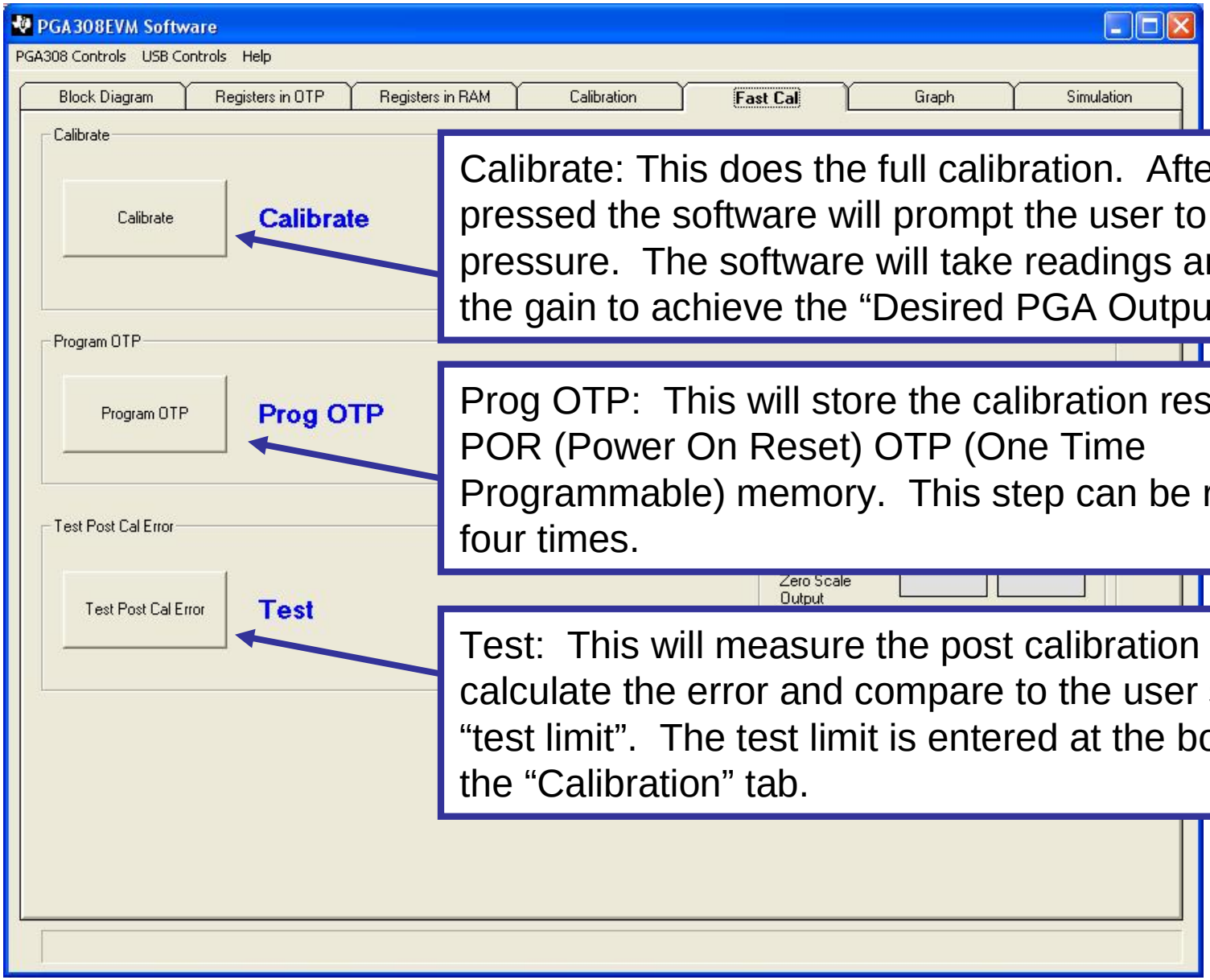
During engineering development the built in “sensor emulator” can be used instead of a real world sensor.







This shows the “Fast Cal” tab. The “Calibrate”, “Program OTP” and “Test” buttons were simply copies of step 6, step 8, and step 9 from the calibrate tab.



Calibrate: This does the full calibration. After it is pressed the software will prompt the user to change pressure. The software will take readings and adjust the gain to achieve the “Desired PGA Output Swing”

Prog OTP: This will store the calibration results into POR (Power On Reset) OTP (One Time Programmable) memory. This step can be repeated four times.

Test: This will measure the post calibration output calculate the error and compare to the user selected “test limit”. The test limit is entered at the bottom of the “Calibration” tab.

Below is a picture that shows the results for a good sensor module; all three steps passed.