

PCI-1D Quick Start Guide

1) Unpack the controller and confirm that there is no shipping damage. The package should contain the controller, one U.S. 120 VAC power cord, a standard A/B USB cable for connection to a PC, and a USB "thumb" drive containing the application software and the user manual in PDF format. Print out the user manual or have it available on screen for steps 3 and 5 below.

2) Set the power switch (located on the right of the front panel) to the down (OFF) position, connect the power cord, and plug the unit into a 120 VAC standard wall outlet. Do not power up the controller or connect the USB cable to a PC until the software is installed. **DO NOT YET CONNECT A LASER TO THE SYSTEM !!**



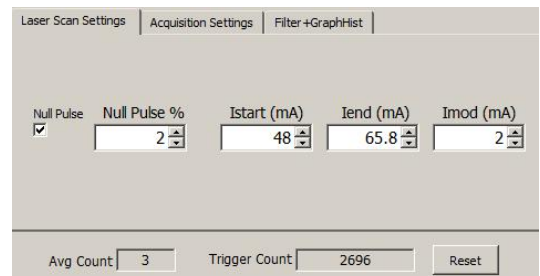
3) Install the software by inserting the USB drive into a Windows™ PC (XP service pack 3, Vista, or (preferred) Windows 7). Double click the setup.exe file and follow the instructions to install the software.

4) Power up the controller by setting the rocker switch on the front panel to the up (ON) position. The red LED in the power switch should illuminate. *Note that your unit may have "Detector" instead of "Preamp" for the label above the rightmost BNC connector. If labeled "Detector" then only bare detector leads should be connected to the controller. If labeled "Preamp", then an external preamp with voltage output is required.*

5) Connect the USB cable between the controller's rear panel USB port and the PC. Windows™ should recognize the internal I/O board and install the driver (wait for driver to install). Start the control program by double clicking the icon created at installation. Follow the instructions in the manual for changing the device number if necessary, and confirm that the control program is running (graphs will update according to the default acquisition settings, but the data should be only noise at this point as there is no laser connected).

6) When the control program is running, note the value of the parameter "Laser T_Set" in the **Data** section of the main GUI shown on page 2 of this Quickstart Guide. This is the laser set point temperature. If you are operating the laser TEC using another controller, then skip to step 7. If you plan to control the laser temperature with the PCI-1D controller then use the front panel knob in the "Laser Temperature" section to set a value appropriate for the laser (default to 25C if uncertain).

7) Click on the "Laser Scan Settings" tab at the upper left of the GUI and set the laser starting and ending scan currents to safe values for the laser being used. These values are saved when the program exits and used for the next time the program starts. The null pulse percentage and modulation amplitude (Imod) can

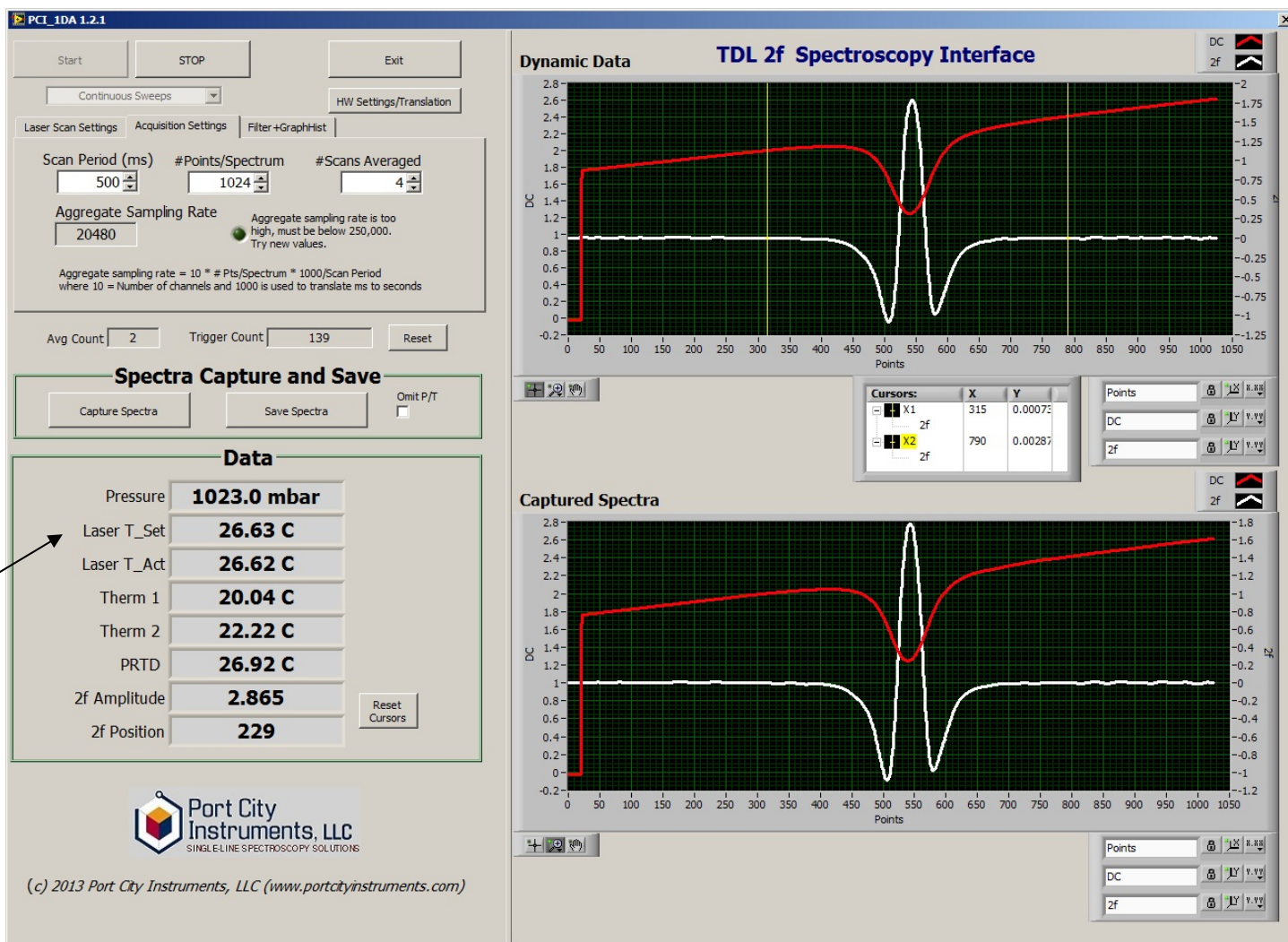


be set to zero initially, or to known values (see manual for a description of "null pulse").

8) With the laser temperature set point defined, and the laser scan currents at safe values, EXIT the control program and power down the controller. It is now safe to connect the laser to the front panel BNC laser drive output, and the laser TEC and thermistor leads to the front panel 9-pin D connector. See the manual for pinout information and precautions, and ensure an ESD safe environment when making laser connections.

9) With the laser connected, set the key switch at the left side of the front panel to the OFF position (vertical, or turned full counterclockwise). Power up the unit and start the control program, and double check the laser temperature and laser current settings. If OK, turn the front panel key switch clockwise (90 degrees) to enable laser current. The green LED should illuminate and the laser should turn on. Proceed to the user manual for full details on operation of the controller, detector connection, spectrum manipulation, etc.

10) To power down the system, first always turn the front panel laser enable/disable key switch to the counterclockwise direction (OFF), then EXIT the control program and power down the unit.



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