

## Appendix C: Terminal Emulator Setup

### Hyperterminal

Hyperterminal, a terminal emulation program, often comes with a Windows-based PC or can be downloaded from the Internet. Hyperterminal allows the PC's monitor to display the data that is sent from the DAQ board to the PC's serial port or USB port. Note: Hyperterminal no longer comes as a standard application with Windows Vista or Windows 7. Contact the Cosmic Ray e-Lab HelpDesk for solution: <https://www.i2u2.org/elab/cosmic/teacher/forum/HelpDeskRequest.php>

Once this program is opened, a window appears that asks for a name for the connection that you are making. Enter a convenient name so that in the future you will not have to go through the initial setup routine each time you want to establish a connection.

Once you select "OK," the window shown in Figure 38 appears. You need to select the COM port that the DAQ board is connected to on the back of your computer.



Choose the COM port that the DAQ board is plugged into on the back of your computer (Serial port is COM1 and USB is COM3 for this computer.) COM3, the USB port, is selected here.

Figure 38. This window illustrates where the COM port selection is made, which tells the computer to which port the DAQ board is connected.

You need to change two settings from their default values on the next screen. These modifications are shown in Figure 39.

Once these settings have been made, select the "Capture Text" → "Start Capture" command from the "Transfer" menu. A window appears in which you type a name

for the text file to which the datastream will be written. Once a file name and folder for that file have been selected, the "Start" button begins the process of writing data to the text file. As long as the connection is open, data is written to the file. This text file contains data for later analysis. To stop writing data to the file, select "Capture

Text” → “Stop Capture.” The connection may be closed, and the text file is ready for

analysis.

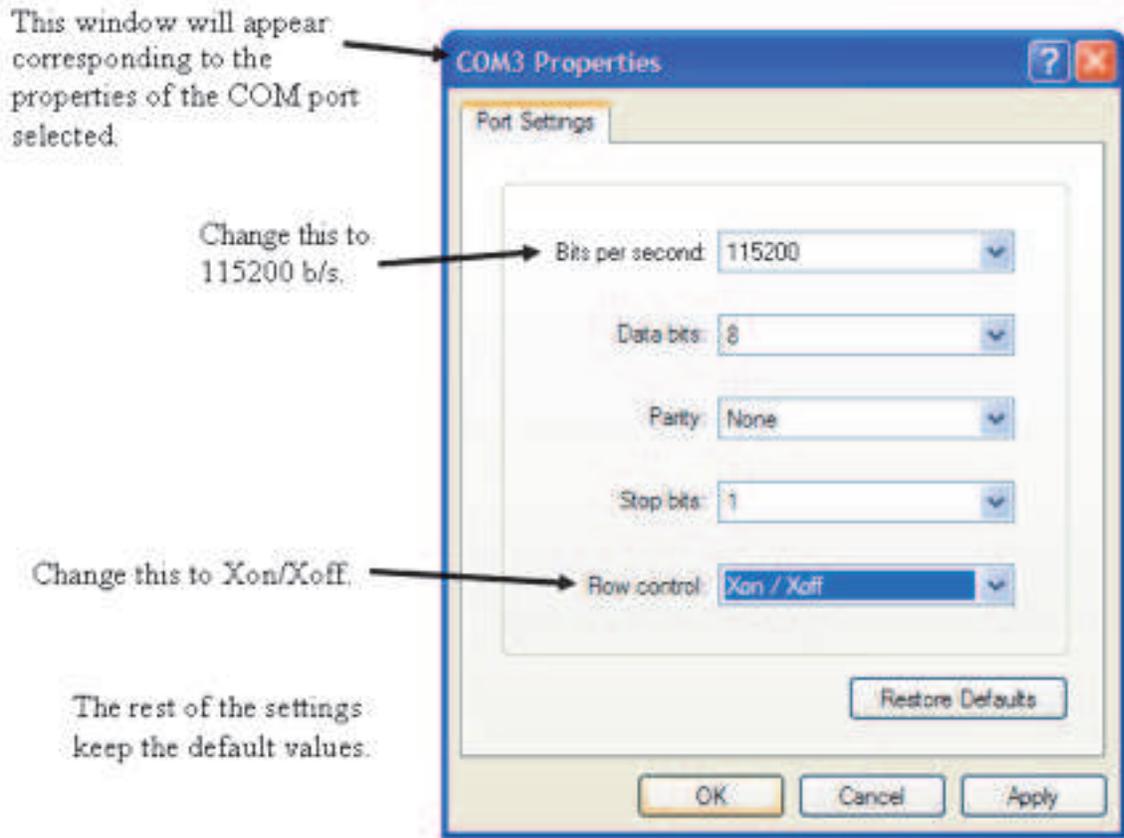


Figure 39. Where baud rate and flow control settings are modified for Proper reading of the DAQ datastream with Hyperterminal.

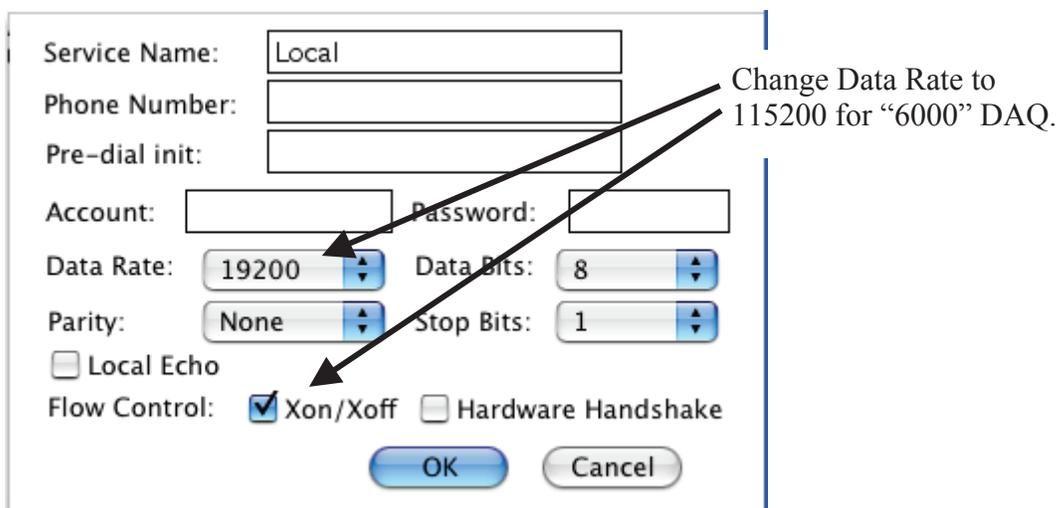
### Zterm

Zterm is a terminal emulation program that can be downloaded and used on either a Mac- or Windows-based PC. This program allows the computer to display the data that is sent from the DAQ readout board to the computer's serial port or USB port.

Once this program is installed and opened on your machine, the computer should auto detect the port your DAQ board is connected to. If this is in question, you can hold down

the shift button while Zterm is opening. This opens a window showing all possible devices that are connected. You can select the USB device or serial port connection.

Select the “Settings” → “Connection” menus. The window shown in Figure 33 appears. You need to change two values from the default settings: Data Rate = 115000 bits/sec and Flow Control = Xon/Xoff.



*Figure 40. Where baud rate and flow control settings are modified for proper reading of the DAQ datastream with Zterm. Note: the Data Rate should be set o 11520 for the “6000” series DAQ.*

Once the settings have been made, select the “Start Capture” command from the “File” menu. A window appears in which you type a name for the text file to which the datastream will be written. Once a file name and folder for that file have been selected, the “Start” button begins the process of writing data to the text file. As long as the connection is in place, data is continually written to the file. This text file contains data to be analyzed. To stop writing the data to the text file, select “Hang Up” from the

“Dial” menu or just quit Zterm. The connection is closed, and the text file is ready for analysis.

### **Unix/Linux**

The application 'screen', standard on most Linux distros, allows the capture of DAQ data coming to a USB port. Contact the Cosmic Ray e-Lab HelpDesk for details: <https://www.i2u2.org/elab/cosmic/teacher/forum/HelpDeskRequest.php>