



Prizm Telemetry Monitor Software
For The Mini4 Product Line
(PMON II)
User Guide

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Table of Contents:

Installation.....	3
Getting Started	3
Adding Boards	4
Adding boards with twin Optical Interfaces.....	5
Modifying board properties	5
Configuring the Serial Link	6
Setting up Board Slots	7
Advanced Diagnostics	9
Board Diagnostics.....	9
Communications Diagnostic.....	10

Installation

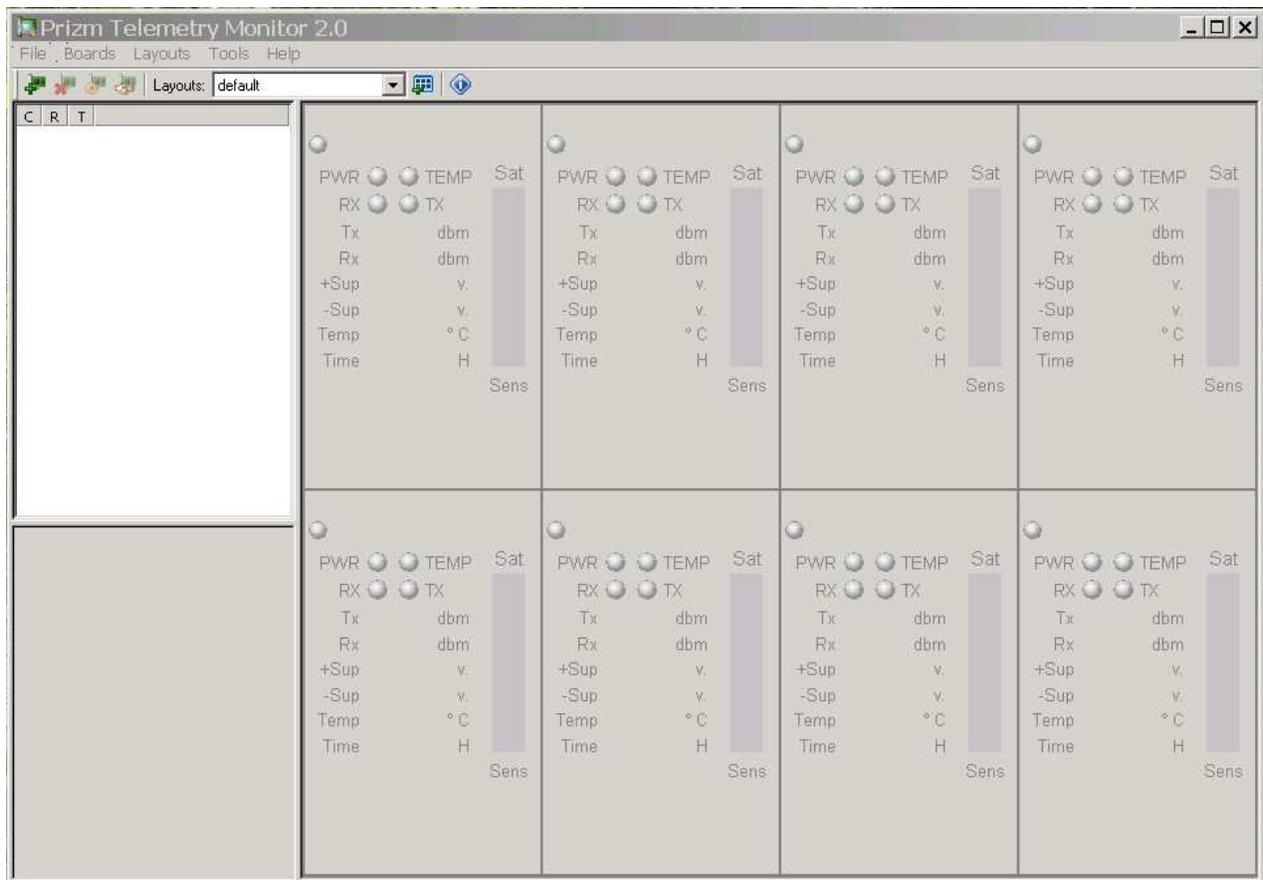
PMON II is shipped as an install program **setup.exe** and several support files. This install may be run from the CDROM, or it may be copied to the hard drive and run from there.

Unless directed otherwise, the program will be loaded into the c:/program files/PrizmInc/PmonII folder. An Icon will be added to the desktop.



Getting Started

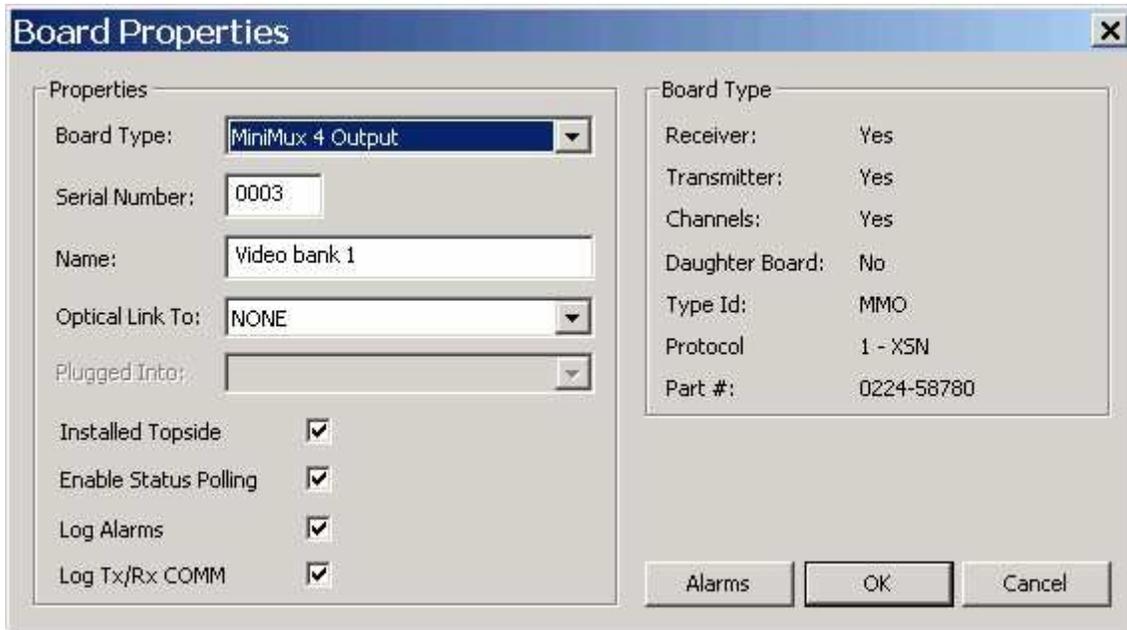
The first time you run PMon-II you will be presented with a blank (unpopulated) slate.



The upper left region of the window is the **Board Status List**, and it will show all the known boards in the system. This list is currently empty. Your first task is to fill this list.

Adding Boards

Boards are added to the system one at a time. This can be done from the main menu (**Boards/Add**) or by clicking the **Add** icon  in the toolbar. Either of these actions will pop-up the Board configuration dialog (shown below).



The image shows a Windows-style dialog box titled "Board Properties". It is divided into two main sections: "Properties" on the left and "Board Type" on the right. The "Properties" section contains several fields: "Board Type" is a dropdown menu set to "MiniMux 4 Output"; "Serial Number" is a text box containing "0003"; "Name" is a text box containing "Video bank 1"; "Optical Link To:" is a dropdown menu set to "NONE"; and "Plugged Into:" is a dropdown menu. Below these fields are four checked checkboxes: "Installed Topside", "Enable Status Polling", "Log Alarms", and "Log Tx/Rx COMM". The "Board Type" section contains a list of attributes: "Receiver: Yes", "Transmitter: Yes", "Channels: Yes", "Daughter Board: No", "Type Id: MMO", "Protocol: 1 - XSN", and "Part #: 0224-58780". At the bottom right of the dialog are three buttons: "Alarms", "OK", and "Cancel".

In order for PMon to monitor a board, the **Board Type** and **Serial Number** entered here must match the board exactly. The remaining parameters are provided for user convenience, and are used to provide additional board identification and to control the diagnostic process.

The **Name** will be displayed at the top of a board slot (see later), and the **Optical Link To** and **Plugged Into** fields will also be displayed in a board's slot to aid in system debugging. The **Installed Topside** flag is simply a reminder to the user, but may be used in the future for display purposes.

The **Enable Status Polling** flag must be checked in order for PMon to interrogate a board. If this flag is not checked, then the board will be ignored and any status displays will be grayed out.

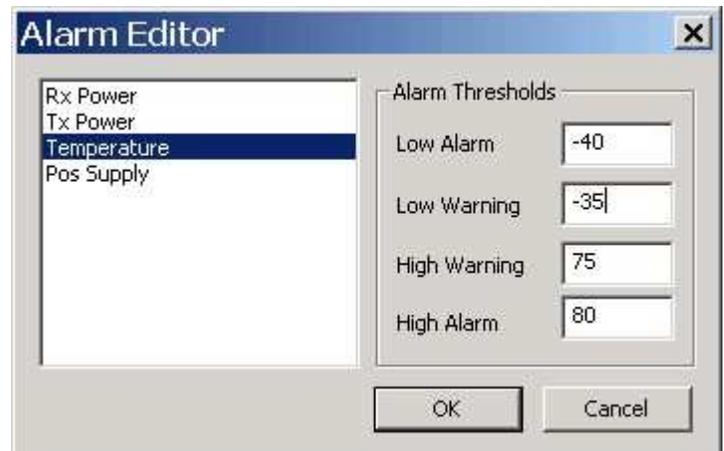
The **Log Alarms** flag will cause any error messages from this board to be appended to the active error-log text file. This feature is useful for recording intermittent problems.

The **Log Tx/Rx COMM** flag will cause this board's serial data to be appended to the active Comm-log text file. The filename for this log is set on the **Tools/Preferences/General** tab, as well as a global override. The global flag must be set on to log data from any board. The override defaults to OFF.

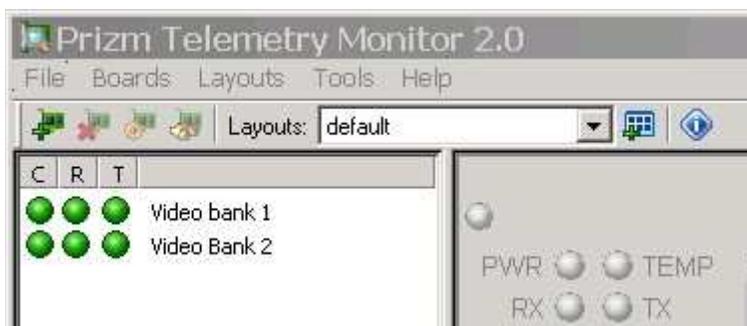
The **Alarms** button is used to set the various alarm thresholds for a board. Each board type has its own set of default alarm levels, and these should only be changed if there is a problem with a specific board.

The appropriate alarm name is selected from the list on the left, and the corresponding alarm and warning values are displayed on the right.

These values can be edited, and the new values will be saved as changes are made.



As each board is added to the system, it will appear in the Board Status List. You can choose to display either the board name, or Serial number. Make this selection on the **Tools/Preferences/General** tab. Here the board names are being displayed.



Adding boards with twin Optical Interfaces.

One anomaly in the **Boards / Add** process is that some physical board types actually appear to the PMon system as TWO boards. This is because that board type has TWO sets of fiber interfaces, typically two transmitters or two receivers. In this case PMon actually allocates an A and B board type. For example, the Sonar Output Board has two optical receivers on it, therefore it requires two status slots. Consequently, two different **Board Types** exist in the selection list: *Sonar Output Board A* and *Sonar Output Board B*.

Both of these types must be added to the Board List, using the same **Serial Number**.

Modifying board properties

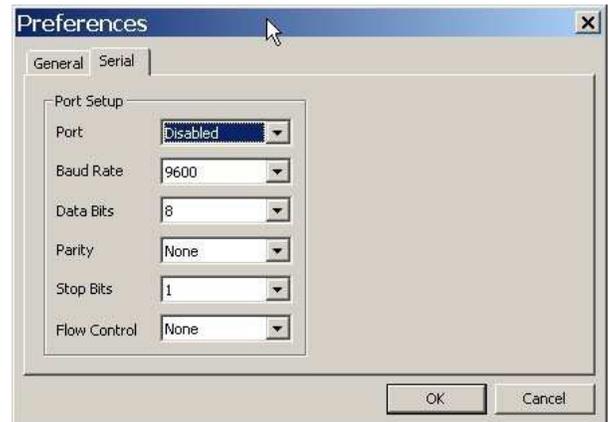
Once a board has been added to the system, its properties can still be modified very easily. Simply double-click the board in the Board Status List, or select the board and use the **Boards/Set Properties** menu item.

One reason for going back in and updating a board's properties is to make associations between boards. For example, if two boards form an optical link (topside to downside) pull up the properties for one of these boards and select the other board in the **Links To** field. This will augment the Slot display for both boards. Also, if a board is a daughter-board, go to its properties and select the parent board in the **Plugged Into** field.

Configuring the Serial Link

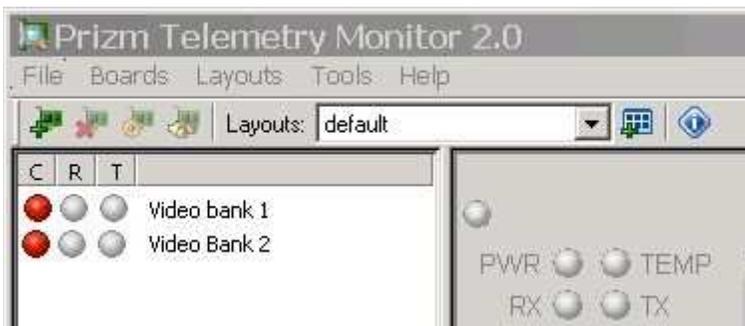
Once some boards have been added to the system, the diagnostic serial link should be configured. Typically this will just mean making the appropriate serial port selection.

Use the **Tools/Preferences/Serial** menu item to bring up the dialog. Everything except the port number will default to the correct values. Select the desired port and click OK.



At this time, the LEDs on the Board Status List will change to indicate each board's current status. The desired LED colors are all greens, or a mixture of greens and grays.

The display below indicates that PMon has not been able to communicate with either of the two video boards, probably because the telemetry system is not powered up.



The three columns of LEDs indicate:

- C) Diagnostic Coms status (Can PMon talk to the board?)
- R) Receive Status (either optical power, or daughter board Rx data lock)
- T) Transmit Status (either optical power, or daughter board Tx data lock)

A Green LED indicates an OK state

An Amber LED indicates a marginal state

A Red LED indicates a fail state.

A Grey LED indicates an unknown or not-applicable state.

Setting up Board Slots

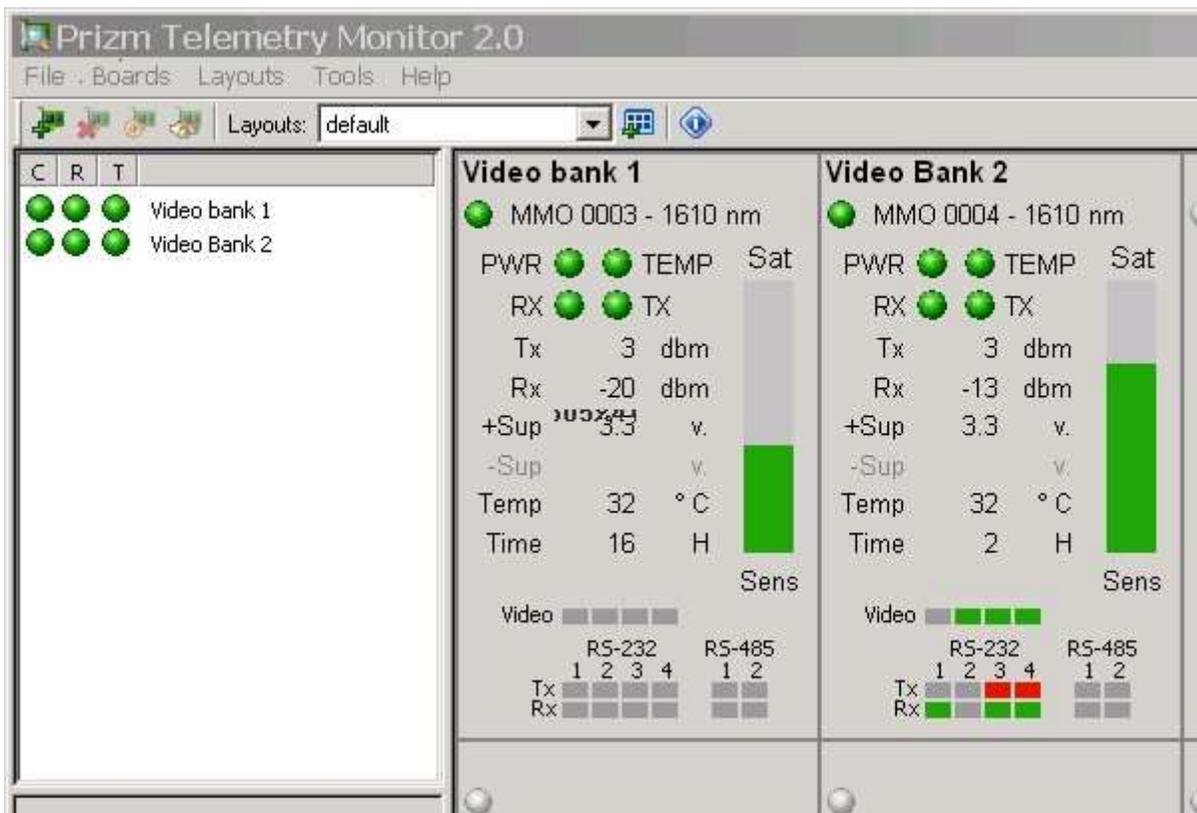
The majority of the program window is allocated for detailed board status information. This area is divided into 8 **Board Slots**. These slots are user configurable areas designed to hold a single board's status information. Each slot can display one set of optical fiber Tx/Rx data, and any associated channel data.

Note: Some boards actually have two sets of optical fiber data, so these boards must be split across two slots. (See "Adding Boards with twin Optical Interfaces" above).

To select a board for a slot, right-click anywhere in that slot and choose the desired board from the pop-up list of all boards. Repeat this action for all the slots you want to populate.

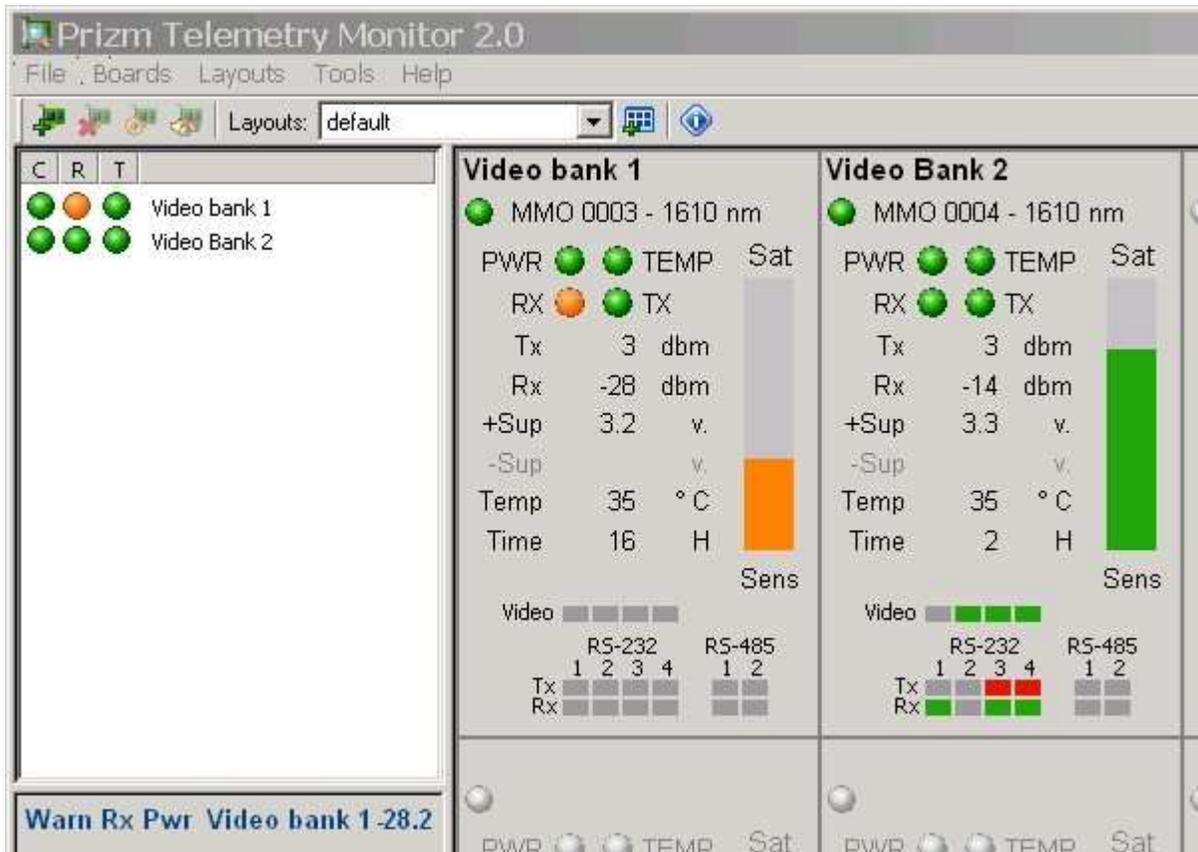


Once the slots have been configured, you can choose a name for that layout and save it for later recall. You can have any number of named layouts, targeted for different diagnostic purposes. Use the **Layouts** menu to save or open a layout. The fast way to retrieve an established layout is to just use the pull down list below the menu. The picture below shows a simple two-board layout.



Below is the same layout, but with a warning on the Optical Receiver power of the Video Bank 1 board. Notice that the RX LED and Rx power bar are both showing the warning color (amber) in the first board slot. Note that the R LED in the Board Status List is also amber. This illustrates that even if the board is not displayed in a slot, it will still be obvious if there is a problem.

Finally, the specifics of the warning or alarm are displayed in the error list under the Board Status list. Notice in this case, the text indicates that it is only a warning, that the problem is with the RX Power, the board is Video Bank 1, and the bad value in question is -28.2 . This information is also recorded in the error log file.



When you encounter a problem with a board, you may want to perform some more advanced diagnostics on that board. The next section describes the options available to you.

Advanced Diagnostics

There are two advanced diagnostics modes available. One mode is board specific, and it can be used to diagnose a suspected board problem. The other mode is an overall communications diagnostic that can be used to identify general PMon issues that may not relate to a specific board.

Board Diagnostics

PMon can pop-up a diagnostic panel for each board in the system. This is done by double clicking on a slot, or by selecting a board in the Board Status List and then clicking the diagnostic icon . A sample Diagnostic screen is shown below.

MMO 0004 - Video Bank 2 X

Time	Tx Commands	Time	Rx Responses
18886347	\$QMMO0004†	18886419	QMMO0004,31,32,33,34,1136†
18886271	\$QMMO0004†	18886343	PMMO0004,32758,34,18032,400,03,23,30,1930†
18884097	\$QMMO0004†	18884169	QMMO0004,31,32,33,34,1136†
18884019	\$QMMO0004†	18884093	PMMO0004,32758,34,18032,400,03,23,37,1937†
18881949	\$QMMO0004†	18882019	QMMO0004,31,32,33,34,1136†
18881870	\$QMMO0004†	18881944	PMMO0004,32766,34,17864,404,03,23,37,1952†
18879698	\$QMMO0004†	18879769	QMMO0004,31,32,33,34,1136†
18879619	\$QMMO0004†	18879694	PMMO0004,32766,34,17864,404,03,23,34,1949†
18877523	\$QMMO0004†	18877593	QMMO0004,31,32,33,34,1136†
18877444	\$QMMO0004†	18877519	PMMO0004,32766,34,17864,404,03,23,37,1952†

Optical Status

Hours	2.3
Module Status	03
Channels <A>	0031
Channels 	0032
Channels <C>	0033
Channels <D>	0034
Tx Power (raw)	18032
Tx Power (dBm)	2.56
Rx Power (raw)	400
Rx Power (dBm)	-13.98
Temperature (raw)	34
Temperature (°C)	34.00
+ Supply (raw)	32758
+ Supply (v.)	3.28

Telemetry Status

Status Id	1
Status Msg	Good
Tx Counter	116
Rx Counter	116

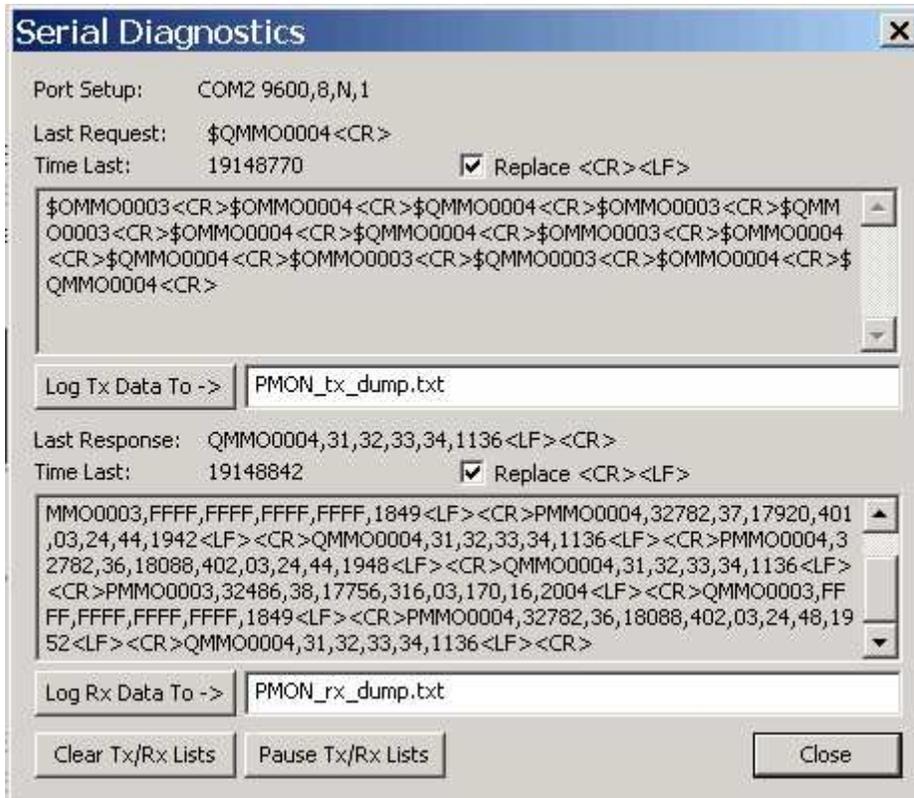
Configuration

Wave Length	1610
Tx Pwr	0.0
Vendor	LUMINENTOIC
Part #	SPCGBEZ61CDA A
Serial #	66BA100058

Status Polling
 Log Alarms
 Log Tx/Rx COMM

Communications Diagnostic.

If a more systemic problem is suspected, it is possible to show all serial communications on one diagnostic display. This is done with the **Tools/Serial Diagnostics** menu item. A sample screen is shown below.



On this dialog, the user can see the last valid Tx and Rx packets, along with the full stream of telemetry data going out and coming in. If data corruption is occurring, it should be visible in the stream data. Notice that checkboxes are provided to convert valid CR and LF characters into text strings so they do not appear as junk characters.

Pausing this display does not stop the polling process, it just pauses the display to enable the user to inspect the data. To log either the incoming or outgoing data, set the appropriate file name and click the **Log Xx Data To** button.