Application Note:
Using Diablosport Predator with LogWorks

Important Disclaimer

This application note describes some of the basics of using an Innovate LC-1 (or LM-1), Innovate LogWorks software, a second serial port and cable, and a Diablosport Predator for concurrent logging. By installing the software, you understand that Innovate is NOT responsible for the Diablosport Predator, or for any other 3rd party product. Most importantly, you agree that you are tuning your car at your own risk. Data logging is generally very safe. Adjusting your ECU, while powerful, can render your vehicle non functional. <u>Follow all directions, read, think, and don't blame us if you corrupt your ECU or destroy your engine.</u>
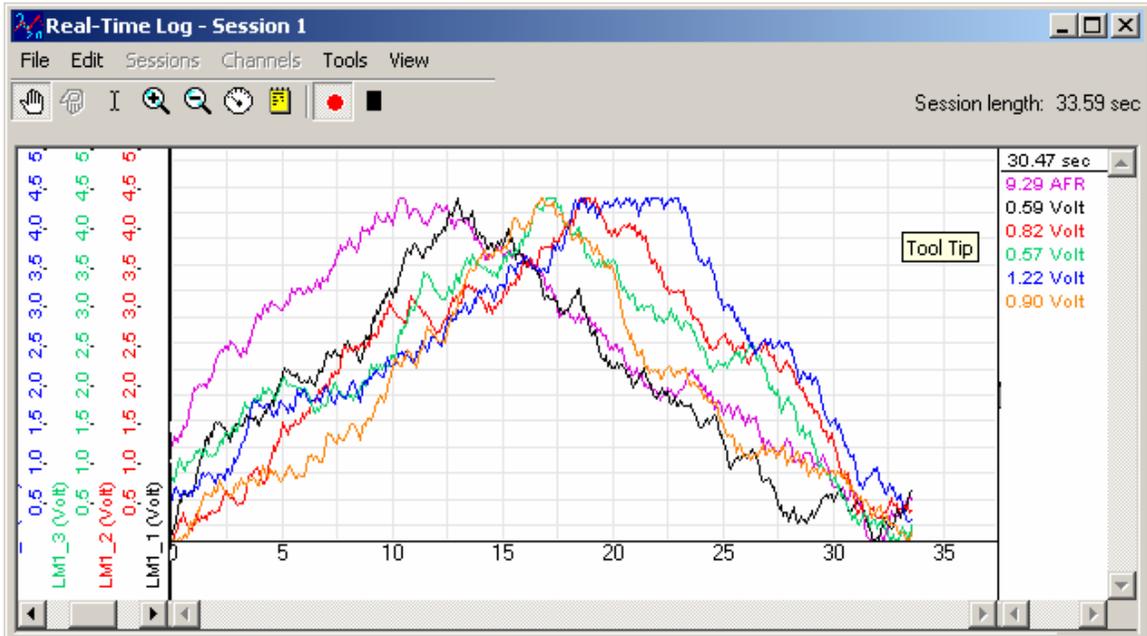
Introduction

Using an Innovate wideband (LC-1 or LM-1) with Predator is easy. With the Predator plug-in for LogWorks, "channels" from your ECU can be logged synchronously with channels from the Innovate modular tuning system (MTS). This can be as simple as 2 channels (i.e., air/fuel ratio plus RPM), or very complex (up to 32 channels maximum).

The Predator plug-in appears to LogWorks as a "virtual device." This device generates packets of data 12 times per second, regardless of the speed of update from the ECU. Depending on your particular Predator model, firmware, and make/model of vehicle, you can expect to get various data rates from the ECU. All logging channels are defined in predator.xml, which can be modified to support alternate formulas, additional channels, special versions, and so on.

Basic Steps to Log

The basic steps are:

1. Install your Innovate hardware and all of the software
   - Install the latest version of LogWorks from Innovate (www.tuneyourengine.com)
     - Install the Predator plug in from Innovate
     - Follow the instructions in the manuals for installing various Innovate hardware (at least one Innovate hardware piece must be connected in order to log).
2. Run the Predator plug in for LogWorks from Programs \ LogWorks2 \ Extra Devices \ Predator plug-in
3. Select the appropriate serial adapter and Connect to your Predator
4. Select up to 10 ECU channels (PIDs) to log
5. Run LogWorks from Programs \ LogWorks2 \ LogWorks2
6. Select the COM port to connect to your Innovate hardware (this is **not** the COM port assigned to the Predator)
7. Do real time logging per the LogWorks2 Manual

8. Once you have collected data you can use it to generate XY Plots, charts, calculated data channels, and so on, exactly as if the channels from the ECU had originated from Innovate hardware.

LM1_O2 Chart over LM1_2/LM1_3

File   Edit   Sessions   Table   View   Graphic   Colors

Tabs: Average | Std Dev | Number pts | Max | Min | ECU

LM1_3 (Volt)   LM1_2 (Volt)   LM1_O2 (AFR)

LM1_O2 (AFR)	0.00	0.29	0.57	0.86	1.14	1.43	1.71	2.00	2.29	2.57	2.86	3.14	3.43	3.71	4.00
0.00		8.74	8.41												
0.24	9.86	8.59	8.77												
0.47	9.92	9.55	9.77	9.12			15.28	15.50							
0.71	11.23	9.58	10.16	10.95	11.32	9.63	15.59	15.31							
0.94	11.33	11.97			12.90	11.63	13.46	16.77							
1.18		13.54	14.67				13.61	17.85							
1.41			14.87			10.77	13.22	18.07							
1.65			14.63	15.17		17.19	15.93	17.02	18.72						
1.88			14.69	16.09	16.50	16.78	16.98	17.55	16.27	18.99				11.75	
2.12					16.57		17.96	14.63	16.28	18.33	16.44	14.91	12.48	11.27	
2.35								12.05	13.04	19.00	18.12	15.48			10.70
2.59								12.08	12.65	15.64					10.14
2.82										17.59	13.16	12.99	13.20	9.85	
3.06									20.26	20.13	15.20	9.38	13.34	12.49	
3.29									20.34	19.66	19.51			8.48	10.88
3.53										18.73	19.01	18.95		15.29	
3.76											18.57	18.46	18.38	15.96	
4.00											18.02	17.26	16.10		

LM1_O2 (AFR) scale: 22.39 / 22 / 20 / 18 / 16 / 14 / 12 / 10 / 8 / 7.35 — Average

LM1_2 @ 3.   LM1_3 @ 0.
Average ---
Std Dev ---
Number pts 0
Max ---
Min ---
ECU ---

For more information, visit http://www.tuneyourengine.com, or http://www.diablosport.com

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