

Fiero ALDL Monitor User's Manual

V1.6.0

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Revision History

Version	Date	Name	Description
1.0	07 AUG 2012	P. Romsky	Initial Release
1.5.0	26 APR 2015	P. Romsky	Added support for new Low Cost Adapter
1.6.0	01 AUG 2022	P. Romsky	Improved features and better lower cost Adapter

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1 Setup

This section provides details on the setup of the Fiero ALDL Monitor GUI and Adapter. The following sections include: Install the Software, connecting the ALDL Adapter between the Fiero and the PC, and configuring the COM port.

1.1 Install the Software

This section provides instructions on installing the software required for the ALDL Monitor. The following sections include: Install the Trinket USB Serial Driver and install the Fiero ALDL Monitor GUI.

1.1.1 Install the Trinket USB Serial Driver

The driver to communicate with the ALDL Adapter based on the Adafruit Trinket M0 microcontroller will be automatically installed on your PC when the Adapter is plugged into a USB port on your PC. Note: it may take several minutes for the driver to install.

1. Plug the Adapter into a USB port.
2. Wait for the message that your device is ready to use.

1.1.2 Install the Fiero ALDL Monitor GUI

Perform the following to install the Fiero ALDL Monitor GUI on the Laptop Personal Computer (PC):

1. In the Install folder: Double left click on the **setup.exe** file.
2. Follow the **on-screen instructions** to complete installation of the GUI.

1.2 Connecting the ALDL Adapter between the Fiero and the PC

This section provides instructions on: Connecting the Adapter to the Vehicle and Connecting the Adapter to the Personal Computer (PC).

The Adapter is shown in Figure 1.



Figure 1 – Fiero ALDL Adapter based on the Adafruit Trinket M0 Microcontroller

1.2.1 Connect the Adapter to the Vehicle

1. Connect the **ALDL Plug** from the Fiero ALDL Monitor to the **ALDL Jack** on the vehicle.

2. Insure that the ALDL Plug is properly connected and **fully seated** into the jack.

1.2.2 Connect the Adapter to the PC

Perform the following to connect the Fiero ALDL Monitor to the Laptop PC:

1. Connect the **USB Cable** from the Fiero ALDL Monitor to an unused **USB Port** on the PC.
2. Insure that the USB connector is properly connected and **fully seated** into the USB Port.

1.3 Configure the COM Port

This section provides instructions to: Determine COM Port and Configure the GUI COM Port settings.

1.3.1 Determine COM Port

Use the PC Control Panel, Device Manager and see which COM Port appears and disappears when the ALDL Adapter is inserted and removed from the USB Port.

1.3.2 Configure the GUI COM Port Settings

Click on Set-up on the Fiero ALDL Monitor main screen and select the Com Port determined in section 1.3.1 above. Note: A find COM Port feature has been added to this version of the GUI. Click the 'Find Com Port' button and the GUI will try each COM port until it finds a device. If it finds one, run the GUI with the Adapter attached to the Vehicle (running) and PC, then click on the 'Monitor' button on the main GUI panel (window) and see if it works properly. If not, click on the 'Find Com Port' button Set-up again and it will try other COM ports that can be tested to determine if it is the correct COM port.

If all COM Ports are tried and none are found to have a device on them, an error will be displayed.

The Set-Up panel is shown in Figure 2.

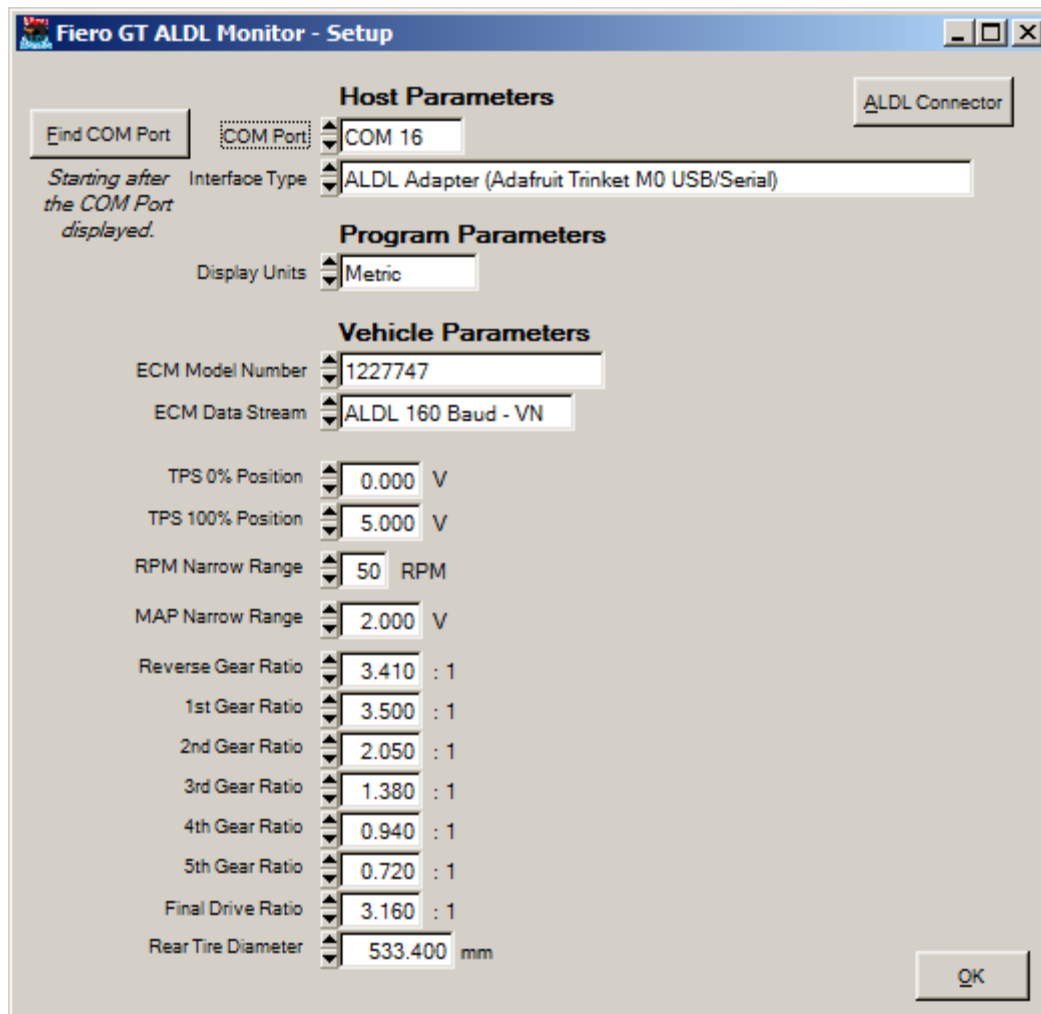


Figure 2 - Set-Up Panel

2 Operation

This section contains the basic operations of the Fiero ALDL Monitor GUI.

2.1 The Fiero ALDL Monitor GUI

This section provides instructions to operate the ALDL Monitor Graphical user Interface (GUI).

2.1.1 Launching the GUI

From the Windows Start Menu, select: **Start -> All Programs -> Fiero_ALDL_Monitor.**

The GUI should display and after 2 seconds it should appear as in Figure 3.



Figure 3 - Fiero ALDL Monitor GUI Main Panel

2.1.2 Monitor

To display the ALDL data (with no data recording), press the **Monitor** button.

2.1.3 Record

To display the ALDL data (while at the same time recoding the data), press the **Record** button.

2.1.4 Capture

To record ALDL data (with no data display), press the **Capture** button.

2.1.5 Playback

To display any previously recorded and captured ALDL data, press the **Playback** button.

2.1.6 Malfunction Flags

To see a colored indicator of the current Malfunction Flags, press the **Malf Flags** button. This feature works in Playback, Monitor, or Record modes.

2.1.7 Status Flags

To see a colored indicator of the current Status Flags, press the **Stat Flags** button. This feature works in Playback, Monitor, or Record modes.

2.1.8 Exit

To exit the GUI, press the **Exit** button on the main GUI panel (window), if any action is in progress, it will be stopped before the GUI is terminated (this may take a couple of seconds depending on what is running).

3 Acronyms

This section lists all acronyms listed in this document. Additional acronyms and definitions that do not appear in this document may also be included due to their related scope of this document.

A/D	See ADC
AC	Alternating Current
A/C	Air Conditioner (in a vehicle accessory context)
A/C	See AC (in an electrical context)
ADC	Analog to Digital Converter
ALDL	Assembly Line Diagnostics Link (a GM diagnostic protocol developed before OBD-I)
C	Temperature in Degrees Celsius: $C = (F - 32) * (9 / 5)$
CEL	Check Engine Lamp (or Light)
CL	Closed Loop
COM	Communications (a Serial Port on a PC)
D/A	See DAC
DAC	Digital to Analog Converter
DC	Direct Current
D/C	See DC
DMALDL	Diagnostic Mode ALDL
DMFACT	Diagnostic Mode Factory
DMDIAG	Diagnostic Mode Diagnostic Lamp
EGR	Exhaust Gas Re-circulator
F	Temperature in Degrees Fahrenheit: $F = (C * (5 / 9)) + 32$
GM	General Motors
GUI	Graphical User Interface
I/O	Input/Output (also IO)
IAC	Intake Air Control
ID	Identifier
K	Kilo (1×10^3)
LORPMHY	Low RPM High
LSb	Least Significant Bit
LSB	Least Significant Byte
m	Milli (1×10^{-3})
M	Mega (1×10^6)
MAT	Manifold Air Temperature
MAP	Manifold Air Pressure
MAF	Mass Air Flow
MCU	Microcontroller Controller Unit
MPH	Miles Per Hour (1 MPH = xxx Km/s)
MSb	Most Significant Bit
MSB	Most Significant Byte
n	Nano (1×10^{-9}). More properly: the lower case Greek letter nu (η)
O ₂	Oxygen
OBD-I	On Board Diagnostics Level 1
PC	Personal Computer
PROM	Programmable Read Only Memory
RPM	Revolutions Per Minute
s	Seconds
SES	Service Engine Soon
SLRL	
T	Tera (1×10^9)
TCC	
TPS	Throttle Position Sensor
u	Micro (1×10^{-6}). More properly: the lower case Greek letter mu (μ)
USB	Universal Serial Bus

V	Volts
VAC	Volts AC
VDC	Volts DC

4 Index

No Index is provided at this time.

End of Document