

The OLDtronic Monitor has been designed as a replacement for the TAGtronic System Monitor (V5). TAGtronic System Monitor was designed to work in the DOS operating system on particular laptops using PCMCIA cards that are no longer available. The OLDtronic Monitor will run on the latest versions of Windows using a generic USB device to communicate to the ECU, the intention being to 'future proof' the system to enable these old TAGtronic ECU's to be used long into the future.

Compatibility

The OLDtronic Monitor will work with the following ECU's:

- GCU-121 Gearbox controller (McLaren MP4/7, Alfa DTM etc.)
- TAG2.12F Engine controller (McLaren MP4/8, 9 & 10, Jordan J195, J196 etc.)
- MCU-100 Chassis controller (McLaren MP4/8, 9 & 10, Jordan J195, J196, Sauber, Alfa DTM etc.)
- TAG3.8 Engine controller (Porsche GT2, Porsche GT1, Alfa BTCC, Randlinger DTM, Dauer, Ken Matsuura F3000)
- TAG3.12 Engine controller (McLaren F1, McLaren F1-GTR, BMW V12 LM/LMR, Ruf, Kia)
- CEC Car equipment controller (McLaren F1)
- TAG2000 Combined chassis and engine controller (McLaren MP4/11-14, Jordan J197 J198 J199, Prost AP01 AP02, Arrows A19 A20)
- PCU-2 Dash
- PCU-3 Dash

Principle Uses

As an owner of a car with a TAGtronic ECU, the OLDtronic Monitor will be invaluable when checking the correct operation of your car. By connecting to the car you will be able to:

- See all the measured values such as pressures, temperatures, revs etc.
- Look at logged minimum and maximum values to see where temperatures peaked, for example.
- Inspect the operation of all the strategies such as fuelling, ignition, gearbox, throttle etc.
- See if any faults have been detected by the system.
- Clear any faults and check whether they re-occur.
- Download any logged data and see what happened on track.
- Save a snapshot of all the values to a log-file and e-mail it to an expert for further analysis.
- Program and tune the ECU.
- Through the use of generic Windows desktop sharing tools, allow an expert to use OLDtronic Monitor across the Internet.

Base Monitoring Functions

The OLDtronic Monitor offers familiar monitoring functions in the same layout as the old System Monitor, therefore you can tab through different pages to look at different strategies, look at sensor errors and time triggered event errors:

The screenshots show the OLDtronic Monitor software interface with the following tabs and data:

1. Main Screen

- Engine/Car Status:**
 - Revs CK(1) = 0 rpm
 - Scaled Idle = 0 rpm
 - Engine Status = *3
 - Vehicle Speed = 0 km/h
 - VBatt at Coil = 14.0 V
 - Twater = -29.0 °C
 - Tair = -40.0 °C
 - Toil = 0.0 °C
 - Tgearbox = -50.0 °C
 - Gear = *
 - In Gear = True Error = 0 rpm
 - Sec Air = Off Jerk = 0.0 *
 - Afterburn=Off Emiss = 1.00
 - A/C Comp = Off Tecu = 34.1
- Date/Time:**
 - Date 25/06/85 Time 10:58.58
 - Time Bet.Starts*35059 d h:m:s
 - Time After Start 0 sec
- Throttle:**
 - Thr Angle ? 0.0 * *1
 - Thr Closed Pos? 20.0 *
 - Thr Rate = 0.0 */sec
- Engine Load:**
 - AirMassFlow LEFT RIGHT
 - Qload(raw) 0.00 0.00 kg/h
 - Qload 0.00 0.00 cmm
 - tload 0.00 0.00 ms
 - QAMF 0.00 0.00 kg/h/720*
 - DAM 0.00 0.00
- Acceleration:**
 - Extra Bung = 0.00
 - delta t_load = 0.00 ms/s
 - Active Left No Right No
- ORFCO:**
 - Detected: False Active: False
 - Hard Reinstatement: No
- VANOS:**
 - Left = 0.0 *CK Right = 0.0 *CK
- Pot Adjustments:**
 - Q Global 100.0% * * Global 0.0 *
 - %F 0.0% * Cam 0.0 *
 - End Near 0.0 * Idle Sp 0rpm
 - End Far 0.0 * Spare 2048
- Ignition/Injection:**
 - Ignition LEFT RIGHT
 - Dwell 0.00 0.00 *CK
 - Qtotal 0.00 0.00 cmm
 - t inj near 0.00 0.00 ms
 - t inj far 0.00 0.00 ms
 - %F 0.00 0.00 %
 - InjIgnRetard 0.00 0.00 *CK
 - BVC 0.682 0.682 ms
 - End Angle 0.00 0.00 *
- Lambda:**
 - Sensor Left(3) Right(1)
 - Active False False
 - Fuel Lean Lean
 - V_sens 0.424 0.424
 - F_ctrl 0.00 0.00

2. Fuelling Calculation

- Out of Start Fuelling:**
 - Q load LEFT RIGHT
 - Global 0.77 0.77 cmm
 - HFM 1.00 1.00
 - Emissions 1.00 1.00
 - Throttle 1.15 1.15
 - Knock 1.00 1.00
 - Warm Up 1.98 1.98
 - Accel Enrich 1.00 1.00
 - Reinstatement 1.00 1.00
 - ASE 1.00 1.00
 - Q total 0.00 cmm 0.00 cmm
 - Lambda front 1.00 0.00 cmm 1.00 0.00 cmm
 - Lambda rear 1.00 0.00 cmm 1.00 0.00 cmm
 - Cyl Corr 7/1 0.00 cmm 0.00 cmm
 - Cyl Corr 8/2 0.00 cmm 0.00 cmm
 - Cyl Corr 9/3 0.00 cmm 0.00 cmm
 - Cyl Corr 10/4 0.00 cmm 0.00 cmm
 - Cyl Corr 11/5 0.00 cmm 0.00 cmm
 - Cyl Corr 12/6 0.00 cmm 0.00 cmm
 - Q total 7/1 0.00 cmm 0.00 cmm
 - Q total 8/2 0.00 cmm 0.00 cmm
 - Q total 9/3 0.00 cmm 0.00 cmm
 - Q total 10/4 0.00 cmm 0.00 cmm
 - Q total 11/5 0.00 cmm 0.00 cmm
 - Q total 12/6 0.00 cmm 0.00 cmm
 - Extra Bung (display) 0.00 cmm
- Start Fuelling:**
 - Basic Start Q 70.00 cmm
 - Start Adjustmen 3.43
 - Global Adjustme 0.77
 - HFM Correction 1.00
 - Q Start 131.0 cmm
 - Repeat Detected False
- Preinjection Pulse:**
 - Basic Start Q 70.00 cmm
 - Pre Injection A11 71
 - Global Adjustme 0.77
 - HFM Correction 1.00
 - Q Pre Injection131.0 cmm
 - Pulse Done False
- Misc:**
 - ASE repeat False
 - t after start 0 s
 - Igns after start 0
 - Igns after stall 0
 - Igns last run 0
 - Time Bet.Starts-day h:m:s *35081
- Engine/Car Status:**
 - Revs CK(1) = 0 rpm
 - Engine Status = *3
 - Vehicle Speed = 0 km/h
 - Twater = -29.0 °C
 - Tair = -40.0 °C
 - VBattery = 14.0 V

3. Fuelling Calculation 2

4. Ignition Calculation

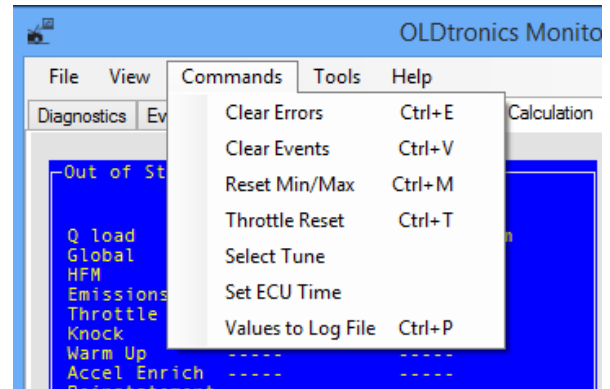
Events

Time Seen	ID	Description	Additional Info	Status
24/06/2015 17:22:24	E2492	Fuel Pump error	Open circuit	Current
24/06/2015 17:22:24	E0640	CAN error	Reset count	Current
24/06/2015 17:22:24	E1114	Oil pressure error	Value too High	Logged
24/06/2015 17:22:40	E1401	Throttle error	S/C to Gnd	Current
24/06/2015 17:22:40	E2011	V battery error	S/C to Gnd	Current
24/06/2015 17:22:40	E2212	Lambda Heater 2 error	Open circuit	Current
24/06/2015 17:23:02	E0604	FA	NVRAM lost	Logged

Base ECU Commands

The OLDtronic Monitor provides control over the ECU required when running a car with the following commands:

- Clear the current and logged errors
- Clear the event display
- Reset the min/max values
- Set the ECU time to match the PC
- Reset the throttle zero position
- Select which tune to use - ROM or RAM.



Car Configurations

The OLDtronic Monitor requires a configuration to get the correct setting for the version running in the ECU, the configuration is different for each ECU type and each program version running in the ECU. Most users will just have one car running one version, this configuration is included in the base price for the OLDtronic Monitor. Additional car configurations can be purchased separately. Existing TAGtronic System Monitor users will have access to the necessary files to generate their own configurations for each of the cars they need to work on.

Data Acquisition Data

The latest version of ATLAS no longer supports the reading of data from these old ECU's, therefore this has been included in the OLDtronic Monitor program. The DATAlab (typically chassis data) and Telemetry (typically engine data) type data can be downloaded and saved in an open-format text file for reading into 3rd Party analysis tools.

Examples of exported data viewed in different analysis tools can be seen below.

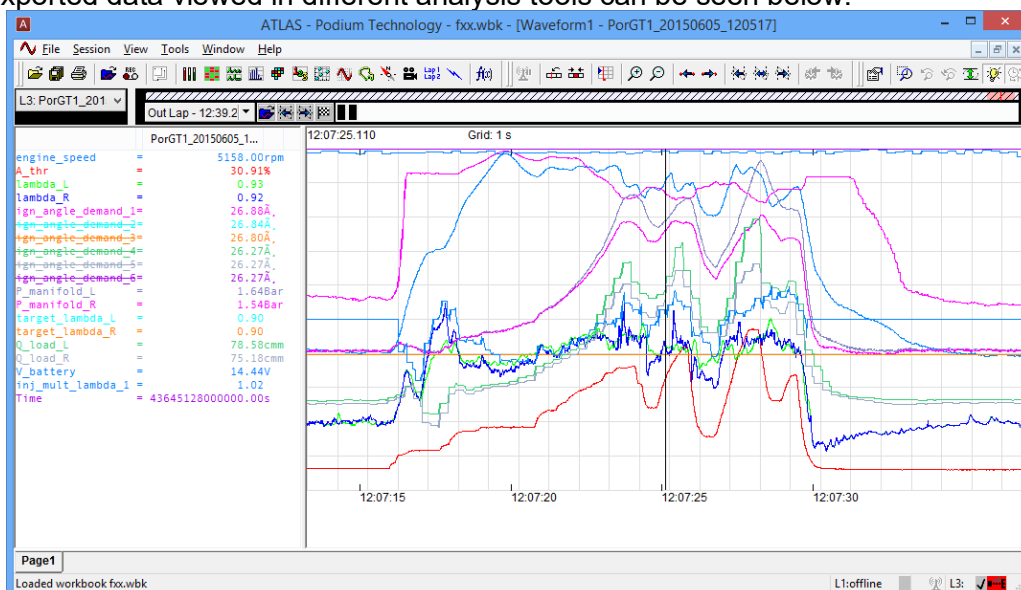
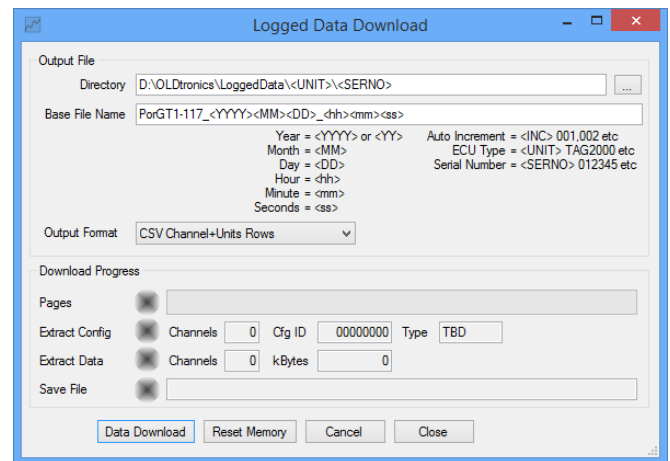


Figure 1: Exported Data Viewed in MAT ATLAS

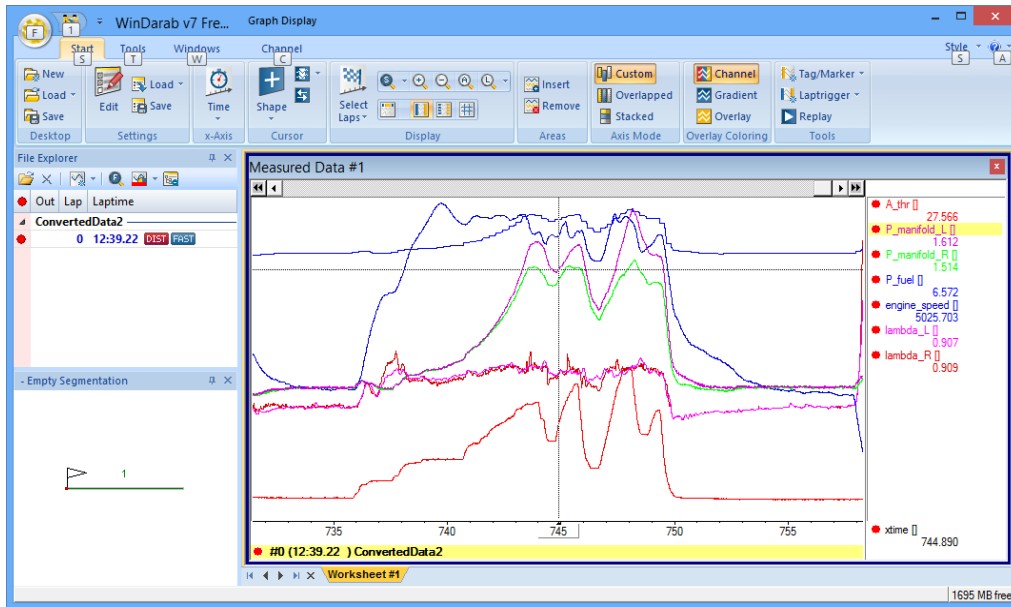


Figure 2: Exported Data Viewed in Bosch WinDab (Free Version)

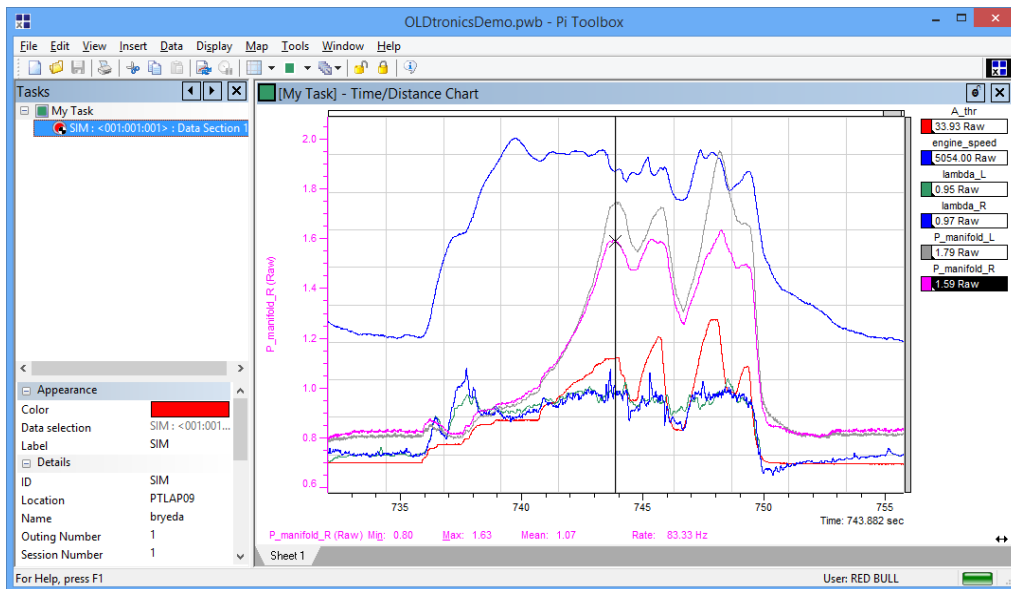
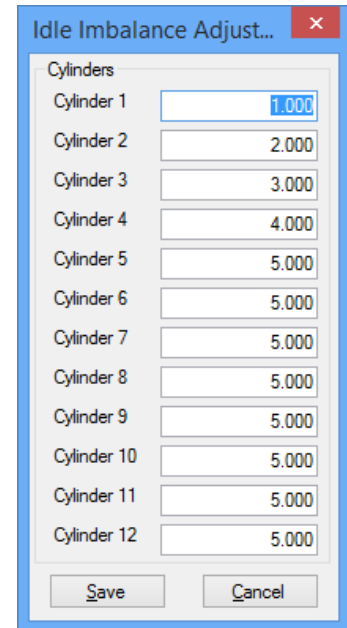
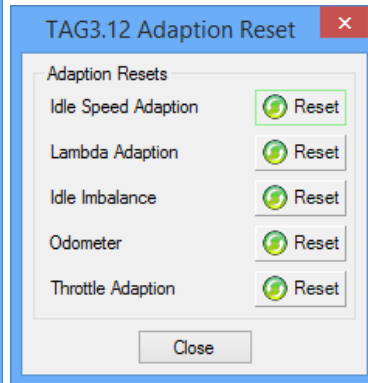


Figure 3: Exported Data Viewed in Pi Toolbox

ECU Specific Functions

Certain functionality is ECU specific, these features are enabled when required by the supplied car configuration.



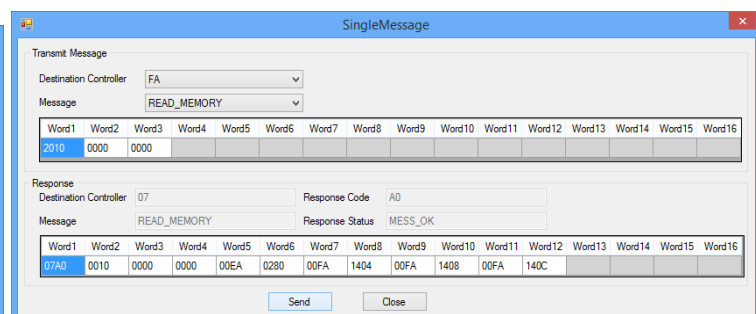
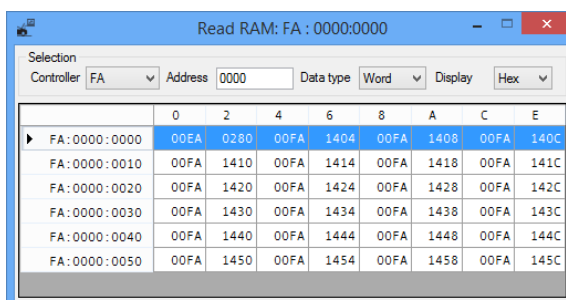
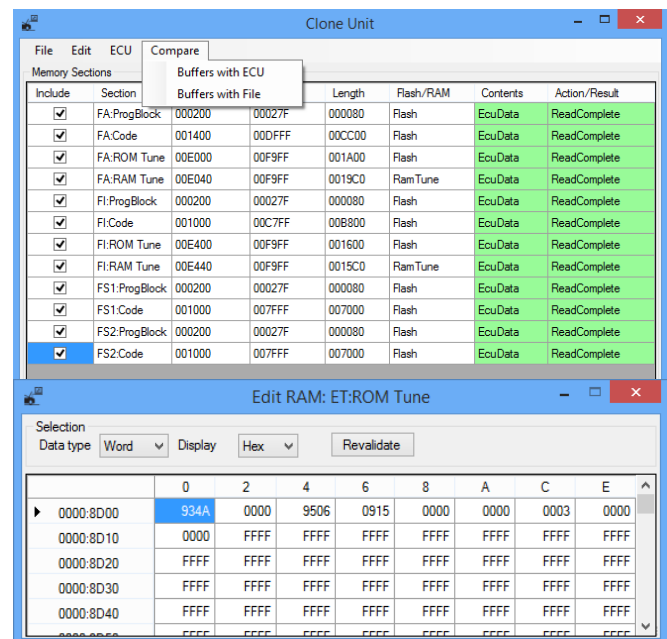
Sensor Calibration

Setting the sensor calibration from TAG/McLaren sensor calibration files

ECU Servicing and Test Tools

Several facilities have been included in the OLDtronics Monitor to enable ECUs to be serviced and tested, such as:

- Clone Unit: Read and save memory areas from a returned ECU for later restoration, prior to return. The ECU contents can be compared with a previously saved state to verify if anything has changed.
- Edit memory areas and re-checksum before downloading (e.g. hand editing unit or sensor calibration areas).
- Read Memory Window: Ability to read the ECU's memory.
- Single Message: Ability to send test messages.



ECU Interface

The OLDtronics Monitor is delivered with the necessary hardware to connect a PC/laptop to the car:

- USB to HDLC Interface, powered from USB cable (85 x 60 x 35mm)
- 0.9m PC to Interface cable
- 2m Interface to car cable (25-pin D-Type to 13-pin Mil Spec, Male)
- Option: Supply turnkey laptop and case

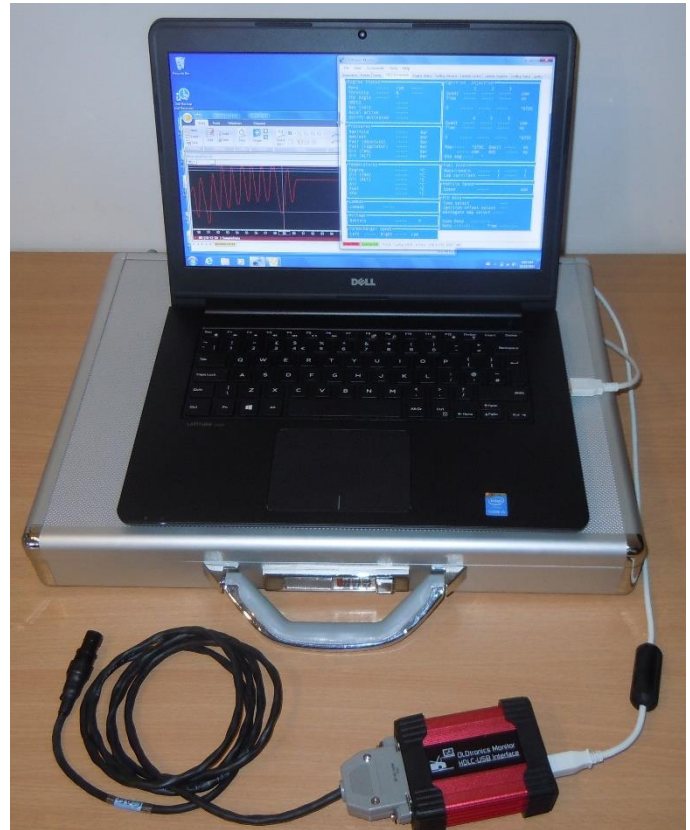
Ordering

The OLDtronics Monitor can be ordered by contacting:

OLDtronics
33 St John's Road
Bathwick
Bath
BA2 6PX

Phone: +44 (0) 1566 784508

E-mail: sales@oldtronics.com



Components (Refer to OLDtronics Price List)

Part No	Description
OTMonBase	OLDtronics Monitor Software, one car configuration, USB/HDLC Interface and 2m cable from interface to car (13-pin CGK, male)
OTMonConfig	Additional car configuration
OTMonAcq	Enable reading of data acquisition memory and saving as text files for 3 rd Party data analysis tools such as MAT ATLAS, Pi Toolbox, Bosch WinDarab etc.
OTMonTune	Enable OLDtronics Monitor to edit and program tune parameters and read/program legacy TAGtronic System Monitor Tune Versions and configurations. Not available to McLaren F1 customers.
OTMonService	Adds the ECU Service and Test Tools (Cloning, Read-RAM and Single Messages)
OTMonSensor	Adds the Sensor Calibration functionality
OTMonSys	Supply a laptop and case, install software and configuration for your selected components