

# Movimento Puma™ 2

Movimento Puma 2 means a revolution for R&D, Fleet Management and workshop environments. The versatile, powerful and compact design provides a new level of user ease for multiple applications.

## Multi-bus Network Tool

The Puma 2 is capable of solving a wide range of tasks in the field of R&D and after market. Its main areas of use are to perform network diagnostics, node simulation, logging and flight recording and software download.

Puma supports simultaneous usage of three (3) CAN channels. The Puma also has support for all major protocols such as, but not limited to, J1708, J1939, J2534, ISO 14229 and GGD.

## Stand Alone with E-script

To further enhance the Puma's capabilities, a scripting language called E-script has been implemented in the Puma family. E-script brings stand alone functionality to the Puma and enables it to act upon any network event and return an action.

## WLAN Capability

Using WLAN brings great flexibility to an engineer's work. It's possible to perform diagnostic services, or any other task, from one location to a fleet of vehicles in the proximity.

## Applications

### Network Diagnostics

The Puma is a pass-through device that handles all major diagnostic service protocols on major vehicle network types.

### Node Simulation

The Puma can be programmed to emulate an ECU on a vehicle network. It's also possible to simulate the environment surrounding a single ECU to make it function on a test bench.

### Logging and Flight Recording

The Puma can log network communications, both as a stand alone tool in an operating vehicle and as a network logger in a development environment.

### Software Download

The Puma is able to perform software download to an ECU on a development test bench or in an already assembled vehicle.

### Gateway

The scripting capabilities in Movimento Puma allows for advanced and customizable gateway functionality such as filtering or editing network messages. It is also possible to translate messages between different network interfaces, e.g. J1708 to CAN.





## Specifications

### Network Interfaces

- 3 HS/MS/LS CAN  
(Two channels are capable of up to 1 Mbps, one is capable of 125kbps)
- 1 Single Wire CAN (SWC), one of the standard CAN channel can be used as SWC, selection by software
- 1 LIN (Master, Slave or Spy), selection by software
- FlexRay™ (under development)
- 1 K-Line
- 1 5V K-line
- 1 J1708
- 1 J1850 PWM (Ford)
- 1 J1850 VPW (DCX and GM Class 2)
- 1 L-Line
- UBP

### Network Protocols

- J1587 (Database)
- J1939 (Serial Comm.)
- J1979 (Diagnostic Test Modes)
- ISO 9141 (Diagnostic Systems)
- ISO 14229 (Diagnostics Services)
- ISO 14230 (KWP2000)
- ISO 15765 (Diagnostics on CAN)
- GMLAN
- KWP2000 (Keyword Protocol 2000)
- CCP/xCP (Calibration Protocols)

### API

- RP 1210
- J2534 (Flash Programming)
- J2534-2 (SWC support)

### Driver Support

- Windows 2000
- Windows XP
- Windows Vista
- Windows Pocket PC 2003
- Windows Mobile 5

### Electrical

- 500 MHz Analog Devices BF534 DSP
- 16 MByte SDRAM
- 8 MByte Flash
- Real Time Clock w/ Battery backup
- Operating Voltage: 5 to 36VDC
- Sleep mode (1 mA)
- Micro second timestamp resolution ( $\mu$ s)
- Internal Temperature Sensor
- Electrical isolation between the PC and Vehicle
- Wake up on CAN, I/O, RTC

### I/O

- 40-pin connector
- 1 Digital Output (500mA sink)
- 2 Digital Input (0 - 36VDC)
- 2 Analog Input (0-16VDC)
- 1 Analog Input (0-22VDC)
- 1 VBAT Measurement (0-36VDC)
- 1 Analog Output (0-20VDC, 200ma)
- 1 Analog Output (0-5VDC, 50mA)
- USB Host or Slave
- GPS (on USB host)
- Trigger button (on USB host)
- WLAN – 802.11 b/g (option)
- Integrated SD card

### Cables

- Puma 40-pin to OBD-II (J1962)
- Puma 40-pin to 4 x D-sub (DE-9M)

### Physical

- Size: 120 x 77 x 36 mm (4.7 x 3.0 x 1.4 inch)
- Weight: 0.18 kg (0.4 lbs)

### Environment

- Operating Temperature: -40 to +85 °C (with WLAN 0 to +55 °C)
- Storage Temperature: -40 to +125 °C (with WLAN -20 to +70 °C)