MW810

Mobile Workstation

Fully rugged mobile computer for mission-critical vehicles. Optimized for mobility. Optimized for wireless.

The fully-rugged Motorola MW810 Mobile Workstation provides reliable, cost-effective wireless connectivity and computing power for mission-critical applications.

The embedded high-performance computing platform is optimized for harsh environments and seamless mobility at highway speeds. Three-piece design allows flexible installation options, including choice and location of CPU, display, and backlit keyboards.

The Motorola MW810 Mobile Workstation offers a range of integrated radios and GPS options so the vehicle user is connected to one or more wireless networks. Optional expansion board provides a wide range of I/O ports to support external radios, dual displays, and peripheral devices. The backlit keyboard and display options offer outstanding performance even in the most difficult lighting conditions.

SPECIFICATION SHEET

MW810
Mobile Workstation

COMPUTER

MW810 Central Processing Unit offers powerful computing options so you can support more applications and find answers faster.

Processor Options	Intel® Core™2 Duo (Merom) T7400 4MB L2 2.16 GHz 667 MHz (Option) Intel® Core™2 Duo (Merom) T5500 2MB L2 1.66 GHz 667 MHz (Standard) Intel® Celeron® M 430 1 MB L2 1.73 GHz 533 MHz (Option)
Chipset	Intel 945GM
Video Controller	Integrated in Intel 945GM Chipset. Dynamic allocation from 64 MB up to 224 MB RAM
Internal Memory	512 MB (Standard), 1 GB, or 2 GB DDR2 DRAM (Options)
Mass Storage Options	Removable Hard Drive: 80 GB with three dimensional shock absorber and heater (Standard) 4 GB Flash Drive (Option, replaces Hard Drive)
Operating System	Microsoft® Windows® XP Professional, SP2 (32 bit)

COMMUNICATIONS AND EXPANSION PORTS

MW810 offers a range of communications modules and expansion ports, so you can support both wired and wireless peripherals.

Primary Display Interface	RGB. MW800 Series displays can be supported via the RGB interface
Display USB 2.0	3x USB 2.0 in 12.1" displays (1 for keyboard, 2 general purpose)
Bluetooth	Optional Bluetooth module based on Broadcom BCM92045NMD. Available only with 12.1" displays
PCMCIA	1 External Type II, on front of CPU
Auxiliary Port	Centronics type 26 pin connector. 4 Programable General Purpose I/Os can be set to input or output, and 5V or vehicle battery voltage. Ignition sense inputs, vehicle speed and direction inputs (latter two for use with Dead Reckoning GPS). Battery voltage output (1A) and 5V DC output (1A) for relay contact vetting voltage. Additional Motorola technician signals for internal wireless board programming.
Audio	Line out (non-amplified) for external speaker; external microphone in (non-amplified)

I/O EXPANSION BOARD OPTIONS

MW810 offers multiple expansion board options, so you can add more ports for external modems, video cameras, or other vehicle peripherals as needed. Choose one (or none) as required.

	CPU without Expansion Board (Option VA00383)	CPU with Comm & Video Expansion Board (Option VA00385)	CPU with Serial & USB Expansion Board (Option VA00384)
RS232	1	2	4
CPU USB 2.0	2	3	4
Ethernet LAN RJ45	1 GbE (1000 BASE-T)	1 GbE + 2 100 BASE-T (10/100)	1 GbE (1000 BASE-T)
Secondary Display Interface	No	Yes - DVI	No
Video Input	No	1 Standard Composite Video input (CVBS) port (PAL or NTSC)	No

SPECIFICATION SHEET

MW810
Mobile Workstation

INTERNAL RADIO OPTIONS AND COMMUNICATIONS PROTOCOLS

Two internal PCI Express Mini Card slots allow for a Wireless Local Area Network option, plus any 1 of 3 available wireless Wide Area Network options, so you can stay in touch with remote applications via multiple networks.

WLAN	Intel® PRO/Wireless 3945ABG Network Connection (Tri-mode 802.11a/b/g). Wi-Fi CERTIFIED
WAN	Private DataTAC PRM240, for RD-LAP 19.2 or 9.6 networks. 806-824 MHz Tx, 851-869 MHz Rx frequencies. RF power output of 1.8Watt into 50-ohm load
	PCI Express Mini Card, for CDMA EV-DO Revision A, Release 0, and 1X networks
	PCI Express Mini Card, for HSDPA/UMTS/EDGE/GPRS networks. User accessible SIM card inside PCMCIA door on front of CPU

Choose either the internal GPS receiver or internal Dead Reckoning GPS receiver to help pinpoint your vehicle location. Dead Reckoning option provides vehicle location assistance even where GPS reception is hindered.

GPS	Trimble Lassen iQ GPS Module. Supports the following four protocols: DGPS (RTCM), TSIP (Trimble Standard Interface Protocol), TAIP (Trimble ASCII Interface Protocol) and NMEA 0183 and DGPS (RTCM SC-104)
Dead Reckoning GPS	u-blox Sensor-Based GPS Receiver (SBR-LS), containing the ANTARIS® GPS positioning engine. Position output in standard NMEA and UBX protocols

DISPLA OPTIONS

MW810 displays feature outstanding touchscreen capabilities, user programmable buttons, emergency button, and setting controls. MW810 CPU with Comm & Video expansion board supports dual display feature.

MW810 12.1" Displays	12.1" Standard Brightness (350 NIT) XGA, with RGB or DVI interfaces. Resistive tempered glass touchscreen. Viewing Angle V=120, H=100. Contrast Ratio 1:350. 6-bit per pixel, 262, 144 colors. 8 user programmable buttons with backlit insets so you can easily label your custom user functions. Speaker, 0.5W. 3 USB 2.0 ports (1 intended for keyboard, 2 general purpose)
	12.1" High Brightness (1200 NIT) XGA, with RGB or DVI interfaces. Resistive tempered glass touchscreen. Viewing Angle V=160, H=160. Contrast Ratio 1:400. 6-bit per pixel, 262, 144 colors. 8 user programmable buttons with backlit insets so you can easily label your custom user functions. Speaker, 0.5W. 3 USB 2.0 ports (1 intended for keyboard, 2 general purpose)

ELECTRICAL ENVIRONMENT

The MW810 supports 24V as well as 12V operation so you can install without power converters in more types of vehicles.

Power Source Options	Vehicle Battery 12V, Negative Ground	Vehicle Battery 24V, Negative Ground
Input Voltages	13.8VDC ±20%, with no loss of functionality	27.6VDC ±20%, with no loss of functionality
Power Consumption	At 13.8VDC, CPU only: Off (main switch ON) 2mA; Suspend Mode 0.14A (fans off); Typical 3A; Max 6A	At 27.6VDC, CPU only: Off (main switch ON) 2mA; Suspend Mode 0.14A (fans off); Typical 1.7A; Max 3.5A
Electrical Transients	Meets ISO7637-1	Meets ISO7637-1

GENERAL SPECIFICATIONS

MW810 system components have been designed to be backwards-compatible with most MW800 Series mounts.

System Component	CPU	MW810 12.1" Displays
Physical Size (H x W x D)	2.8" x 7.4" x 9.4" 7.2 x 18.9 x 24.0 cm	10.6" x 11.5" x 1.9" 27.0 x 29.2 x 4.9 cm
Weight	8.8 pounds (4 kg)	Std. Brightness 6.1 pounds (2.75 kg); High Brightness 6.6 pounds (3 kg)

SPECIFICATION SHEET

MW810
Mobile Workstation

ENVIRONMENTAL AND DURABILIT

MW810 is tough enough to thrive in extreme environmental conditions.

Operating Temperature	–22 to +158 degrees F (–30C to +70C). Some performance degradation may be experienced at temperatures below –4 degrees F (–20C) and above 122 degrees F (+50C)
Storage Temperature	–40 to +158 degrees F (–40C to +70C)
Humidity	90 to 95% relative humidity at 50 degrees C after 8 hours
Sealing	IP54
Shock	20g peak 1/2 sine wave @ 11ms, 30 impacts 90 to 95%
Vibration	Per ITA/EIA 603 Paragraph 3.3.4 and MIL-STD-810F method 514.5, Fig. 514.5C-1
Drip	Per MIL-STD-810F method 506.4 Procedure III
Dust Blowing	5 hours in dust (140 mesh silica flour) laden atmosphere, dust agitation time is for 2 seconds every 15 minutes
Salt Fog	8 hours, 5% Sodium Chloride at 35 degrees C, MIL-STD-810F method 509.4
Flammability	Per UL94
Solar Radiation	7 cycles of 24 hours with no functional degradation per MIL-STD-810F, method 505.4, Procedure I
Shock Crash Hazard	75g, 6 ms per MIL-STD-810F method 516.5, Procedure V

REGULATOR

MW810 is tested for safety as well as optimal performance with multiple wireless networks.

	Acceptance Number
Private DataTAC Radio	FCC ID: PQS-BM28001
EVDO-Rev. A Radio	FCC ID: N7N-MC5725
HSPDA UMTS Radio	FCC ID: N7NMC8775
WLAN Radio	FCC ID: PD9WM3945ABG
United States	
Radiated Emission	FCC Part 15 Class B
Safety	UL 60950-1
Canada	
Radiated Emission	ICES-003
Safety	cUL 60950-1
United States and Canada	
Radio Acceptance	WLAN Radio: RSS210, FCC Part 15 Private DataTAC Radio: RSS119, FCC Part 90 EVDO-Rev. A Radio and HSPDA UMTS Radio: RSS129, RSS133, FCC Part 22, 24

	Acceptance Number
Europe	
Radiated Emission	EN55022
Safety	EN60950-1
EMC Immunity	EN55024
R&TTE, eMark	Pending
Australia	
Radiated Emission	AS/NZS 3548
Safety	AS/NZS 60950-1
EMC Immunity	Pending

ACCESSORIES

- Mounting Trunnion
- USB Backlit Keyboard
- CPU-To-Display Cables and Cable Adaptors (Assorted Lengths and Interfaces)
- External Speaker with Built-In Amplifier
- External Microphone

MOTOROLA

Motorola, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. www.motorola.com/governmentandenterprise 1-800-367-2346

R3-14-2051