



# 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.

This fixed-mount, 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 backlit keyboard and display options offer outstanding performance, even in the most difficult lighting conditions. MW810 is designed and tested to meet industry standards as well as Motorola's own proprietary standards for rugged fixed-mount computers.

The Windows® XP-based CPU offers powerful Intel® Core™2 Duo processor options up to 2.16GHz, and memory up to 2GB. The heated removable hard drive features 3-dimensional shock absorbers ready for high vibration environments. Optional expansion boards provide a wide range of I/O ports to support external radios, dual displays, and peripheral devices.

The MW810 Mobile Workstation offers a range of integrated radios and GPS options to help the mobile user stay connected to one or more wireless networks. Embedded wireless options include CDMA EV-DO Rev A/Release 0/1x, HSDPA/UMTS/EDGE/GPRS, DataTAC, 802.11abg, GPS, GPS Dead Reckoning, and Bluetooth.

MW810 also delivers outstanding ergonomics. Our backlit keyboard with screw-down connector cable is easily removed from mounts, offering the convenience of laptop typing. A built-in pointer eliminates the need for a separate mouse.

MW810 displays are full of user-friendly features as well. Both 12.1" display options (350 NIT and 1200 NIT) come with resistive tempered glass touchscreens and have eight user programmable buttons with backlit insets so you can label custom user functions. An emergency button can work with dispatch and monitoring applications to allow users to call for help without keyboard or radio. The multi-function control knob simplifies adjustment of display settings. The 1200 NIT High Brightness display option features a high contrast ratio and wide viewing angles, enhancing the user experience in any type of lighting – from direct sunlight to total darkness.

## SPECIFICATION SHEET

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### COMPUTER

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

<b>Processor Options</b>	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)
<b>Chipset</b>	Intel 945GM
<b>Video Controller</b>	Integrated in Intel 945GM Chipset. Dynamic allocation from 64 MB up to 224 MB RAM
<b>Internal Memory</b>	512 MB (Standard), 1 GB Single Slot, or 2 GB Dual Slot DDR2 DRAM (Options)
<b>Mass Storage Options</b>	Heated Removable 80GB Hard Drive with 3-dimensional shock absorber (Standard) 4 GB Flash Drive (Option, replaces Hard Drive)
<b>Security and Protection</b>	TPM 1.2 (Trusted Platform Module) integrated in CPU
<b>Operating System</b>	Microsoft® Windows® XP Professional, SP2 (32 bit)  The Microsoft logo test confirms that the MW810 system and peripherals meet Microsoft quality goals and standards for compatibility on the Windows operating systems.



### COMMUNICATIONS AND EXPANSION PORTS

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

<b>RGB Display Interface</b>	On all MW810 CPUs. MW800 Series displays can also be supported via the RGB port (36-pin)
<b>Display USB 2.0</b>	3x USB 2.0 in 12.1" displays (1 for keyboard, 2 general purpose)
<b>Bluetooth</b>	Optional Bluetooth module V2.0 plus EDR (Enhanced Data Rate). Available only with 12.1" displays
<b>PCMCIA</b>	1 External Type II, on front of CPU
<b>Auxiliary Port</b>	Centronics type 26 pin connector. 4 Programmable 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
<b>Audio</b>	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. The Comm & Video expansion board option includes the widest range of port additions including a second display port, so two independent displays and keyboards can be supported by one CPU.

	CPU without Expansion Board (Option VA00383)	CPU with Comm & Video Expansion Board (Option VA00385)	CPU with Serial & USB Expansion Board (Option VA00384)
<b>RS232</b>	1	2	4
<b>CPU USB 2.0</b>	2	3	4
<b>Ethernet LAN RJ45</b>	1 GbE (1000 BASE-T)	1 GbE + 2 100 BASE-T (10/100)	1 GbE (1000 BASE-T)
<b>Dual Display Interface</b>	No	Yes - DVI (50-pin) port	No
<b>Video Input</b>	No	1 Standard Composite Video input (CVBS) port (PAL or NTSC)	No

### DISPLAY OPTIONS

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

<b>MW810 12.1" Displays</b>	12.1" Standard Brightness (350 NIT) XGA, with RGB or DVI interfaces. Resistive tempered glass touchscreen. Viewing Angles V=120, H=100. Contrast Ratio 1:350. 8 programmable buttons with backlit insets so you can custom label user functions. Speaker, .5W. 3 USB 2.0 ports (1 keyboard, 2 general use)
	12.1" High Brightness (1200 NIT) XGA, with RGB or DVI interfaces. Resistive tempered glass touchscreen. Viewing Angles V=160, H=160. Contrast Ratio 1:400. 8 programmable buttons with backlit insets so you can custom label user functions. Speaker, .5W. 3 USB 2.0 ports (1 keyboard, 2 general use)



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### 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.

<b>WLAN</b>	Intel® PRO/Wireless 3945ABG Network Connection (Tri-mode 802.11a/b/g). Wi-Fi CERTIFIED
<b>WAN</b>	Private DataTAC module, 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

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.

<b>GPS</b>	Trimble Lassen iQ GPS Module. Supports NMEA 0183 (National Marine Electronics Association), TSIP (Trimble Standard Interface Protocol), TAIP (Trimble ASCII Interface Protocol), and DGPS (Differential Global Positioning System) protocols
<b>Dead Reckoning GPS</b>	Sensor-based GPS Receiver, containing the ANTARIS® GPS positioning engine. Position output in NMEA 0183 (National Marine Electronics Association) and UBX (u-blox proprietary binary) protocols. Requires vehicle sensor signals for speed and direction – order the Auxiliary Cable accessory to connect CPU Aux Port to vehicle sensors

### ELECTRICAL ENVIRONMENT

Fully operating in 12V and 24V car battery systems without converters, so you can install in a wider range of vehicles.

<b>Input Voltages</b>	Wide input voltage range, 11-33VDC, with no loss of functionality	
<b>Electrical Transients</b>	Meets ISO7637-1	
	<b>12V</b>	<b>24V</b>
<b>Power Consumption (CPU)</b>	OFF (main switch ON) 2mA Suspend Mode 0.14A (fans OFF) Operation: Typical 3A; Max 6A	OFF (main switch ON) 2mA Suspend Mode 0.14A (fans OFF) Operation: Typical 1.7A; Max 3.5A
<b>Power Consumption (Display)</b>	OFF (main switch ON) 10mA Suspend Mode 0.4A	OFF (main switch ON) 6mA Suspend Mode 0.25A
<b>Std. Brightness (Heater ON)</b>	Operation: Typical 3.5A; Max 4.5A	Operation: Typical 2A; Max 2.6A
<b>Std. Brightness (Heater OFF)</b>	Operation: Typical 1.5A; Max 2A	Operation: Typical .8A; Max 1.2A
<b>High Brightness</b>	Operation: Typical 1.5A; Max 2.5A	Operation: Typical 1A; Max 1.5A

### GENERAL SPECIFICATIONS

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

System Component	CPU	MW810 12.1" Displays	Keyboard
<b>Physical Size (H x W x D)</b>	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	1.26" x 12.6" x 8.0" 3.2 x 32.0 x 20.3 cm
<b>Weight</b>	8.8 pounds (4 kg)	Std. Brightness 6.1 pounds (2.75 kg); High Brightness 6.6 pounds (3 kg)	2.2 pounds (1.0 kg)

### ENVIRONMENTAL AND DURABILITY

MW810 is tough enough to thrive in extreme environmental conditions.

<b>Operating Temperature</b>	-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)
<b>Storage Temperature</b>	-40 to +158 degrees F (-40C to +70C)
<b>Humidity</b>	90 to 95% relative humidity at 50 degrees C after 8 hours, per TIA/EIA 603
<b>Sealing</b>	IEC IP-54 Rating. "5" = Dust protected. "4" = Protected against splashing water
<b>Shock</b>	20g peak 1/2 sine wave @ 11ms, 30 impacts per TIA/EIA 603 Paragraph 3.3.5
<b>Vibration</b>	Per TIA/EIA 603 Paragraph 3.3.4 and MIL-STD-810F Method 514.5, Fig. 514.5C-1

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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, per 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

## REGULATORY ACCEPTANCE NUMBERS AND STANDARDS REFERENCES

MW810 is tested for safety as well as optimal performance with multiple wireless networks. MW810 components are RoHS compliant.

### FCC Acceptance Numbers

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: PD9WWM3945ABG

### United States

Radiated Emission	FCC Part 15, Class B
Radio Acceptance (RF)	FCC Parts 15.247, 90, 22, 24
Safety	UL 60950-1
Carrier Certifications	AT&T Mobility; Verizon Wireless

### Canada

Radiated Emission	ICES-003, Class B
Radio Acceptance (RF)	RSS210, RSS119, RSS132, RSS133
Safety	cUL 60950-1

### Europe

R&TTE Directive	1999/5/EC
EMC	ETSI EN 301 489
Radio Acceptance (RF)	ETSI EN 300 328; ETSI 301 511
Safety	EN 60950-1
Automotive Directive (eMark)	2004/104/EC

### Australia, New Zealand (C-Tick)

Radiated Emission	AS/NZS CISPR 22
Radio Acceptance (RF)	AS/NZS 4268 & AS/ACIF S042-3
Safety	AS/NZS 60950-1



## ACCESSORIES

Most accessories are RoHS compliant. Contact your Motorola representative for details on accessories as well as vehicle mounting options.

CPU Mounting Trunnion (included with CPU purchase)

USB Backlit 85-Key Full Travel Keyboards (multiple language options)

CPU-To-Display Cables (various lengths and interfaces); Cable Adaptors (various); Auxiliary Cable (supports Ignition Sense feature and more)

External Speaker with Built-In Amplifier

External Microphone



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With more than 75 years of technological innovations and over 30 years of wireless data expertise, Motorola has an answer for your mobile data

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