A police officer receives dispatch information, with audible directions and the incident location clearly marked on a map. An incident commander keeps track of firefighter locations and vitals as they search a burning apartment building. An EMS crew submits a report without leaving their vehicle. Detectives watch streaming video of gang members loitering, while parked discreetly two blocks away. A deputy scans the plates of 300 parked cars in minutes – without slowing down.

More and more first responders and field personnel are using their vehicle as an office. Aided by wireless broadband and motivated by the need to keep up with information and their workload, they perform more tasks in the vehicle, from report writing to video surveillance. This requires more than fast wireless broadband and the latest software – they also need a connected, powerful, rugged and ergonomic workstation that is designed for the challenges of their work day and the rigors of their environment.

The fully rugged Motorola MW810 Mobile Workstation R2.0 provides reliable, cost-effective wireless connectivity and computing power for mission critical applications.
PRODUCT SPEC SHEET
MW810 MOBILE WORKSTATION R2.0

SPECIFICATIONS

COMPUTER
MW810 R2.0 Central Processing Unit offers powerful computing options so you can support more applications and find answers faster.

- Intel 3rd Generation Core i7-3610QE, Quad Core, 2.3GHz, 6M Cache (Option)
- Intel 3rd Generation Core i5-3610ME, Dual Core, 2.7GHz, 3M Cache (Standard)
- Intel Celeron B810, Dual Core, 1.6GHz, 2M Cache (Option)

Chipset and Video Controller
- Intel® Panther Point PCH QM77 with integrated video controller

Internal Memory
- 4GB DDR3 DRAM 1600MTs Single Slot (Standard). Expandable to 8 GB Dual Slot (Total usable memory may be less, depending on configuration)

Mass Storage Options
- Heated removable 500GB Hard Drive with 3-dimensional shock absorbers (Standard)
- 256GB Solid State Drive (Option, instead of Hard Drive)
- Also: 64GB internal SSD (mSATA) on main board (Option in addition to, or instead of, removable HD or SSD)

Security and Protection
- TPM 1.2 (Trusted Platform Module) integrated in CPU
- Optional internal Smart Card Reader available in 12.1” displays

Operating System
- Microsoft Windows® 7 Professional, Service Pack 1 (32 bit and 64-bit versions available)

COMMUNICATION AND EXPANSION PORTS
MW810 R2.0 offers a range of communications modules and expansion ports, supporting both wired and wireless peripherals.

- Display Interface
  - Primary port supports DVI or RGB, Secondary port support DVI/HDMI. Both with ports via 60 pin connector

- USB Ports
  - Up to 2 x USB3.0 (Depends on Expansion type) and up to 4 X USB2.0 (Depends on Expansion type)

- Bluetooth®
  - Optional Bluetooth module V2.1 plus EDR (Enhanced Data Rate). Available only with 12.1” displays.

- ExpressCard
  - 1 ExpressCard slot, on front of CPU

- Auxiliary Port
  - 26 pin connector. 4 Programmable General Purpose I/Os can be set to input or output, working at 5V or vehicle battery voltage. Ignition sense input, plus vehicle speed and direction inputs (latter two for use with Dead Reckoning GPS). Configurable Output voltage (Battery voltage output to 5V) DC output (1A) for relay contact wetting voltage.

Audio
- Line out (non-amplified) for external speaker; external microphone in (non-amplified)

I/O EXPANSION BOARD OPTIONS
MW810 R2.0 offers multiple expansion board options, so you can add more ports for external modems, video cameras, or other vehicle peripherals as needed.

<table>
<thead>
<tr>
<th>R2.0 Expansion Board Options</th>
<th>CPU without Expansion Board</th>
<th>CPU with ALPR Expansion Board</th>
<th>CPU with Comm and Video Expansion Board</th>
<th>CPU with Serial and USB Expansion Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Out (60 pins; also includes audio, USB 2.0, remote on/off)</td>
<td>1st port DVI/RGB 2nd port - none</td>
<td>1st port DVI/RGB 2nd port – DVI/HDMI</td>
<td>1st port DVI/RGB 2nd port – DVI/HDMI</td>
<td>1st port DVI/RGB None</td>
</tr>
<tr>
<td>RS232</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>CPU USB 3.0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CPU USB 2.0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Ethernet LAN RJ45 1GbE</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>eSATAp</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Dual Display Interface</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Video Input</td>
<td>No</td>
<td>Up to four (4) PIPS Slate™ ALPR digital Cameras</td>
<td>1 Standard Composite Video input</td>
<td>No</td>
</tr>
<tr>
<td>WLAN Antenna Conn.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

DISPLAY OPTIONS
MW810 R2.0 displays feature outstanding touchscreen capabilities, user programmable buttons, emergency button, and setting controls. The MW810 R2.0 CPU with Comm and Video or ALPR expansion board options support the dual display feature.

MW810 R2.0 12.1” Displays
- 8 programmable buttons with backlit insets so you can custom label user functions. Speaker, 1W. 3 USB 2.0 ports (1 keyboard, 2 general use).
- 8 programmable buttons with backlit insets so you can custom label user functions. Speaker, 1W. 3 USB 2.0 ports (1 keyboard, 2 general use).

MW810 8.4” Display
- 8.4” High Brightness (800 NIT) SVGA, with RGB or DVI interfaces. Resistive tempered glass touchscreen. Contrast ratio (CR) 1:450. Viewing Angles H=120, V=100 at CR ≥10. 6 programmable buttons with insets. Speaker, 1W. 2 USB 2.0 ports (1 keyboard, 1 general use).

Smart Card Reader
- Optional in 12.1” displays. Integrated FCI Smart Plus B Connector module with OMNIKEY® 3121 Embedded Reader Board USB. FIPS 201 Certified.
**PRODUCT SPEC SHEET**

**MW810 MOBILE WORKSTATION R2.0**

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**INTERNAL RADIO OPTIONS AND COMMUNICATIONS PROTOCOLS**

One internal PCI Express Mini Card slot allows for a Wireless Local Area Network option, plus two available wireless Wide Area Network slots, so you can stay in touch with remote applications via multiple networks. Our CPU with any WLAN option ships with three antenna connector ports. Antennae are sold separately, so customers may reuse existing MW antennae with proper connectors.

**WLAN Option**
Intel® Ultimate N WiFi Link 6300 (Quad-mode 802.11 a/b/g/n). Wi-Fi CERTIFIED®. 3 antenna ports available.

**WAN 1 Slot Options**
MC7750 LTE Band 13/3G module from Sierra Wireless. Supports either of the following based on firmware load: LTE Band 13, or CDMA IS-856 (1xEV-DO Revision A) and CDMA IS-2000 networks. Two antenna ports available. Additional WAN options will be available, and will vary by country; contact your local Motorola Solutions representative for details.

**WAN 2 Slot Options**
CPUs support dual-WAN radio board plus internal modem option supporting Band 14 (Public Safety) LTE. Two antenna ports available. Availability of factory option as well as field upgrade kit will vary by country; contact your local Motorola Solutions representative for details.

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 Options**
SiRF IV Module option: supports NMEA 0183 (National Marine Electronics Association) protocol. Or Trimble Lassen IQ GPS Module option: supports NMEA 0183, T5IP (Trimble Standard Interface Protocol), TAIp (Trimble ASCII Interface Protocol), and DGPS (Differential Global Positioning System) protocols.

**Dead Reckoning GPS Option**
Sensor-based GPS Receiver, containing the U-Blox LEA BR 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 an Auxiliary Cable accessory to connect CPU Aux Port to vehicle sensors.

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**ELECTRICAL ENVIRONMENT**

Fully operating in 12V and 24V car battery systems without converters, so you can install in a wider range of vehicles. Can also be configured to operate using a 9V sustainable power source. Low voltage cranking support. Graceful shutdown at low voltage thresholds.

**Input Voltages**
Wide input voltage range, 11-33VDC, with no loss of functionality

**Electrical Transients**
Meets ISO7637-2

**Current Consumption (CPU)**
- OFF (main switch ON) 2mA
- Standby Mode 0.3A (fans OFF), Operation: Typical 3A; Max 7A

**Current Consumption (CPU + ALPR board with four imaging units)**
- Operation: Max 9.5A
- Operation: Max 6A

**Current Consumption (12.1" Displays)**
- OFF (main switch ON) 10mA
- Standby Mode 0.4A
- Operation: Typical 1.5A; Max 2A

**Current Consumption (8.4" Display)**
- OFF: <10 mA
- Standby Mode: < 100 mA
- Operation: Typical 1.5A; Max 2.5A

**Std. Brightness**
- Operation: Typical 1.5A; Max 2.5A

**High Brightness**
- Operation: Typical 1.5A; Max 2.5A

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**GENERAL SPECIFICATIONS**

MW810 R2.0 system components have been designed to be backwards-compatible with MW810 Series mounts. Mounting trunnion included with CPU purchase. Check existing display mounts to ensure compatibility with optional Smart Card Reader and USB ports on sides of 12.1" displays.

**System Component**
- CPU
- 12.1 in Displays
- 8.4 in Display
- Keyboard*

**Physical Size (H x W x D)**
- 2.8 x 7.4 x 9.4 in
- 7.2 x 18.9 x 24.0 cm
- 10.6 x 11.5 x 1.9 in
- 27.0 x 29.2 x 4.9 cm
- 7.1 x 9.1 x 1.7 in
- 18.1 x 23.0 x 4.36 cm
- 1.26 x 12.6 x 8.0 in
- 3.2 x 32.0 x 20.3 cm

**Weight**
- 8.8 lbs (4.0 kg)
- 3.3 lbs (1.5 kg)
- 2.2 lbs (1.0 kg)

<table>
<thead>
<tr>
<th>Physical Size (H x W x D)</th>
<th>Std. Brightness 6.1 lbs (2.8 kg)</th>
<th>High Brightness 6.6 lbs (3.0 kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8 x 7.4 x 9.4 in</td>
<td>10.6 x 11.5 x 1.9 in</td>
<td>1.26 x 12.6 x 8.0 in</td>
</tr>
<tr>
<td>7.2 x 18.9 x 24.0 cm</td>
<td>27.0 x 29.2 x 4.9 cm</td>
<td>3.2 x 32.0 x 20.3 cm</td>
</tr>
<tr>
<td>10.6 x 11.5 x 1.9 in</td>
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<td>3.2 x 32.0 x 20.3 cm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**ACCESSORIES**

Contact your Motorola Solutions representative for details on accessories and vehicle mounting options.

**WARRANTY**

3-Year Warranty is Standard; see User Guide for details. Additional coverage options are available. Contact your local Motorola Solutions representative for details.
ENVIRONMENTAL AND DURABILITY

MW810 R2.0 is tough enough to thrive in extreme environmental conditions. MW810 meets the most robust set of standards of any product in its class, including tests shown below as well as other Motorola-proprietary test methods; summary test reports available upon request.

Altitude: Storage  
MIL-STD-810G Method 500.5 Procedure I, Non-Operating

Altitude: Operation  
MIL-STD-810G Method 500.5 Procedure II, Operating

High Temperature: Storage  
MIL-STD-810G Method 501.5 Procedure I, Climatic Category A1 - Hot Dry (Table 501.5-III), induced (Storage and Transit) conditions, cyclic exposure from 33°C (91.4°F) to 72°C (161.6°F), Non-Operating. Also to 85°C (185°F) per Motorola 12M.

High Temperature: Operation  
MIL-STD-810G Method 501.5 Procedure II, Climatic Category A1 - Hot Dry (Table 501.5-III), cyclic exposure from 33°C (91.4°F) to 72°C (161.6°F), Operating

Low Temperature: Storage  
MIL-STD-810G Method 501.5 Procedure II, Climatic Category A1 - Hot Dry (Table 501.5-III), cyclic exposure from 33°C (91.4°F) to 72°C (161.6°F), Operating

Low Temperature: Operation  
MIL-STD-810G Method 502.5 Procedure II, constant exposure at -30°C (-22°F), Operating

Temperature Shock  
MIL-STD-810G Method 503.5 Procedure I-C, multi-cycle shocks from constant extreme temperature, 3 cycles of Figure 503.5-3, from -52°C (-61.6°F) to 94°C (201.2°F), Non-Operating

Solar Radiation (Sunshine)  
MIL-STD-810G Method 505.5 Procedure I, Non-Operating

Rain  
MIL-STD-810G Method 506.5 Procedure I (Blowing) and Procedure III (Drip), Operating

Humidity  
MIL-STD-810G Method 507.5 Procedure II, Aggravated, Periodic Operation per Method. Also per TIA/EIA 603 Para.3.3.3

Salt Fog  
MIL-STD-810G Method 509.5, Non-Operating

Sand  
MIL-STD-810G Method 509.5, Non-Operating

Dust  
MIL-STD-810G Method 510.5 Procedure I, Non-Operating

Vibration: Secured Cargo  
MIL-STD-810G Method 514.6 Procedure I Category 4: 10-500 Hz, 1 hour per axis, Operating

Vibration: Loose Cargo  
MIL-STD-810G Method 514.6 Procedure II Category 5: 5Hz/300RPM, in package, Non-Operating

Shock: Functional  
MIL-STD-810G Method 516.6 Procedure I, Operating. Also per TIA/EIA 603 Para. 3.3.5

Freeze/Thaw  
MIL-STD-810G Method 524 Procedure III, Rapid Temperature Change, Operating

ASTM Vibration  
ASTM D4169-04 Schedule E, Truck Assurance Level II, Operating

Sealing  
IEC IP-54 Rating. “5” = Dust protected. “4” = Protected against splashing water

Flammability  
UL94

ESD  
IEC EN61000-4-2. Motorola tests to 8 kV contact and 15 kV air, which is above required levels of 4 kV contact and 8 kV air.

REGULATORY ACCEPTANCE NUMBERS AND STANDARDS REFERENCES

MW810 R2.0 is tested for safety as well as optimal performance with multiple wireless networks. MW810 R2.0 components are RoHS compliant.

FCC Acceptance Numbers

MC7750 (from Sierra Wireless)  
FCC ID: N7N/MC7750

WLAN Radio  
FCC ID: PD9633ANH

Bluetooth  
FCC ID:QDS-BRCM1043

United States

Radiated Emission  
FCC Part 15, Class B

Radio Acceptance (RF)  
FCC 47 CFR Part 15 Subpart – B/C/E, Part 22 and Part 24

Safety  
UL 60950-1 2nd Edition

Carrier Certifications  
Pending

Canada

Radiated Emission  
ICES-003, Class B

Radio Acceptance (RF)  
Bluetooth: IC 4324A-BRCM1043, WLAN: IC 1000M-633ANH RSS-210, RSS-132 and RSS-133

Safety  
cUL 60950-1 2nd Edition

Europe

R&TTE Directive  
1999/5/EC

EMC  
ETSI EN 301 489

Radio Acceptance (RF)  
WLAN: ETSI EN 300 328 (2.4 GHz), EN 301 893 (5 GHz), and EN 302 502 (5.8 GHz)  
WWAN: EN 301 511 (GSM) and EN 301 908 (UMTS) Safety, EN 60950-1 2nd Edition  
(eMark non immunity related) 2004/104/EC

Australia, New Zealand (C-Tick)

Radiated Emission  
AS/NZS CISPR, Class B

Radio Acceptance (RF)  
AS/NZS 4266 & AS/ACIF S042-3

Safety  
AS/NZS 60950-1 2nd Edition

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