



MW810 Mobile Workstation

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



The Motorola MW810 mobile workstation is a compact yet fully rugged system which provides state-of-the-art computing power, extensive wireless options and the ability to run a wide range of standard and customised applications. It offers uncompromising comfort of use even in the most demanding conditions to deliver organisations enhanced productivity and efficiency and increased safety for personnel.

The Motorola MW810 is a modular mobile workstation for mission-critical vehicle use. Its three-piece design allows flexible installation options, including choice and location of system unit, display, and keyboard. This makes the MW810 the ideal choice for a wide variety of fixed mount vehicle applications.

MW810

MOBILE WORKSTATION



Engineered to ensure reliable real time data access in the harshest mission-critical environments

From subzero temperatures to repetitive vibrations in mobile environments and stressful conditions in operations, the MW810 delivers reliable year after year performance, ensuring access to vital information and protecting your investment. With extensive testing that complies with, but also goes beyond, the Military MIL-STD-810F standard Motorola ensures that the MW810 is ready for maximum durability and reliability even under the toughest conditions.

Extensive wireless capabilities

Continuous access to networks is essential to run the applications required by the organisation such as database queries, reporting, navigation functions, video recording and sharing etc. The MW810 offers a range of integrated radio and GPS options to help the mobile user stay connected to one or more wireless networks. Embedded wireless options include Wi-Fi and the latest cellular technology (HSDPA/UMTS/EDGE/GPRS). Additionally Bluetooth is optionally embedded in the 12.1" display to easily connect wireless accessories in the vehicle.

External TETRA radios can be connected to the MW810 for mission critical users who require TETRA's enhanced security and resilience. IP based network solutions can also be connected to the MW810. The radio/modem will connect via standard hardware interface and may require customised software to operate with the MW810.

Support next-generation applications

The powerful MW810 delivers exceptional performance on a platform ready to run advanced applications in a flexible setup with optimal data security.

The Windows® XP-based system unit offers powerful, state-of-the-art Intel® Core™ 2 Duo embedded processor options and memory up to 2GB. This provides excellent performances for multi-tasking and video applications in a power saving architecture.

The MW810 provides a unique dual display feature allowing different applications running on two connected displays. This could e.g. allow Computer Aided Dispatch (CAD) applications running on one screen and show incoming videos on another.

Security is ensured through embedded Trusted Platform Module (TPM) features, which offer improved hardware-based security in numerous applications, such as file and folder encryption, local password management, VPN, PKI and wireless authentication.

Flexible three-piece design

All major components (CPU, display and keyboard) can be mounted in various ways in space-limited vehicles. Components can be purchased individually to offer a modular and cost-effective approach.

Outstanding ergonomics

The backlit keyboard with screw-down connector is easily removed from mounts, offering the convenience of laptop style typing. A built-in touchpad eliminates the need for a separate mouse.

Quality beyond expectations

Motorola goes beyond the industry standards to deliver an uncompromising level of quality. On top of the IP54 sealing and being resistant to humidity, dust, salt fog and radiation, the Motorola internal testing standard exceeds MIL-STD-810F by including tests such as drop onto concrete, screen impact, flammability, reverse voltage and overvoltage. The removable, heated hard drive features 3-dimensional shock absorbers ready for high vibration environments and subzero temperatures.

Touch of a button sends a message

Multiple softkeys backlit for visibility and located across the bottom of the display, can be assigned to different functions under mobile application software control. Custom user functions can easily be labeled. A one-touch emergency key can be easily reached to send a distress signal – enhancing security in an emergency situation.

Location tracking

Internal GPS and Dead Reckoning GPS module options work with your applications to provide accurate vehicle location. You can then manage your fleet and deploy resources more effectively. Dead Reckoning GPS allows a vehicle to be tracked where traditional GPS signals fade (tunnel, urban canyons etc.)

High performance display

MW810 displays feature a resistive, tempered glass touchscreen interface. A high brightness display option features 1200 cd/m² brightness with 1:400 contrast ratio and outstanding viewing angles, so both driver and passenger can easily view on-screen information in any type of lighting from direct sunlight to total darkness.

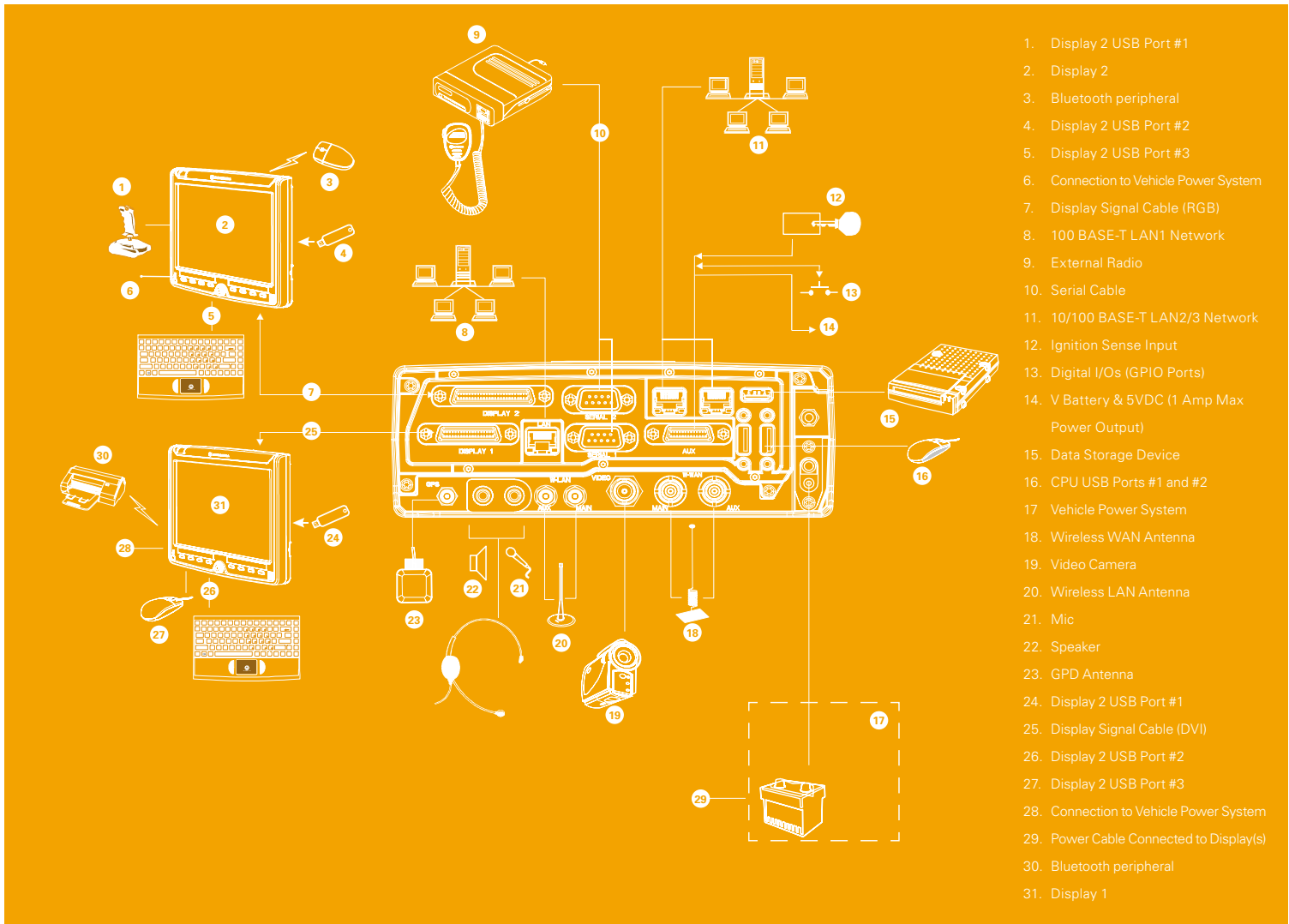
Expanded I/O capabilities

Various I/O expansion boards allows you to outfit all vehicle types and meet connectivity requirements while using the same CPU platform. This simplifies equipment maintenance and life cycle management.

Localised keyboards

The MW810 keyboard is available in multiple languages to best fit customer requirements.





1. Display 2 USB Port #1
2. Display 2
3. Bluetooth peripheral
4. Display 2 USB Port #2
5. Display 2 USB Port #3
6. Connection to Vehicle Power System
7. Display Signal Cable (RGB)
8. 100 BASE-T LAN1 Network
9. External Radio
10. Serial Cable
11. 10/100 BASE-T LAN2/3 Network
12. Ignition Sense Input
13. Digital I/Os (GPIO Ports)
14. V Battery & 5VDC (1 Amp Max Power Output)
15. Data Storage Device
16. CPU USB Ports #1 and #2
17. Vehicle Power System
18. Wireless WAN Antenna
19. Video Camera
20. Wireless LAN Antenna
21. Mic
22. Speaker
23. GPD Antenna
24. Display 2 USB Port #1
25. Display Signal Cable (DVI)
26. Display 2 USB Port #2
27. Display 2 USB Port #3
28. Connection to Vehicle Power System
29. Power Cable Connected to Display(s)
30. Bluetooth peripheral
31. Display 1

Specification sheet

MW810
Mobile Workstation

SYSTEM FUNCTION (MW810)

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

Processor Options:

Intel® Core™2 Duo T5500 2MB L2 1.66 GHz (Standard)

Intel® Core™2 Duo T7400 4MB L2 2.16 GHz (Option)

Intel® Celeron® M 430 1 MB L2 1.73 GHz (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 Single Slot, or 2 GB Dual Slot DDR2 DRAM (Options)

Mass Storage Options Removable 80GB Hard Drive, Heated with 3-dimensional shock absorber (Standard)

4 GB Flash Drive (Option, replaces Hard Drive for ultra-tough vibration requirements)

Security and Protection TPM 1.2 (Trusted Platform Module) integrated in CPU

Operating System 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.

PHYSICAL

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

System Component	CPU MW810	12.1" Displays	8.4" Displays	Keyboard
Physical Size (H x W x D)	7.2 x 18.9 x 24.0 cm	27.0 x 29.2 x 4.9 cm	23.0x18.1x4.3 cm	3.2 x 32.0 x 20.3 cm
Weight	4 kg	Std. Brightness 2.75 kg High Brightness 3 kg	1.8 kg	1 kg

COMMUNICATIONS AND EXPANSION PORTS

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

RGB Display Interface On all MW810 CPUs. MW800 Series displays can also be supported via the RGB port (36-pin)

Display USB 2.0 3 USB 2.0 on 12.1" displays and 2 USB 2.0 on 8.4" displays

Bluetooth Optional Bluetooth module V2.0 plus EDR (Enhanced Data Rate). Available only with 12.1" displays

PCMCIA 1 Plug-in slot Type II, on front of CPU

Auxiliary Port 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
Audio Line out (non-amplified) for external speaker; external microphone in (non-amplified)
I/OExpansion 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 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)
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)
Dual Display Interface	No	Yes - DVI (50-pin) port	No
Video Input	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 Communications & Video expansion board option supports the dual display feature.

MW810 12.1" Displays Standard Brightness (350 cd/m²) XGA, with RGB or DVI interfaces. Resistive tempered glass touchscreen. Viewing Angles V=120, H=100. Contrast Ratio 1:350. Emergency Button plus 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)
High Brightness (1200 cd/m²) XGA, with RGB or DVI interfaces. Resistive tempered glass touchscreen. Viewing Angles V=160, H=160. Contrast Ratio 1:400. Emergency Button plus 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)

MW810 8.4" Displays Standard Brightness (350 cd/m²) SVGA. Emergency Button plus 6 programmable buttons
High Brightness (600 cd/m²) SVGA. Emergency Button plus 6 programmable buttons
(Contact your Motorola representative for details on availability)

INTERNAL RADIO OPTIONS AND COMMUNICATIONS PROTOCOLS

Two internal PCI Express Mini Card slots allow for a Wireless Local Area Network option, plus one available wireless Wide Area Network options as well as external radios via serial ports, so you can stay in touch with remote applications via multiple networks.

WLAN	Intel® PRO/Wireless 3945ABG Tri-mode 802.11a/b/g. Wi-Fi Certified
WWAN	PCI Express Mini Card, for HSDPA/UMTS/EDGE/GPRS networks. User accessible SIM card inside PCMCIA door

Note: Private DataTAC and CDMA radios are also available for use in international regions outside of EMEA.

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

GPS Trimble Lassen iQ GPS Module. Supports NMEA0183 (National Marine Electronics Association), TSIP(Trimble Standard Interface Protocol), TAIP(Trimble ASCII Interface Protocol), and DGPS (Differential Global Positioning System) protocols

Dead Reckoning GPS Sensor-based GPS Receiver, containing the ANTARIS® GPS positioning engine. Position output available in NMEA0183 (National Marine Electronics Association) or 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

EXTERNAL RADIO CONNECTIVITY

Connect to external radios such as Tetra via serial ports (RS232 or USB) or Ethernet/IP ports. With appropriate seamless mobility software, you can then automatically switch from external to internal radios or vice versa depending on best coverage, cost or data speed.

ELECTRICAL ENVIRONMENT

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

Input Voltages	Wide input voltage range, 11-33VDC, with no loss of functionality	
Electrical Transients	Meets ISO7637-1	
	12V	24V
Power Consumption (CPU)	OFF (main switch ON) 2mA Suspend Mode 0.1 4A (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
Power Consumption (Display)	OFF (main switch ON) 10mA Suspend Mode 0.4A	OFF (main switch ON) 6mA Suspend Mode 0.25A
Std. Brightness (Heater ON)	Operation: Typical 3.5A; Max 4.5A	Operation: Typical 2A; Max 2.6A
Std. Brightness (Heater OFF)	Operation: Typical 1.5A; Max 2A	Operation: Typical .8A; Max 1.2A
High Brightness	Operation: Typical 1.5A; Max 2.5A	Operation: Typical 1A; Max 1.5A

ENVIRONMENTAL AND DURABILITY

MW810 is tough enough to thrive in extreme environmental conditions.

Operating Temperature	-30C° to +70C°. (Some performance degradation may be experienced at temperatures below -20C° and above +50C°)
Storage Temperature	-40C° to +70C°
Humidity	90 to 95% relative humidity at 50 degrees C for 8 hours, per TIA/EIA603
Sealing	IEC60529 IP-54 rating. "5" = Dust protected. "4" = Protected against splashing water
Shock	20g peak 1/2 sine wave @ 11ms, 30 impacts per TIA/EIA603 Paragraph 3.3.5
Vibration	Per TIA/EIA603 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 laden atmosphere; dust agitation time 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 STANDARD REFERENCES

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

Acceptance Numbers & Standards

Private DataTAC Radio	FCCID: PQS-BM28001
EVDO-Rev. A Radio	FCCID: N7N-MC5725
HSPDA/UMTS Radio	FCCID: N7NMC8775
WLAN Radio	EN 300 328 V1.5.1 (2004-08) ; EN 301 893 V1.2.3 (2003-08)
Europe	R&TTE Directive 1999/5/EC EMC ETSI EN301 489 Radio Acceptance (RF) ETSI EN300 328; ETSI301 511 Safety EN60950-1 Automotive Directive (eMark) 2004/104/EC
United Kingdom	AES 13

ACCESSORIES

Contact your Motorola representative for details on accessories as well as vehicle mounting options.

- CPU Mounting Trunion (included with CPU purchase)
- USB Backlit 85-Key Full Travel Keyboards (multiple language options including French, German, Czech, Russian/English, Turkish/English, Swedish, Chinese/English, Hebrew/English ; contact your Motorola representative for other language requirements)
- CPU-To-Display Cables (various lengths and interfaces)
- Cable Adaptors (various)
- Auxiliary Cable (supports Ignition Sense feature, Dead Reckoning GPS and more)

WARRANTY

1 year full warranty standard (1 year consumables)

For more information please contact your local Motorola Authorised Dealer or Distributor



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