The Motorola MC9500-K Series

A premium industrial-class mobile computer:
raising the bar for rugged key-based field mobility applications

FEATURES

Motorola MAX *Rugged*: Next generation rugged design: industry leading drop and tumble tests, IP67 sealing, Monocoque housing and integrated internal antennas (WWAN, WLAN and GPS); meets and exceeds applicable MIL-STD and IEC specifications for drop, tumble, sealing and other environment parameters

Next generation ergonomic design — sleeker, smaller, easier-to-grip rugged form factor delivers a new level of comfort and easy one-handed operation for key-based applications

Motorola MAX *FlexWAN* for true carrier independence — support one or more networks and change networks as needed with this flexible family. Purchase with one of three different WAN modules, or add and change WAN modules to meet the needs of your mobile workforce, right in your back room:

　3.5G GSM HSDPA or CDMA EVDO Rev A WAN modules enable deployment as an integrated voice and data device on the cellular network of your choice

　Our dual on-board user-selectable modem creates a data-only device that can be activated on either or both networks by simply purchasing a data plan on the carrier(s) of your choice

Motorola MAX *Keypad*: Modular field swappable keypad options with new ergonomics — alpha primary, numeric telephony, numeric calculator, and full alpha numeric

Extremely durable Polycarbonate Insert Mold Decorated (IMD) keypad

Best-in-class display with advanced LCD technology for easy viewing in any lighting

3.7 inch color high resolution VGA display (640 x 480) with digitizer and backlight

Mobility Platform Architecture (MPA) 2.0, provides the latest best-in-class technology platform and enables easy and cost-effective porting of applications from other Motorola mobile computers

Next generation performance: powerful Marvell PXA320 @ 806 MHz microprocessor, larger memory footprint and a user accessible micro-SD card

Microsoft Windows Mobile 6.x operating system increases interoperability and security (Windows Mobile 6.5 for integrated voice and data models; Windows Mobile 6.1 for data-only MC959B model)

Motorola MAX *Sensor* — Interactive Sensor Technology (IST) offers leading edge motion-based applications

Motorola MAX *Locate*: Supports Assisted and Autonomous GPS; SUPL 1.0 compliant — enables a signal lock in challenging areas where signals are typically weak, such as urban canyons and indoors

WLAN: 802.11a/b/g tri-mode radio; comprehensive VoIP support

FIPS 140-2 certification ensures data security — even in sensitive government applications

WPAN: Bluetooth® v2.1 with EDR

IrDA for wireless connectivity to existing business equipment

Motorola MAX *Data Capture*: Multi-mode data capture: industry leading 1D/2D bar code scanning plus 3 megapixel (2048 x 1536) autofocus flash-enabled optional digital color camera with decode and high resolution document capture capability

High quality speakerphone, microphone and receiver for multiple voice modes — handset, headset and speakerphone

Motorola MAX *Backroom Management*: game-changing backroom management through an industry-first Universal Accessory System

Motorola MAX *Battery*: high capacity battery with unique, industry-first battery information indicators for state of charge and state of health, greatly simplifying battery management

IEEE 1725 compliance for the entire MC9500-K system — all models, batteries and power-related accessories (such as cradles and charging cables)

MSP compatibility — comprehensive and flexible centralized management of all devices, anywhere in the world, all from a single console

The next evolution in rugged design, ergonomics, features, functionality and performance

The MC9500-K Series leverages the flagship features and functionality of Motorola's signature MC9000 Series rugged mobile computers, while introducing many new capabilities defined through extensive research and testing in logistics, parcel/post, direct store delivery (DSD), field service, public safety and sales force automation applications in some of the world's leading organizations. The result is a device that is as different on the inside as it is on the outside — a groundbreaking product with an unsurpassed feature set that takes rugged mobile computing innovation to a new level. With the MC9500-K Series, you can simply expect more: a more rugged design, more data capture options, more intelligence, more processing power and better ergonomics, all in a sleeker, lighter and easier-to-use form factor that offers true carrier independence as well as a completely new approach to accessories, battery and backroom management.

MC9500-K Specifications

Physical Characteristics

Dimensions:	9.2 in. H x 3.5 in. W x 2 in. D 23.36 cm H x 8.89 cm W x 5.08 cm D
Weight:	22 oz./623 g (including battery, stylus, keypad & strap)
Display:	3.7 in. VGA Color (TFT) Display (640 x 480) with touch panel and backlight
Touch Panel:	Polycarbonate analog resistive touch
Backlight:	LED Backlight
Keypad Options:	Modular: alpha primary; numeric telephony, numeric calculator, alpha numeric
Expansion Slot:	microSD slot — supports up to 32 GB
Notifications:	Programmable LEDs; Audio notifications; Vibrator alerts

Performance Characteristics

CPU:	Marvell PXA320 @ 806 MHz
Operating System:	All models except MC959B: Windows Mobile 6.5 (Classic and Professional editions) MC959B: Windows Mobile 6.1
Memory:	256MB RAM/1GB Flash

User Environment

Drop Specification:	6 ft./1.8 m drop to concrete across the operating temperature range; meets and exceeds applicable MIL-STD-810G drop specifications
Tumble Specification:	2000 3.2 ft./1 m tumbles (4,000 hits) at room temperature; meets and exceeds applicable IEC tumble specifications
Operating Temperature:	-4° F to 122° F/-20° C to 50° C
Storage Temperature:	Ambient to -40° F/-40° C Ambient to 158° F/70° C RH 95%
Sealing:	IP67 sealing; meets and exceeds applicable IEC sealing specifications
Humidity:	5 - 95% non-condensing
Vibration:	4g's PK Sine (5Hz to 2KHz); 0.04g2/Hz Random (20Hz to 2KHz); 60 minute duration per axis, 3 axis
Thermal Shock:	-40° F to 158° F/-40° C to 70° C rapid transition
ESD:	±15kv Air discharge, ±8kv direct discharge, ±8kv indirect discharge
Altitude:	-1,200 ft. to 12,000 ft. operational; 15,000 ft. shipping
Key and Trigger:	1 million presses
Light Immunity:	Readability: Incandescent – 450 ft. candles; Sunlight – 8000 ft. candles; Fluorescent: 450 ft. candles

Battery

Capacity:	Rechargeable Lithium Ion 4800 mAh battery @ 3.7V – with State of Charge and State of Health indicators
Standby Time:	150 hours
Talk Time:	8 hours (minimum/suspend mode)
User Profiles:	*Outdoor WAN+GPS:* 15 min./hour voice communication, 10KB transmission every 10 min, and GPS on all time, default out-of-box configuration of other parameters, minimum 8 hours of operation *Outdoor Voice:* 15 min./hour voice communication, default out-of-box configuration of other parameters, minimum 8 hours of operation *Outdoor Scan:* 600 scans and WAN transmits per hour, default out-of-box configuration of other parameters, minimum 8 hours of operation

Data Capture Options

Scanning:	1D Scanner; 2D Imager; 3 MP auto-focus flash-enabled digital color camera with symbology decode software
Scan Angle:	Optimized for scanning (15° downward angle)
Options:	Available options: 1D laser scanner; 2D imager; 1D laser scanner and camera; 2D imager and camera

Color Camera

Resolution:	3 megapixel
Illumination:	User controllable flash
Lens:	Autofocus

1D Laser Scanner (SE950)

Range on 100% UPCA:	24 in./60 cm
Resolution:	4 Mil minimum element width
Roll:	±35° from vertical
Pitch Angle:	±65° from normal
Skew Tolerance:	±50° from normal
Ambient Light Immunity:	10,000 ft. candles/107,640 lux
Scan Rate:	104 (±12) scans/sec (bi-directional)
Scan Angle:	47° ±3° default; 35° ±3° reduced

2D Imager (SE4500SR)

Focal Distance:	From center of exit window: SR – 7.5 in./19 cm
Sensor Resolution:	752 x 480 pixels
Field of View:	Horizontal: 40°; Vertical: 25°
Skew Tolerance:	±60°
Pitch Tolerance:	±60°
Roll Tolerance:	360°
Ambient Light Immunity:	9,000 ft. candles/96,900 lux
Aiming LED (VLD):	655 ± 10 nm Laser
Illumination Element (LED):	625 ± 5 nm LEDs (2x)

Motorola Interactive Sensor Technology

Motion-sensor:	3-axis accelerometer that enables motion-sensing applications for dynamic screen orientation, power management and free-fall detects

Wireless WAN Voice and Data Communications

Radio:	Modular 3.5G WAN (GSM HSDPA or CDMA EVDO Rev A) MC959B: Modular 3.5G Dual-WAN (GSM HSUPA and CDMA EVDO Rev A)
Frequency Band:	HSDPA: 850, 900, 1800,1900, and 2100 MHz EVDO Rev A: 850 and 1900 MHz
Antenna:	Internal antenna w/diversity

Integrated GPS

GPS:	Integrated standalone or Assisted-GPS (A-GPS) through SUPL; SiRFstarIII GSC3f/LP chipset

Wireless LAN Voice and Data Communications

Radio:	Tri-mode IEEE® 802.11a/b/g
Security:	WPA2 (Personal or Enterprise); 802.1x; EAP-TLS; TTLS (CHAP, MS-CHAP, MS-CHAPv2, PAP or MD5); PEAP (TLS, MSCHAPv2, EAP-GTC); LEAP, EAP-FAST (TLS, MS-CHAPv2, EAP-GTC); CCXv4 certified; support for IPv6; FIPS 140-2 Certified
Antenna:	Internal antenna w/diversity
Data Rates Supported:	1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps
Operating Channels:	Chan 8-165 (5040 – 5825 MHz) Chan 1-13 (2412-2472 MHz) Chan 14 (2484 MHz) Japan only; actual operating channels/frequencies depend on regulatory rules and certification agency
Voice Communications:	Voice-over-IP ready, Wi-Fi™-certified, IEEE 802.11a/b/g direct sequence wireless LAN, Wi-Fi Multimedia™ (WMM), Motorola Voice Quality Manager (VQM)

Wireless PAN Data and Voice Communications

Bluetooth®:	Class II, v2.1 with Enhanced Data Rate (EDR); integrated antenna; FIPS 140-2 compliant
IrDA:	Infra-red port for connection to printers and other devices

Voice and Audio

Audio:	VoWWAN; VoWLAN; TEAM Express compliant; rugged audio connector; high-quality speakerphone; support for wired and wireless (Bluetooth) headsets; headset, handset and speaker phone modes (Applies to all models except MC959B, which is data only)

Network Communications

I/O:	USB 2.0 Client (High Speed) or USB 1.1 host (Full Speed); USB (via 1-bay cradle) or Ethernet (via 4-bay cradle)

Peripherals and Accessories*

Communication and Charging Cables:	Charge only cable, auto charge cable, USB charge/ sync cable, DEX cable, modem adapter cable
Battery Chargers/ Cradles:	4-slot battery charger; 1-slot battery charger; 4-bay Ethernet cradle; 4-bay charge only cradle; single bay USB cradle; vehicle battery charger using auto charge cable; vehicle cradle with charging capabilities
Application Specific Attachments:	Snap-on magnetic stripe reader
Soft Goods:	Rigid and soft case holsters

* For a complete list of MC9500-K Peripherals and Accessories, please visit www.motorola.com/mc9500

Regulatory

Electrical Safety:	IEC/UL/CSA/EN 60950-1	
Environmental:	RoHS compliant	
WLAN and Bluetooth (PAN):	USA:	FCC Part 15.247, 15.407
	Canada:	RSS-210
	EU:	EN 300 328, EN 301 893
	Japan:	ARIB STD T33, T66, T70, T71
	Australia:	AS/NZS 4268
Wireless Wide Area Network:	***GSM-HSDPA***	
	Global:	3GPP TS 51.010, 3GPP TS 34.121, 3GPP TS 34.123, GCF approved module
	USA:	FCC Part 22, Part 24
	Canada:	RSS-132, RSS-133
	EU:	EN301 511, EN301 908
	Australia:	AS/ACIF S 024
	HAC compliant	
	CDMA-EVDO	
	USA:	FCC Part 22, Part 24
	Canada:	RSS-129, RSS-133
	HAC compliant	
	NOTE: Data only MC959B model is not HAC compliant	
RF Exposure:	USA:	FCC Part 2, FCC OET Bulletin 65 Supplement C
	Canada:	RSS-102
	EU:	EN 50360
	Japan:	ARIB STD T56
	Australia:	Radiocommunications Standard 2003
EMI/RFI:	USA:	FCC Part 15, Class B
	Canada:	ICES-003 Class B
	EU:	EN55022 Class B, EN 55024, EN 301 489-1, EN 301 489-7, EN 301 489-17, EN 301 489-19, EN 301 489-24, EN 60601-1-2, EN 50121-3-2, EN 50121-4
	Australia:	AS/NZS CISPR-22
Laser Safety:	IEC Class2 / FDA Class II in accordance with IEC60825-1/EN60825-1	

For countries outside USA, Canada, European Economic Area, Japan, or Australia, consult your local Motorola representative

Hazardous Location Certifications

UL Class I, II, III Division 2, Groups A, B, C, D, F, G (Select Configurations Only)

Warranty

The MC9500-K Series is warranted against defects in workmanship and materials for a period of 12 months from date of shipment, provided that the product remains unmodified and is operated under normal and proper conditions.

Recommended Services

Customer Services:	Service from the Start with Comprehensive Coverage

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