



# MOTOROLA MC9090-G RFID

## HANDHELD RFID READER FOR GLOBAL DEPLOYMENTS

### REAL-TIME ADVANCED DATA CAPTURE IN THE MOST EXTREME ENVIRONMENTS

Streamline your business operations, reduce errors and increase your productivity and profitability with the power of the MC9090-G RFID Handheld from Motorola. Throughout the supply chain, this device provides mobile workers with all the tools needed to get the job done right and fast. Workers can read RFID tags, capture 1D, 1D at extended ranges (ER, US Only) and 2D bar codes as well as images. Handheld, on-the-spot RFID capabilities remove the dependency on fixed readers installed at typical choke points, so workers are able to handle exceptions, pricing audits and changes, stock picking and more right on the fly.

With support for U.S. frequencies, APAC frequencies and the European standard ETSI EN 302 208, this versatile product line can easily support global deployments. The device is built to withstand rigorous use in extreme environments — whether that's the manufacturing floor, warehouse, loading dock, out

in the yard, back room or sales floor. The anywhere, anytime wireless connection gives workers the real-time information needed to streamline business processes, increase productivity and make better decisions. Support for wireless printing, wireless headsets and more via Bluetooth® simplifies everyday use for end-users, while the ergonomic pistol-grip design provides all day comfort in scan-intensive applications, such as shelf price audits and inventory management.

### EASY-TO-USE ROBUST LOCATING CAPABILITY

Until now, RFID handheld readers identified the general proximity of an item — for example, a warehouse zone or shelf. With the MC9090-G RFID, a unique combination of intuitive audible and visual cues can quickly guide an associate to locate any desired item, useful in back room or stock picking situations. As the device moves closer to the desired item, a beep tone increases in frequency and volume, while a sliding graphical bar increases in size.

## FEATURES

### Multiple configurations support standards around the world

Deploy a single device family for all your geographic locations

### Supports EPC Gen 2 (DRM)

Easily integrate RFID into your supply chain processes

### Exceptionally rugged construction: passes industry's most stringent drop and tumble tests; IP64 sealing; integrated internal antennas

Withstands use in nearly any environment; dramatically reduces repair and downtime costs; delivers enterprise performance and ROI

### Supports 1D, 1D at extended ranges (ER, US Only) and 2D bar code scanning, RFID and imaging

Multi-modal single device provides superior application flexibility and cost-efficiencies

**Pinpoint locating technology**

A unique combination of intuitive audible and visual cues easily guides workers to a specific item

**Common Motorola platform**

Maximizes software development investment

**Intel XScale PXA270 processor: 624 MHz; enhanced memory architecture for persistent storage**

Supports simple to complex multimedia applications; ensures retention of mission-critical data

**Microsoft Windows Mobile 5.0 and 6.1**

Advanced mobile operating system for robust application support (Windows or application-specific)

**REAL BUSINESS-CLASS POWER**

Equipped with the latest advances in mobile technology, the MC9090-G RFID handheld drives the richest business applications — from simple to complex. The latest Intel processor designed for the specific demands of mobility combines with robust persistent storage capabilities and multiple advanced data capture options to deliver the reliability you — and your workforce — require.

The ability to read and encode RFID tags, capture images as well as scan bar codes lets you deploy a single device in many business areas — no need to purchase different devices with different accessories. Workers can depend on ample battery life for a full shift through superior power management. And modular keypads, a rugged touchscreen and a display that is easy to view inside and outside provide an intuitive and comfortable end user experience, regardless of the application or environment.

**GET A SUPERIOR VALUE — RUGGED CONSTRUCTION AND MAXIMUM MANAGEABILITY**

Motorola’s superior design and rugged construction combine with remote management and all-inclusive support services to provide a rapid return on investment and a low total cost of ownership. Motorola Mobility Services Platform (MSP) offers extraordinary centralized control over all your Motorola devices, allowing your IT department to stage, provision, monitor, troubleshoot and secure data — without ever touching the devices. And since you will count on the MC9090-G RFID to keep your business running smoothly, Service from the Start with Comprehensive Coverage will help keep your devices up and running at peak performance, always available to get the job done. This unique all-inclusive service covers normal wear and tear as well as internal and external components damaged through accidental breakage, significantly reducing unforeseen repair expenses.

For more information on the MC9090-G RFID and the benefits of handheld, on-the-spot RFID capabilities, please visit us on the web at [www.motorola.com/mc9090g-rfid](http://www.motorola.com/mc9090g-rfid) or access our global contact directory at [www.motorola.com/enterprisemobility/contactus](http://www.motorola.com/enterprisemobility/contactus)

**THE VERSATILE MC9090-G RFID: AT HOME IN THE HANDS OF MANY TYPES OF USERS, APPLICATIONS AND INDUSTRIES**

INDUSTRY	APPLICATION	USERS
<b>Manufacturing</b>	<ul style="list-style-type: none"> <li>• Inventory management</li> <li>• Supply-line replenishment</li> </ul>	<ul style="list-style-type: none"> <li>• Assembly-line personnel</li> <li>• Shipping/receiving personnel</li> </ul>
<b>Retail</b>	<ul style="list-style-type: none"> <li>• Warehouse management</li> <li>• Price audits/changes</li> <li>• Store receiving</li> <li>• Inventory management</li> </ul>	<ul style="list-style-type: none"> <li>• Sales associates</li> <li>• Receiving-dock personnel</li> <li>• Stock-room personnel</li> <li>• Supervisors</li> </ul>
<b>Wholesale</b>	<ul style="list-style-type: none"> <li>• Warehouse management</li> <li>• Receiving/Putaway/Shipping</li> </ul>	<ul style="list-style-type: none"> <li>• Warehouse personnel</li> </ul>
<b>Distribution</b>	<ul style="list-style-type: none"> <li>• Returns processing</li> </ul>	<ul style="list-style-type: none"> <li>• Loading-dock personnel</li> </ul>
<b>Third-party logistics</b>	<ul style="list-style-type: none"> <li>• Warehouse management</li> </ul>	<ul style="list-style-type: none"> <li>• Warehouse personnel</li> </ul>
<b>Pharmaceutical</b>	<ul style="list-style-type: none"> <li>• Enhanced Traceability</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance personnel</li> </ul>
<b>Aviation</b>	<ul style="list-style-type: none"> <li>• Parts Tracking</li> <li>• Baggage</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance personnel</li> <li>• Baggage handling personnel</li> </ul>
<b>Defense</b>	<ul style="list-style-type: none"> <li>• Logistics/Supply</li> </ul>	<ul style="list-style-type: none"> <li>• Service personnel</li> </ul>

## HOW DO HANDHELD SOLUTIONS ADD VALUE TO RFID TECHNOLOGY?

CHALLENGE	SOLUTION
<b>Exception Processing</b>	Allows misreads and other problem shipments to be investigated away from the dock — without impeding flow
<b>Remote Location Support</b>	Provides local data storage for remote processing
<b>Quick Start</b>	No installation and low total solution cost allows a “quick start” with RFID
<b>On Site Processing</b>	Goods stored away from fixed readers — e.g. in storage racks — can still be processed using RFID tag information
<b>Mixed Bar Code and RFID</b>	Lets workers switch quickly between RFID-tagged items and items marked with a bar code

## SPECIFICATIONS CHART

### PHYSICAL CHARACTERISTICS

Dimensions	10.75 in. L x 4.7 in. W x 7.7 in. H 27.3 cm L x 11.9 cm W x 19.5 cm H
Weight	35.4 oz./1 kg (includes battery, scanner and radio)
Display	QVGA color
Keyboard	53-key; Terminal Emulation (5250, 3270, VT)
Power	Removable, rechargeable 7.2 volt Lithium Ion 2200 mAh battery pack, 15.8 watt hours

### PERFORMANCE CHARACTERISTICS

CPU	Intel® XScale™ Bulverde PXA270 processor at 624 MHz
Operating System	Microsoft® Windows Mobile® 5.0 Premium Edition and 6.1 Premium Edition
Memory (RAM/ROM)	64 MB/128 MB
Expansion	SD/MMC card
Application Development	PSDK, DCP and SMDK available through Motorola Developer Zone Web site
Bar Code Options	Omnidirectional 1D, 1D ER (extended range, US only) and 2D imaging engine reads symbologies and captures grayscale images and signatures with intuitive laser aiming.

### USER ENVIRONMENT

Operating Temp.	-4° F to 122° F/-20° C to 50° C
Charging Temp.	32° F to 104° F/0° C to 40° C
Storage Temp.	-40° F to 158° F/-40° C to 70° C
Humidity	5% to 95% non-condensing
Drop Specification	Multiple drops to concrete: 6 ft./1.8 m across the operating temperature range

Tumble Specification	2,000 one-meter tumbles at room temperature (4,000 hits)
Environmental Sealing	IP64 (electronic enclosure, display and keypad)
Electrostatic Discharge (ESD)	+/-15kv VDC air discharge, +/-8kv VDC direct discharge, +/-8kv indirect discharge

### RFID

Standards Supported	EPC Gen 2 DRM (DRM compliant up to 0.5w)
Nominal Read Range*	0.2 ft. to 10 ft./6.09 cm to 304.8 cm
Nominal Write Range*	1 ft. to 2 ft./30.5 cm to 60.9 cm
Field	70-degree cone (approx.) measured from nose of device
Antenna	Integrated, linearly polarized
Frequency Range	US: 902-928 MHz Europe: 865.7-867.5MHz (ETSI EN 302 208)
Output Power	US: 1W (2W EIRP) Europe: 0.5w

### WIRELESS DATA COMMUNICATIONS

WLAN	802.11 a/b/g
Output Power	100 mW U.S. and international
Data Range	802.11a: up to 54 Mbps; 802.11b: up to 11 Mbps; 802.11g: up to 54 Mbps
Antenna	Internal
Frequency Range	All country dependent: 802.11a - 5 GHz; 802.11b - 2.4 GHz; 802.11g - 2.4 GHz
PAN (Bluetooth Support)	Bluetooth Version 1.2 with BTE Explorer (manager) included

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**PRODUCT SPEC SHEET**  
MOTOROLA MC9090-G RFID

**PERIPHERALS AND ACCESSORIES**

Cradles	Single-slot serial/USB, 4-slot Ethernet, 4-slot charge only
Printers	Supports extensive line of Motorola-approved printers and cables
Charger	4-Slot universal battery charger
Other Accessories	Cable adapter module; snap-on magnetic stripe reader; modem module; full set of cables

**REGULATORY**

General	Approved for use in the United States, Canada, Europe, South Korea and additional APAC countries**
Electrical Safety	Certified to UL60950-1, CSA C22.2 No. 60950-1, IEC 60950-1

EMI/RFI Radio Versions	US: FCC Part 2 (SAR), FCC Part 15, RSS210 Europe: EN 301 893, EN 300 328 EN 60950-1
Laser Safety	IEC Class2/FDA Class II in accordance with IEC60825-1/EN60825-1, 21CFR1040.10

**WARRANTY**

The MC9090-G RFID is warranted against defects in workmanship and materials for a period of one year (12 months) from date of shipment, provided the product remains unmodified and is operated under normal and proper conditions.

**RECOMMENDED SERVICES**

Customer Services: Service from the Start – Bronze with Comprehensive Coverage



\* Actual read/write range is dependent upon a number of factors, including the specific tag used, nature of the items tagged, and presence or absence of radio interference.

\*\* The MC9090-G RFID is not available in all European and APAC countries due to the ongoing in-country approval of the regulatory standard. Check with your local Motorola Enterprise Mobility business representative for availability in your country. Model numbers for Regulatory Certification are MC9090R7 and MC9090R8, MC9090CN - China, MC9090 -R1 EMEA, MC9090-R7 US, Canada, Brazil, Argentina, Mexico, Thailand, Hong Kong, Singapore, Malaysia, Taiwan

NOTICE: Repairs of this product may require the use of Motorola proprietary parts (and/or Motorola proprietary information). Motorola will sell these parts (and provide this proprietary information) only to end-user customers for self-service. Applicable in the U.S. For all other countries, please contact your Motorola account manager or the local Motorola Customer Service representative in your area for further details.

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