

APPLICATION BRIEF

BOOST WAREHOUSE EFFICIENCY WITH THE RUGGED MC9200



ZEBRA



**Boost Warehouse Efficiency with
the World's Most Popular Industrial
Mobile Computing Series**

MC9200 MOBILE COMPUTER





The Challenge

Inefficiencies in your warehouse can increase the cost of doing business and decrease customer satisfaction

The warehouse is at the heart of your manufacturing and distribution operations. Every minute of every day, materials are constantly moving in, out and through this crucial business hub. The effectiveness of your warehouse operations affects every aspect of your supply chain, business health and profitability. But the demands of a multi-channel world are creating a major increase in volume — and customers want orders delivered faster than ever before. Yet your paper-based processes or older mobile computing technology are increasing cycle times, errors and labor costs, preventing you from achieving peak operational efficiency, increasing the cost of doing business and reducing customer satisfaction and retention.

The Solution

Now, you can achieve maximum efficiency in your warehouse with next generation mobile computing

When it comes to automating your warehouse, you can count on the latest generation in Zebra's highly successful rugged MC9000 Series — the MC9200 — to automate your paper-based processes and take your current warehouse automation to the next level. Paper processes

are replaced with real-time on-demand information that allows workers to execute tasks with the utmost efficiency and accuracy — from receiving and replenishment to put-away, picking, packing, and shipping.

This handheld mobile device offers everything you need to maximize efficiency and accuracy in your warehouse — including a well-proven rugged design built for the demanding warehouse environment; the power you need to run today's applications; a choice of operating systems to match your technology strategy; government-grade security; the most scanning options; better battery management; push-to-talk voice and much more.

Industry Leading Proven Rugged Design for Superior Reliability

The MC9000 Series is not only one of the most proven rugged devices on the market, it is also the best selling rugged mobile computer. There are nearly two and a half million units in use in some of the world's most inhospitable environments, delivering unsurpassed reliability every day. And the MC9200 includes new features that take the rugged design of this series to a new level. Features include:

- **An integrated one-piece gun handle.** Unlike competitive models with a snap-on handle, the handle is part of the housing, greatly increasing durability.

The world's most proven and widely used rugged mobile computer

Every day, more than 2.5 million workers rely on their MC9000 Series mobile computer in some of the most inhospitable places — making it the market leader by a wide margin.

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- **A more durable battery design.** A flat battery connector replaces the traditional ‘thin-pin’ male/female pin-style battery connectors, where one broken connector pin renders the unit inoperable. The corrosion proof connector is part of the battery, so when you replace the battery, you get a new connector, reducing the effect of wear-and-tear on the overall lifecycle of the unit.
- **Torque Cell construction.** Traditional mobile computer housings are a clamshell design — two pieces of plastic that are held together with screws at points on the housing known as ‘bosses’. When the device is dropped, the majority of the force is concentrated on the bosses. Instead, we use Torque Cell housing to eliminate bosses and improve the distribution of shock. Bosses and screws are replaced with a series of 28 hooks and locks that slide together. The force of a drop is dispersed among these 28 areas, eliminating a concentration of twisting and flexing in any one spot.
- **Tuned external bumpers.** We utilize materials in our bumpers that significantly reduce the effects of shock during a drop. In tests, the sensitive electronics inside the device moved less than 6/1000 of an inch, roughly 40 times less than the 1/4 in. movement common in traditional clamshell style housings.
- **Insert molding.** The ability to add parts during the molding of the plastic housing improves the quality and durability of the sealing, ensuring that neither moisture nor dust will enter the device.
- **Internal magnesium frame.** The circuit board and other sensitive electronics are anchored to a free floating electronic assembly instead of the housing, providing better shock absorption during a drop.
- **Touchscreen design.** Two features improve touch-screen durability in the MC9200. First, an air gap now separates the touchscreen from the display. In addition, the hardness of the touchscreen has been increased, so it is even more resistant to wear and tear. Where the typical resistive touch panel is rated to a hardness factor of 3H, a polycarbonate display boosts hardness to 4H.
- **Ultra strong Gorilla® glass scanner exit window.** Since barcode scanning is one of the most important features in a handheld mobile computer, we upgraded the scanner exit window with incredibly tough Corning® Gorilla® glass, which is virtually scratchproof and shatterproof.
- **The industry’s best-in-class endurance specification.** These devices continue to operate reliably, even after 2,000 3.28 ft./1 m turns in Zebra’s tumble drum — the equivalent of 4,000 hits.

The Industry’s Toughest Drop Test

At first glance, the drop specification for the MC9200 appears to be on par with its competitors — 6 ft./1.8 m MIL-STD 810G. But all drop tests are not conducted the same way. To meet our goal of building one of the most rugged devices on the market, we increased the test criteria to exceed the standards, where many competitive devices simply meet the standards.

Testing Criteria	Zebra MIL-STD 810G 516.5+	Standard MIL-STD 810G 516.5
Device operating status	Unit must be powered on	Unit is powered off
Drop surface	Concrete	Plywood over concrete
Temperature	Across the entire operating temperature range	Room temperature (73.4° - 77° F/23° - 25° C)
Number of drops	36	26
Fail criteria	During testing with unit powered on, device must not: <ul style="list-style-type: none"> • Lose a network connection • Reboot • Lose data 	Unit must power up after test is complete

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Protect your Data with Government-grade Security

You can count on the MC9200 to keep your data safe — the devices meet the security requirements of some of the most demanding federal government agencies. You get wired-line security for data that is resident on these mobile computers, as well as data that is in transmission between your mobile computers and your wired network. And unlike many other mobile devices, our security features do not impact performance, protecting your data and your productivity. Features include:

- Native FIPS 140-2 Level 1 validated, right out of the box — no additional 3rd party software to purchase, manage or maintain
- Support for the most advanced encryption and authentication algorithms including:
 - WLAN Security
 - WPA2 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)
 - WPA2/AES, CCX v4, FIPS 140-2 and IPv6
- Compatibility with Zebra's Mobile Security Suite, which provides numerous tools that allow you to add additional layers of security. You can install:
 - The same best-in-class features you use on your wireless networks on your MC9200 mobile devices — including a device level firewall, intrusion prevention, enforced authentication and integrity monitoring
 - Our certified Virtual Private Networks (VPNs), which make all your wireless communications as secure as possible

With Zebra's mobile device management solutions, IT can simply press a button to deploy these additional layers of security in seconds, eliminating the time consuming hands-on loading of software and manual configuration of settings.

Push-to-Talk Voice Functionality

We give you powerful voice features that allow workers to use the MC9200 as a walkie-talkie. Since the complimentary Workforce Connect Push-to-Talk Express client software is already installed, the MC9200 is ready for PTT calls, using wired headsets, to any other Zebra enabled devices, right out of the box. With Radio Link Server, workers can even talk to two-way radio users — despite the fact that the devices operate on two completely different networks.

The result? You can connect your warehouse workers to more people inside the enterprise walls — including co-workers and supervisors as well as associates in other departments. Issues can be resolved on the spot — no need to hunt for a phone. And supervisors can reach a specific person or their entire team with the press of a button, able to re-deploy labor and assets quickly and easily throughout the day.

A Choice of Swappable Operating Systems to Meet Your Needs Today...and Tomorrow

The MC9200 gives you a choice of three supported operating systems — Android*, Windows Embedded Handheld and Windows Embedded Compact. Every Android device ships with Mobility Extensions (Mx), a value-add from Zebra that makes Android a more robust enterprise-class operating system. And with a Zebra OneCare Service contact, you can switch to any supported operating system at any time (MC9200 Premium models only). As a result, the MC9200 you buy today can adapt to meet the changing OS needs of your business, providing superior investment protection. (*Android KitKat available on Premium models only.)

The Very Latest in Scanning Technology... and More Scanning Options

Five Imagers

Five imager options offer Zebra's revolutionary imaging technology, with stunning laser-like performance on both 1D and 2D barcodes. Document, image and signature capture provides superior application flexibility. And the ability to easily capture barcodes that are under shrinkwrap makes our imagers ideal in the warehouse.

- **SE4850 Extended Range Imager:**
If you need extra long range scanning, now one scanner can meet all your scanning needs. The SE4850 can capture barcodes from 3 in./7.62 cm to as far as 70 ft./21.4 m away — up to 60 percent closer and 35 percent farther than the competition. And the industry-best, unparalleled field of view makes it easy to capture the common wide 4 in./10.16 cm barcodes in warehousing and manufacturing at 7 in./17.78 cm — about one third of the distance of competitive devices.
- **SE4750 Standard and Mid Range Imager Series:** The SE7450 is available for Premium configurations in Standard Range (SR) and Mid Range (MR). With unparalleled performance on just about any type of data imaginable, the SE4750 captures barcodes and more, faster than ever.
- **SE4500-HD Imager (Windows only):**
The SE4500-HD builds on the SE4500, adding support for very high density barcodes, including virtually any direct part mark (DPM) — dot peen, laser etch, ink mark, chemical etch, inkjet mold, cast and thermal spray. This scan engine is ideal in the automotive and aerospace industries, where government safety regulations require manufacturers to track the whereabouts and history of every part.
- **SE4500-DL Imager (Windows only):**
The SE4500-DL also builds on the SE4500, but is tailored to capture medium to high density barcodes as well as the barcodes found on identification documents.

Two Lasers

If you only need to scan 1D barcodes, our laser scanners offer the first time every time scanning performance, even if barcodes are scratched, dirty or poorly printed.

- **SE960/SE965 1D Laser:** Adaptive Scanning technology provides a best-in-class scanning range — from near contact to as far as 15 ft./4.5 m.
- **SE1524-ER Extended Range 1D Laser:** Fuzzy logic ensures accurate capture of even poorly printed and low contrast barcodes from near contact to as far as 45 ft./13.71 m away. And the 650 nanometer laser diode generates a bright, highly visible scan line, making it easy to accurately aim at codes on the uppermost shelves of your racks.

The MC9200 offers the most scanning flexibility in its class.

Many scanning options let you tailor the device to capture whatever types of data you need, as quickly and as accurately as possible.

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Plenty of Processing Power to Support any Application

Whether your workers need to run multiple complex ERP applications at the same time or whether you want to improve the performance of your TE applications, you can count on superior application performance. The MC9200 offers a blazing dual core 1GHz processor with up to 1GB RAM/2GB Flash.

**Premium models only*

Easier to See and Easier to Use

Lighting often varies throughout the warehouse — some areas may be brightly lit while others may be dim. To address the full range of lighting conditions, the MC9200 offers a full color best-in-class VGA touchscreen, complete with backlighting. The display is easy to read regardless of whether users are in bright sunlight or total darkness. In addition, the touchscreen gives you the flexibility to simplify application interaction, allowing employees to ‘swipe-and-go’ instead of type.



Improve Accountability

Zebra’s Interactive Sensor Technology automatically logs the date, time and duration of any 4 ft./1.2 m or greater drop. If workers are required to scan their own badges at the start of a shift, you know which employee used which device, improving accountability — incenting employees to take good care of these high-value mobile computers.



Effortless Real-time Tracking

A quick scan of the integrated RFID tag* during device check-in and check-out allows you to automatically track which employee has which device, improving accountability for device care during a shift and return of devices at the end of a shift. In addition, RFID readers at entry and exit points can help prevent device theft. **RFID tag supported on Premium models only*

Better Battery Management

Make sure your workers are never caught without battery power with the MC9200’s improved battery technology. PowerPrecision batteries provide state of health and state of charge information so every user can start every shift with a healthy fully-charged battery. And its business class accelerometer automatically places the device in a power-saving mode when the MC9200 is placed face down on a surface or not used after a predefined amount of time.

Fast and Dependable Wi-Fi Connections (a/b/g/n)

With 802.11n bandwidth and a new antenna that helps create highly efficient wireless connections, your workers will experience wireless voice and data that is equivalent to a wired phone and desktop computer. Expanded Wi-Fi support for 802.11d/h/i/k/r further enhances Wi-Fi performance and security.* And our wireless technologies also help minimize wireless traffic, helping preserve processing power and extend battery cycle times. And the technology in our mobile computers and Zebra wireless LAN infrastructure is designed to work hand-in-hand to create wireless connections your workers can depend on, no matter where they roam within your coverage area. **Android models support 802.11 a/b/g/n/d/h/i/k/r; WinCE/WEH models support 802.11 a/b/g/n/d/h/i*

Modern and Intuitive All-touch TE Apps

All-touch Terminal Emulation (TE), powered by Wavelink, allows you to easily convert all of your existing “green screen” TE apps into intuitive HTML5 all touch apps that are easy to use, reduce keystrokes, and improve productivity. You can give your legacy WMS apps a modern upgrade without writing a line of code.

**Supported on Android only*



Mobility DNA

Every strand of your MC9200 mobility platform is simpler with Zebra's Mobility DNA, the industry's most comprehensive suite of mobility must-haves to accelerate the solution. More off-the-shelf end-user apps, more robust administration utilities and easier app development.



EMDK

Comprehensive toolkit for integrating MC9200 features



PowerPrecision

Better battery cycle time and metrics



Workforce Connect

PTT Express

Push-to-Talk communications using wired headsets



Mobility

Extensions (Mx)

Adds enterprise features to Android



All-touch Terminal Emulation (TE)

Transform legacy green screens apps to graphical HTML5 (*Android only*)

Enjoy a Rapid Return on Investment...

Regardless of whether you are deploying mobile computers for the first time or upgrading older mobile computers to the MC9200, you'll empower your warehouse and your workers with all the benefits of the latest in mobile computing technology. You'll strip more time out of your everyday tasks, allowing your operations to become leaner — and your bottom line larger. Our platform strategy minimizes your out-of-pocket costs. If you are upgrading from an older MC9000 Series mobile device, you can use the same accessories and applications you use today. And since you can choose a scan engine that will allow you to scan the barcodes of today and tomorrow, you get a future proof device that can serve your business every moment of its useful life.

A Low Total Cost of Ownership...

While the MC9200 is built to last for years, Zebra's *OneCare* Support Services will keep your devices up, running and in the hands of your users. These unique all-inclusive support plans cover accidental damage as well as everyday wear and tear. The result? Maximum device lifecycle. Maximum uptime. And a low total cost of ownership.

...And Benefits That Reach Beyond the Warehouse

The MC9200 mobile computer is a highly strategic investment that not only delivers quantifiable benefits in the warehouse — but also high-level business benefits that deliver real competitive advantage. Task automation and the availability of real-time information throughout the warehouse minimize time spent on every task, while providing crosschecks for accuracy at every step along the way. But the business benefits don't stop at the walls of your warehouse — they ripple throughout your operation, allowing you to:

- Reduce inventory levels, which in turn reduces capital requirements and inventory carrying costs
- Reduce warehouse space requirements, freeing space for other business initiatives — for example, an expansion of your production line
- Reduce out-of-stocks — delivering a potential increase of 15 percent or greater in sales
- Reduce transportation costs through tighter scheduling, optimal load order and fewer shipping errors
- Reduce technology costs — one device can handle all your scanning needs, eliminating the need to purchase and manage multiple models to capture different types of barcodes at different distances

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In the Warehouse, every moment matters.

How efficiently your workers spend those moments will directly impact your costs — and customer satisfaction. The MC9200 provides the technology your warehouse workers need to rise to their personal best, every moment of the workday. More time is stripped out of nearly every task your warehouse workers perform. Operations are leaner. Your bottom line is larger. And customer satisfaction is at an all-time high — the right products are delivered every time, faster than ever before and retention.



**MAXIMIZE EFFICIENCY IN YOUR WAREHOUSE WITH THE RUGGED
MC9200 MOBILE COMPUTER AND GET MORE... MORE THROUGHPUT.
MORE ACCURACY. MORE SATISFIED CUSTOMERS.**

FOR MORE INFORMATION PLEASE VISIT WWW.ZEBRA.COM/MC9200



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