APPLICATION BRIEF

# The rugged Motorola MC3100 Series:

## Driving the value of retail mobility to new heights with 2D bar code capture and next generation mobile technology

The MC3100 provides an affordable migration path to next generation mobile technology, providing retailers with the power to run virtually any application; the rugged design required to survive life in the retail environment; the ability to read 2D bar codes for more granular inventory data and to meet the coming 2D mandate; and the security required to easily comply with Payment Card Industry (PCI) regulations.

## The retail challenge: Improving data capture flexibility

Bar code scanning is a foundation technology at work in virtually every retail store. Through the use of 1D bar codes, today's retailers have been able to improve everything from inventory management to associate productivity and customer service. But a new initiative gives manufacturers the option to begin utilizing 2D GS1 DataBar bar codes starting in 2010.

Spearheaded by GS1, a global organization with over a million supplier and retailer members, this initiative is intended to address the evolving needs of the retail industry by allowing manufacturers and retailers alike to better manage inventory, meet compliance requirements such as traceability, as well as enable more flexible 'paperless' advertising and promotional programs.

The resulting need to accommodate both 1D and 2D bar codes presents today's 1D-centric retailers with a challenge. The laser technology in place today delivers stellar performance on 1D bar codes — but in order to read 1D and 2D bar codes, retailers must replace laser with imaging technology. However, today's imagers typically deliver performance levels well below the average laser scanner, potentially reducing associate productivity and increasing wait times at the POS. How can retailers implement 1D and 2D bar code scanning with risking a deterioration in scanning performance?

## The solution: Laser performance on 1D and 2D bar codes

Motorola's MC3100 handheld mobile computer provides an affordable migration path that enables retailers to implement 1D and 2D bar code scanning — without any compromise in performance. Motorola's revolutionary imager engine, the SE4500, is integrated into the MC3100, enabling:

- True laser speed on all 1D and 2D bar codes
- The ability to capture even poorly printed and damaged bar codes

### BENEFITS

With support for 1D and information-rich 2D bar codes, retailers can:

- Improve buying decisions through the availability of more granular inventory data
- Reduce inventory costs through rapid identification of items that are seasonal or nearing expiration — enabling retailers to take appropriate steps to reduce shrink
- Eliminate stock outs through rapid and cost effective inventory takes
- Easily locate specific items, ensuring the traceability required to rapidly execute targeted recalls to better protect consumer safety
- Improve throughput at the checkout stand — no need for cashiers to manually look up product codes for exceptions
- Improve customer service — a quick scan of a label either in the aisle or at the checkout stand allows customers to verify that they are purchasing the right products (such as organic produce or gluten-free products)
- Create stronger loyalty programs that incent sales through real-time mobile and paperless couponing

The ability to accommodate information-rich 2D bar codes allows grocers to track information such as produce type and grower for better inventory management — as well as more effective and efficient recall management. In addition, since the 2D bar codes have ample space for preparation standards and ingredients, customers can verify that they are purchasing the right product at the checkout stand — from organic produce to gluten free products.

- Omnidirectional scanning, eliminating the need for associates to align bar code and scanner

Built on Motorola's Mobility Platform Architecture (MPA) 2.0, this family of handheld mobile computers offers all the features retailers require, including:

- The advanced computing power needed to run the most demanding applications
- Superior scanning technology for exceptional performance on all bar codes
- Power management capabilities that ensure full shift use
- FIPS 140-2 certification, providing the enhanced security required for PCI compliance
- The rugged design required to survive everyday life throughout the retail store — from the aisles on the sales floor to the backroom

In addition, for customers who are presently using Motorola's MC3000 Series, backwards compatibility with the MC3000 accessories ecosystem preserves any existing accessory investment, while a common platform enables seamless porting of applications from the MC3000 to the MC3100, protecting your existing application investment.

The result? Bar code scanning functionality is expanded to meet business needs with a single device. The rugged design, built to last for years, returns a low total cost of ownership (TCO). Associate comfort and productivity levels are protected, along with customer service levels. And the business enjoys new capabilities that improve profitability.

## How can the Motorola MC3100 and 2D bar code scanning improve your retail operations?

The MC3100 has what it takes to enable the next generation of retail scanning applications, allowing retailers to leverage 2D bar codes to:

### Enable better buying decisions

The ability to fit more data in less space allows retailers to incorporate an expanded set of data into bar codes, enabling the real-time capture of very granular information on the inventory on your shelves and the items your customers are purchasing. Instead of just item type, bar codes can now contain manufacturer, lot numbers, serial numbers, expiration dates, production dates, best-before dates, product weight, country of origin, processing country and price per unit of measure. Now, for example, a grocer who carries a wide variety of oranges can easily identify which type of oranges sell the best (such as organic, California or Latin America) — as well as the grower who supplied the oranges. Armed with this information, buyers can improve inventory planning and purchasing, ensuring that the products your customers want are always ready and available on the shelves of your store.

### Reduce inventory costs

With applications that can utilize information in 2D codes, a quick scan can identify products that are nearing expiration or are seasonal, allowing retailers to take the necessary steps to reduce potential shrink — for example by placing those items on sale. In addition, associates can quickly scan inventory on shelves to obtain real-time visibility into rich inventory-related information that allows the placement of smaller, more frequent and targeted orders — ultimately increasing inventory turns and reducing capital outlay and inventory carrying costs.

## Eliminate stock outs

The ability to take cost-effective granular inventories provides the real-time inventory visibility required to place orders on time, every time, eliminating costly stockouts — and potential lost sales and customers.

## Enable cost effective regulatory compliance for traceability and PCI

Support for 2D bar codes allows retailers to embed the information required to easily meet traceability requirements. Regardless of the number of companies involved or how many borders are crossed in the supply chain, a quick scan of the bar codes can enable the identification and removal of items that have been recalled — from produce, variable measure fresh foods and drugs to children's toys. The resulting targeted, rapid and well-managed recalls protect consumer safety as well as the brands of the manufacturer and the retailer. In addition, support for WPA/WPA2 and FIPS 140-2 certification allows retailers to easily comply with Payment Card Industry (PCI) requirements, protecting sensitive customer data and helping prevent the high penalties associated with non-compliance.

## Improve throughput at the checkout stand

Since 2D bar codes can pack much more data in a much smaller space than their 1D counterparts, retailers can now label literally every product in the store — including the smallest items. Cashiers no longer need to look up and enter product codes for exceptions, eliminating delays and increasing throughput at the register. In addition, the ability to scan and capture information on drivers' licenses enables pharmacies to automatically comply with government regulations associated with the purchase of certain over-the-counter medications — without the need for paper and pen. And the ability to scan a drivers license to verify age, document a return or automatically complete a loyalty card application protects against the inadvertent sales of age-controlled items to minors and false return schemes that impact profitability while helping to increase the loyal customer base.

## Improve customer service

Since bar code labels can now contain preparation standards and ingredients, an associate in the aisle or the cashier at the checkout stand can verify that customers are purchasing the right item — for example a vegetarian, Kosher or gluten-free product. In addition, the ability to embed expiration dates in the bar code label allows associates to identify and replace any items that are beyond expiration — before the items are selected for purchase. And the ability to embed warranty and other detailed product information allows associates to answer detailed product-related customer questions with a quick scan of the item bar code.

## Improve marketing programs and promotions

The ability to scan 2D bar codes in the store enables retailers to execute more complex and flexible coupon programs. The ability to embed a wealth of information into the 2D bar code on the coupon allows associates to validate the coupon, help customers locate the right item and ensure the coupon is still valid — all with a quick scan. Coupon fraud is reduced. And retailers can extend the latest in marketing technology — electronic couponing — to the more than three billion worldwide cell phone subscribers, who account for over 40 percent of the world's population.*

WIth mobile couponing, mobile phone users can take a picture of a 2D bar code in an advertisement or click a link in an advertisement to download a bar code that can be scanned by the MC3100 mobile computer. A scan of the 2D bar code on the mobile phone display can allow associates to automatically locate the right item for the customer and the discount can be automatically calculated at the checkout stand. This 'no paper' couponing experience eliminates the need to cut out and manage coupons, enabling customers to more easily take advantage of sales at your store. And the elimination of paper allows retailers to execute environmentally friendly 'green' couponing initiatives.

# Summary: A strong return on investment (ROI)

The multitude of features in the MC3100 combine to provide the rapid ROI and low total cost of ownership (TCO) required to easily justify this Motorola retail mobility solution:

- This single device supports voice and data, eliminating the need to purchase and manage multiple devices per employee — effectively reducing the cost of mobility.
- Comprehensive 802.11a/b/g connectivity ensures compatibility with your existing WLAN, reducing integration costs.
- FIPS 140-2 certification and support for all the latest encryption and authentication protocols meets PCI requirements, helping to simplify and reduce the cost of compliance.
- Motorola's common architectural platform allows seamless porting of any existing applications to the MC3100, enabling retailers to not only leverage existing application investments, but also reduce deployment time and cost.
- 2D capability ensures readiness for GS1 DataBar bar codes, future proofing your investment

*Source: Mobile Commerce: opportunities and challenges; a GS1 Mobile Com White Paper; Feb 2008 Edition

The ability to scan 2D bar codes provides support for more complex and flexible coupon programs — including mobile couponing. An opt-in program can allow retailers to send real-time specials to a customer's mobile phone. Customers could also snap a picture of a bar code in a print advertisement that can be scanned at the register for 'green' paperless coupon programs that are not only environmentally friendly, but also eliminate the time and cost associated with processing paper coupons in the store. The resulting stronger connection with your customer increases customer loyalty — and sales.

- Compatibility with the MC3000 accessory family allows retailers that have deployed MC3000 mobile computers to preserve existing accessory investments, reducing the cost of migrating to the latest mobile computing technology.
- Our award-winning partner channel provides access to a world of well-tested best-in-class retail applications, again reducing deployment time and cost.
- Centralized management solutions allow you to easily and remotely stage, update, monitor, troubleshoot and even restrict feature access, substantially reducing one of the largest costs associated with retail mobility — day-to-day support.
- Support programs such as Service from the Start with Comprehensive Coverage help keep your MC3100 operating at peak performance and in the hands of your users. This exceptional service is truly comprehensive, providing technical support and end-to-end protection for your device. Normal wear and tear, internal and external components damaged through accidental breakage and select accessories that ship together with the MC3100 are all covered — for no additional charge.

***For more information on how you can get the benefits of the Motorola MC3100 Series in your retail operations, please visit us on the web at www.motorola.com/mc3100 or access our global contact directory at www.motorola.com/enterprise/contactus***

# *The Motorola MC3100 Series*

## Reap the benefits of next-generation retail mobility with advanced features and functionality

### Motorola MAX Rugged: built to survive everyday life in the retail store

The MC3100 is purpose-built to meet the demands of the retail environment, able to withstand everyday drops on carpet or tile out on the sales floor, in the warehouse and on the loading dock. The device passes Motorola's stringent mechanical design tests for both stress and endurance, surviving multiple 4 ft./1.2m drops across the entire operating temperature range and dependable operation, even after 500 consecutive 1.64 ft./0.5m tumbles (1,000 hits). Its wide temperature range survives winter cold or summer heat in outdoor shopping or parking areas. And IP54 sealing allows the device to withstand dusty environments, accidental spills and frequent wipe downs.

### Motorola MAX DataCapture: scan virtually any 1D or 2D bar code with laser speed — including damaged codes

When you choose the Motorola MC3100, you choose the bar code scanning technology in use in many of the world's largest retailers. The revolutionary SE4500 imaging engine eliminates one of the major reasons retailers have been hesitant to implement 2D capability — the typical performance degradation between a 1D laser scanner and a 1D/2D imager.* The SE4500 delivers true laser speed on all bar code symbologies — 1D and 2D. The superior patented decoding software enables rapid and accurate capture of bar codes despite poor printing or label damage, protecting productivity. The patent pending fast-pulse illumination and fast sensor shutter speed enable image capture at a full 60 frames per second, delivering outstanding motion tolerance that protects productivity — there is no need for users to stop moving to scan. And omnidirectional scanning eliminates the need to align the bar code with the MC3100, reducing wrist movement and increasing user comfort.

### Motorola MAX Sensor: maximize battery power for full-shift use

Ensuring ample battery power for a full shift is crucial in the retail world. Regardless of which MC3100 model you choose, Motorola Interactive Sensor Technology (IST) provides support for new motion sensing applications that preserve battery power and more. For example, the MC3100 can automatically revert to sleep mode if movement is not detected in a specified period of time, or if the display is face down. The display can dynamically switch between portrait and landscape based on the orientation of the device, allowing applications to maximize screen real estate. The ability to detect and log drops increases worker accountability. And an open architecture allows retailers to access and integrate accelerometer data into customized applications to more fully leverage interactive sensing technology.

### Motorola MAX Secure: government level security for true peace of mind

The MC3100 is loaded with security features that provide peace-of-mind for wireless LAN-based communications. FIPS 140-2 certification and support for the most advanced encryption and authentication algorithms ensure the security and integrity of your wireless transmissions, while also protecting access to the wired network. The result is compliance with the most stringent industry security regulations, including PCI.

### Multiple models and keypads: designed to meet the diverse business needs of any type of retailer

Different types of retailers and different applications require different device styles. A choice of three form factors and two operating systems allow you to select the right device for your workers: straight-shooter, gun or turret. The straight-shooter is ideal for standard scanning applications. The gun provides all day comfort for scan intensive activities. And the turret provides the flexibility to adjust the scanning position, improving user comfort. All three models offer a choice of Microsoft Windows Mobile 6.X Classic or Windows CE 6.0 Pro. And a variety of keypads simplifies data entry, regardless of whether your users need to enter heavy text information or calculator-style numeric data.

### Integrated UHF RFID: leverage existing RFID deployments for automated asset tracking

In the retail environment, associates may frequently misplace mobile devices, forcing retailers to spend time and money to track devices. The MC3100 offers a unique feature to address this issue. For retailers that have an existing or planned RFID deployment, an integrated RFID tag enables the automatic tracking of MC3100 devices. Maintaining a real-time inventory of your MC3100 mobile computers is literally effortless — and misplaced devices can be located quickly and easily.

### Comprehensive wireless connectivity inside the retail environment

The MC3100 offers 802.11a/b/g support for easy integration with virtually any wireless LAN (WLAN). The result is anywhere, anytime mobility wherever you have WLAN coverage — inside the four walls, in outdoor shopping areas or the parking lot. Support for 802.11a and Voice-over-WLAN (VoWLAN) combine to enable cost-effective mobile voice, allowing supervisors and associates to easily reach each other as needed throughout the workday — without using the overhead paging system or forcing workers to search for a phone or co-worker. The MC3100 also offers Bluetooth® connectivity, providing a wireless connection to a wide range of peripherals, including compact mobile printers. Workers can execute shelf tag audits, markdowns and markups that utilize 2D bar codes quickly and easily, right in the aisles of your store — no need to run back and forth to the back room to retrieve updated printed tags.

* For more information on the advantages of Motorola's SE4500 imager, please visit www.motorola.com/mc3100 to download the white paper entitled 'Motorola SE4500: The reinvention of 2D imaging technology

## About Motorola: End-to-end mobility solutions for deployment simplicity and success

Every day, organizations of all sizes all over the world count on Motorola Enterprise Mobility Solutions to improve customer service and loyalty, maximize employee effectiveness and increase revenue. When you choose Motorola for your mobility solution, you get the peace of mind that comes with choosing an industry leader as your technology partner. Motorola offers the proven expertise and technology you need to achieve maximum value and a fast return on investment — as well as first hand experience in deploying mobility in some of the world's largest retailers. And our end-to-end solutions offer the simplicity of a single accountable source — regardless of the number of vendors involved.

Our comprehensive product offering includes: rugged and enterprise class mobile computers with extensive advanced data capture and wireless communications options; rugged two-way radios for always on voice communications; private wide area and local area wireless network infrastructure for robust real-time wireless connectivity indoors and outdoors in a campus-style facility — as well as between multiple locations; comprehensive RFID infrastructure offering fixed, mobile and handheld RFID readers; a partner channel delivering best-in class applications and rapid deployment with minimal business disruption; software solutions that enable centralized and remote management of every aspect of your mobility solution; and a complete range of pre-and post-deployment services to help get and keep your mobility solution up and running at peak performance every day of the year.

For more information on how your retail organization can benefit from Motorola's mobility solutions, please visit www.motorola.com

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