Motorola MC3100 Series

FEATURES

Motorola MAX *Rugged:*
Provides reliable operation in spite of drops, bumps or exposure to dust and splashing liquids; meets applicable MIL-STD and IEC specifications for drop, tumble and sealing

Mobility Platform Architecture (MPA) 2.0:
Provides the latest best-in-class technology architecture; preserves existing application investments by enabling easy and cost-effective porting of applications from other Motorola mobile computers

Motorola MAX *Secure*:
FIPS 140-2 certification and support for the most advanced encryption and authentication algorithms as well as Virtual Private Networks (VPNs) enables compliance with the most stringent industry security regulations, including sensitive government applications

Streamline business processes with cost-efficient rugged mobility

Building on the successful MC3000 mobile computer, the rugged wireless MC3100 Series brings cost-effective anytime mobility to key-based applications within the four walls — in the retail store and warehouse aisles, on the loading dock and out in the yard. Leveraging Motorola's new Mobility Platform Architecture 2.0, the MC3100 offers advanced computing power, industry-leading data capture capabilities and superior ergonomics. In addition to the processing power and memory required to support advanced applications, the MC3100 also offers the latest in mobile technology and security. An integrated RFID tag automates asset tracking, allowing enterprises to track and locate MC3100 devices right out the box. Motorola's Interactive Sensor Technology (IST) provides an integrated accelerometer that enables leading edge motion-based applications that improve power management and more. Robust security features include FIPS 140-2 certification, protecting the most sensitive data. Compatibility with the existing MC3000 accessories ecosystem enables organizations to upgrade to the latest in technology, while preserving the existing accessory investment.

The result is a robust affordable device that will help retailers, government agencies and distribution centers streamline and error-proof business processes, improving employee productivity as well as customer service and satisfaction.

Motorola MAX *Rugged* — redefining industrial rugged design

The MC3100 is purpose-built for demanding environments within the enterprise walls. The superior rugged specifications dramatically reduce repair and downtime, delivering an exceptional return on investment (ROI) and total cost of ownership (TCO). Designed to easily handle the inevitable everyday drops and bumps, the MC3100 passes Motorola's stringent mechanical design tests for both stress and endurance. The device survives multiple 4 ft./1.2m drops across the entire operating temperature range and continues to deliver dependable performance, even after 500 consecutive 1.64 ft./0.5m tumbles (1,000 hits). IP54 sealing ensures reliable operation in dusty environments — as well as the ability to endure exposure to liquids and wipe downs.

Microsoft Windows Mobile 6.X or Windows CE 6.0 operating system: Choose the operating system that best meets your needs: the familiar Windows Mobile environment offers standard business tools and line-of-business applications, a large selection of off-the-shelf applications and an easy application development environment; the Windows CE open platform enables fast and easy development and porting of custom applications

Motorola MAX *Sensor*: Enterprise-class Interactive Sensor Technology (IST) enables leading edge motion-based applications, including dynamic screen orientation, power management and free-fall event logging

Motorola MAX *Data Capture*: Capture the data you need today and tomorrow with industry leading advanced laser scanning or imaging technology:

- **Motorola unmatched laser scanning technology:** Delivers aggressive performance and accurate capture of all 1D bar codes — including damaged and poor quality bar codes; patented Liquid Polymer scan element eliminates friction and wear for superior durability and reliability

- **Motorola's advanced imaging technology:** Aggressive performance on 1D and 2D bar codes: patented illumination system and bright aimer enables fast omni-directional bar code reading, increasing productivity by eliminating the need to align bar code and mobile computer

Backward compatibility with MC3000 accessories: Upgrade to the MC3100 while preserving your existing MC3000 accessory investment

Motorola MAX *Data Capture* — best-in-class advanced data capture technology

101100 No matter what type of data you need to capture, you can count on superior performance. Choose from the Symbol SE950 1D laser scanner or the Symbol SE4500 1D/2D imager. The SE950 enables rapid and accurate capture of all 1D symbologies — including damaged and poor quality bar codes often found in the warehouse or retail aisles. And the patented Liquid Polymer scan element eliminates friction and wear for superior durability and reliability.

If your business data is more diverse, the SE4500 imager enables the capture of 1D and 2D bar codes as well as direct part marks, still images and documents. While typical imagers provide the flexibility to capture both 1D and 2D bar codes at the cost of 1D bar code performance, the revolutionary SE4500 redefines imaging technology, offering laser-like performance on 1D barcodes — and equally stunning performance on 2D bar codes.

Motorola MAX *Secure*: Security for the most sensitive applications

The MC3100 is loaded with security features that provide peace-of-mind for wireless LAN communications. FIPS 140-2 certification and support for the most advanced encryption and authentication algorithms ensure the security and integrity of your wireless transmissions, in addition to protecting access to the wired network. The result is compliance with the most stringent industry security regulations, meeting the requirements for use in government and other applications with highly sensitive data.

Motorola MAX *Sensor* — Enterprise-class motion sensing applications

The MC3100 offers a powerful new capability, Motorola Interactive Sensor Technology (IST), which provides support for a world of new motion-sensing applications that deliver rich business value. Power management features enable the device to 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. The ability to detect and log drops increases worker accountability. In addition, the open architecture allows organizations to access and integrate accelerometer data into customized applications, enabling enterprises to more fully leverage the value of interactive sensing technology.

Integrated UHF RFID Tag for device asset tracking

Another unique feature of the MC3100 is the integrated UHF RFID tag, allowing enterprises to more fully leverage existing or planned RFID deployments. The integrated RFID tag enables businesses to automatically track the movement and location of their mobile computers. Maintaining a real-time inventory of your MC3100 mobile computers is literally effortless — and misplaced devices can be located quickly and easily.

Flexible models to meet diverse business needs

Six different models of the MC3100 are available, allowing you to mix and match devices to best meet the needs of your users and your applications. First, choose the form factor that is best for your application: straight-shooter, gun or turret. The straight-shooter is ideal for standard scanning applications. The gun provides all day comfort for scan intensive activities. The turret provides the flexibility to adjust the scanning position, improving user comfort. All three models offer a choice of operating systems. Microsoft Windows Mobile 6.X Classic provides users with a familiar and intuitive interface that significantly reduces training time, while Windows CE 6.0 Pro provides a robust programming environment to support the development of rich custom applications.

Easy and cost-effective deployment

The industry standard MC3100 Series easily integrates with your existing technology environment — including your wireless LAN (WLAN). Since the MC3000 and the MC3100 as well as many other Motorola mobile computers share a common architectural platform, porting existing applications from other Motorola mobile computers to the MC3100 is fast and easy. Additionally, Motorola's robust award-winning partner channel provides access to a world of well-tested best-in-class line of business applications. The result is a substantial reduction in application development time and costs, enabling rapid deployment, improving the return on investment for existing applications and providing a cost-effective path to upgrade to the latest mobile computing technology — with minimal business disruption.

Keypad options for application flexibility

As the interface between your workers and your applications, the keypad is at the heart of mobile worker productivity. To achieve maximum productivity in your mobile workforce, the keypad must maximize data entry simplicity. The MC3100 offers a variety of keypads designed to meet the needs of virtually any type of application — from heavy text entry to calculator-style numeric data.

The Motorola end-to-end advantage — centralized management and a full suite of support services

When you choose the Motorola MC3100, you enjoy the advantages of a world-class partner channel, world-class management solutions and world-class services. Motorola's Mobility Suite offers comprehensive management solutions that provide extraordinary centralized control of your MC3100 and other Motorola mobile computing devices, driving device management costs to a new low. For example, Motorola's Mobility Services Platform (MSP) enables remote staging, provisioning, monitoring and troubleshooting of your Motorola mobile computers, regardless of where in the world they are located. The Motorola Mobility Suite also includes a Mobile Virtual Private Network (MVPN) for secure communications as well as multiple software tools and developer kits. In addition, Terminal Emulation (TE) clients provide access to legacy applications (pre-licensed on the MC3100-G).

In addition, Motorola's Advanced Services are available to assist you with any stage of development of your mobility solution — from planning and assessment through system design and deployment. And once your mobility solution is deployed, our Customer Services keep your products up and running at peak performance. For the MC3100, Motorola recommends Service from the Start with Comprehensive Coverage. 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 the MC3100 can benefit your organization, please visit us on the web at www.motorola.com/MC3100 or access our global contact directory at www.motorola.com/enterprisemobility/contactus

Integrated UHF RFID Tag: Allows enterprises to track and locate MC3100 devices

New rugged audio jack: A secure headset connector eliminates the static associated with wired headset cable movement; ensures voice quality and protects productivity in voice-directed applications

Polycarbonate Insert Mold Decorated (IMD) keypad: Greatly improves keypad durability: eliminates the potential to dislodge an individual key; printing under the polycarbonate layer protects keypad graphics against wear

WLAN: 802.11a/b/g tri-mode radio; comprehensive Voice-over-WLAN support: Enables cost-effective voice and data connectivity in the office and in hot spots; easy integration with virtually any WLAN; CCX v4 certified; supports IPV6; supports 802.11a for voice and data interference mitigation

WPAN: Bluetooth® v2.1 with EDR: Provides a wireless connection to printers and more; provides additional throughput (up to 3 Mbps), improved security and additional profiles for expanded connectivity to more device types

Keypad options — 28-key numeric; 38-key shifted alpha, 48-key alphanumeric: Flexibility to standardize on a single device family, yet meet diverse user and application needs

Comprehensive centralized device management: Compatibility with Motorola Mobility Services Platform (MSP) and Motorola Mobility Suite provides superior centralized and remote management of all devices anywhere in the world — from a single console

MC3100 Specifications

Physical Characteristics

Dimensions:	*Straight Shooter Imager or Laser:* 7.49 in. L x 3.25 in. W x 1.77 in. D/ 190.4 mm x 82.6 mm x 45.2 mm At grip: 2.40 in. W x 1.44 in. D/61.2 mm x 36.8 mm *Rotating Turret Laser:* 8.55 in. L x 3.25 in. W x 1.57 in. D/ 217.12 mm x 82.6 mm x 39.9 mm At grip: 2.40 in. W x 1.14 in. D/61.2 mm x 29 mm *Gun Configurations:* 7.5 in. L x 3.2 in. W x 6.5 in. D/ 193 mm x 80.8 mm x 166 mm
Weight (including strap, stylus, and battery):	*Straight Shooter Imager or Laser:* 14.95 oz./424 gm (with WLAN) *Rotating Turret Laser:* 13.52 oz./384 gm (with WLAN) *Gun Configurations:* 18.34 oz./520 gm
Display:	3.0 in. color (TFT) (320 x 320) display with backlight
Touch Panel:	Chemically strengthened glass, analog resistive touch
Backlight:	LED Backlight
Keypad Options:	28-key Numeric, 38-key Shifted Alpha (calculator-style integrated numeric keypad), 48-key Alpha-Numeric (calculator-style integrated numeric keypad)
Expansion Slot:	User accessible SD/MMC slot; approved for memory expansion only
Notifications:	Programmable LEDs; Audio notifications

Performance Characteristics

CPU:	Marvell PXA320 624 MHz
Operating System:	Microsoft Windows CE 6.0 Pro or Windows Mobile 6.X Classic
Memory:	128MB RAM/256 MB Flash or 128MB RAM/512MB Flash
Power:	*Straight Shooter Imager or Laser:* Rechargeable Lithium Ion 4800 mAh @ 3.7Vdc Smart Battery

Power Continued:	*Rotating Turret Laser:* Rechargeable Lithium Ion 2740 mAh @ 3.7Vdc Smart Battery *Gun Configurations:* Rechargeable Lithium Ion 4800 mAh @ 3.7Vdc Smart Battery
Application Development:	Motorola Enterprise Mobility Developer Kit (EMDK)

User Environment

Drop Specification:	Multiple 4 ft./1.2 m drops to concrete across the operating temperature range; meets and exceeds MIL-STD 810G
Tumble Specification:	500 1.64 ft./0.5 m tumbles (1,000 drops) at room temperature per IEC 68-2-32 tumble specifications
Operating Temp.:	-4° F to 122° F/-20° C to 50° C
Storage Temp.:	-40° F to 158° F/-40° C to 70° C
Battery Charging Temp.:	32° F to 104° F/0° C to 40° C
Sealing:	IP54 category 2; meets applicable EN 60529 sealing specifications
Humidity:	5 - 95% non-condensing
ESD:	+/-15kVDC air discharge, +/-8kVDC direct discharge, +/-8kVDC indirect discharge

Data Capture Options

Scanning:	Symbol SE950 for 1D bar codes; Symbol SE4500-SR imager for 1D/2D bar codes; Symbol SE4500-HD 2D imager for 1D/2D bar codes and direct part marks
Options:	Three available models: MC31X0 Turret with Rotating Head; MC31X0 Straight Shooter; MC3190 Gun

1D Laser Scanner (SE950)

Range on 100% UPCA at 30 ft./candles:	Near: 1.75 in./4.45 cm Far: 15.35 in./39 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; configurable narrow angle: 35° ± 3°

2D Imager (SE4500-SR)

Range on 100% UPCA at 30 ft./candles:	Near: 2.5 in./6.35 cm Far: 14.2 in./36.07 cm
Sensor Resolution:	752 x 480 pixels
Field of View:	Horizontal: 38°; Vertical: 25°
Skew Tolerance:	±60°
Pitch Tolerance:	±60°
Roll Tolerance:	360°
Ambient Light Immunity:	Total darkness to 9,000 ft. candles/96,900 lux
Aiming LED (VLD):	655 ± 10 nm Laser
Illumination Element (LED):	625 ± 5 nm LEDs (2x)

2D Imager (SE4500-HD)

Range on 100% UPCA at 30 ft./candles:	Near: 2.62 in./6.65 cm. Far: 6.1 in./15.49 cm
Sensor Resolution:	752 x 480 pixels
Field of View:	Horizontal: 39°; Vertical: 25°
Skew Tolerance:	±60°
Pitch Tolerance:	±60°
Roll Tolerance:	360°
Ambient Light Immunity:	Total darkness to 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 on dynamic screen orientation, power management and free-fall detects

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; FIPS140-2 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 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 802.11 a/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

Voice and Audio:

Audio:	VoWLAN; rugged audio connector; high-quality speakerphone; headset, (wired or Bluetooth); handset and speaker phone modes

Network Communications

I/O:	USB 1.1 Full Speed Host/ Client or RS232

Peripherals and Accessories*

Cradles:	Single-slot USB/RS232 charging cradle with spare battery well; Four-slot charge only cradle; four slot Ethernet cradle
Chargers:	Four-slot battery charger; adaptor for universal battery charger
Printers:	Supports Motorola approved printers
Other Accessories:	Holsters, charging cables, magnetic stripe reader, dial up modem, spare batteries and audio cables

*For a complete list of MC3100 Peripherals and Accessories, please visit www.motorola.com/mc3100

Regulatory

Electrical Safety:	Certified to UL60950-1, CSA C22.2No. 60950-1, EN60950-1/IEC 60950-1
Environmental:	RoHS-compliant
WLAN and Bluetooth:	**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 4268s
RF Exposure:	**USA:** FCC Part 2, FCC OET Bulletin 65 Supplement C **Canada:** RSS-102 **EU:** EN 62311 **Australia:** Radiocommunications Standard 2003
EMI/RFI Radio Versions:	**USA:** FCC Part 15 **Canada:** RSS210 Class B **EU:** EN 301 489-1, 489-17
EMI/RFI Batch Versions:	**USA:** FCC Part 15 **Canada:** ICES 003 Class B **EU:** EN55022 Class B EN55024 **Japan:** CISPR 22, Class B **Australia:** AS3548
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

Warranty

The MC3100 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

The MC3100 is a true global product that is supported in all industrial countries. Please visit www.motorola.com/mc3100 for a complete list of supported countries.