



# THE MOTOROLA MC55N0 SERIES

## RUGGED WI-FI ENTERPRISE MOBILE COMPUTER FOR MANAGERS AND TASK WORKERS

### DRIVE PRODUCTIVITY AND EFFICIENCY INSIDE THE ENTERPRISE TO A NEW LEVEL

With the MC55N0 Series, managers and task workers who spend their days inside your company walls have everything they need to take instant action, anywhere in your facility — indoors and outside. When it comes to meeting the needs of your workforce, the MC55N0 excels, offering organizations in the U.S. and Europe the right level of features, the right level of rugged design and support for the most demanding business applications. The result? Workers in retail, hospitality, manufacturing, healthcare and government agencies can complete more tasks more accurately in less time, improving productivity and customer care.

### PURE BUSINESS ON THE INSIDE — SMART STYLING ON THE OUTSIDE

The MC55N0 Series is the perfect blend of form and function. The comprehensive capabilities allow workers to scan bar codes; snap pictures; view videos and access business critical applications. The compact

and lightweight mobile computer is easy to carry and easy to use, with a sleek design that is at home in front of customers.

### THE MOST RUGGED DESIGN YET IN THIS CLASS — PERIOD

The MC55N0 Series is built to last, giving workers a device they can count on and businesses a maximum return on investment (ROI). This rugged device is built for use inside your buildings as well as outdoor areas of your facilities — and our toughness tests prove it. The MC55N0 delivers outstanding performance, even after exposure to heat, cold, dust, water — and 1,000 consecutive tumbles in our rotating tumble drum. And all models can be sanitized with many common cleaners without harming the housing or the sensitive electronics, helping prevent the spread of bacteria when devices are shared.

### THE POWER TO HANDLE VIRTUALLY ANY APPLICATION

Give your workers the best in class mobile application performance, even for the most demanding multimedia applications. Packed with the latest in technology,

our powerful platform offers the most current mobile operating system for the enterprise, as well as the fastest processor and largest memory footprint in this device class. And the 802.11n radio substantially increases wireless bandwidth — so you can count on your wireless applications to perform just as well as applications running on a wired desktop computer.

## **CAPTURE THE DATA YOU NEED — WHEN AND WHERE YOU NEED IT**

Three scanner options let you pick the model that will deliver the best performance for your organization.

Our SE960 1D laser scan engine provides best-in-class performance for 1D bar codes, including near contact to medium range decoding of even the widest bar

code. And the two variants of our revolutionary SE4500 2D imager deliver true laser-like performance and omnidirectional scanning of both 1D and 2D bar codes.

The SE4500-SR offers the best range on medium and low density 1D and 2D bar codes.

The SE4500-DL is optimized for medium to high density bar codes in addition to the bar codes found on driver's licenses and other identification documents — ideal for border crossings as well as the healthcare and electronics industry.

And if you need to capture photos, videos, or documents in addition to bar codes, no problem — just add our high-resolution 3.2 MP autofocus color camera.

## **FEATURES**

### **HIGH-POWERED PLATFORM**

#### **MPA Motorola MAX MPA 2.0**



Our latest best-in-class standards-based technology architecture that provides numerous benefits

#### **Powerful microprocessor designed for mobility**

The Marvell® PXA320 @ 806 MHz provides best-in-class application performance coupled with ubiquitous mobility inside the enterprise — even on the most demanding multi-media applications

#### **The memory to support any application**

256MB RAM/1GB Flash and a user accessible microSD card slot with support up to 32GB provide the memory space required to enable robust performance for database and other processing intensive applications

#### **The most advanced mobile operating system for the Enterprise**

Microsoft's Windows® Mobile® 6.5 increases interoperability with existing enterprise infrastructure; enhances security features; provides a more flexible development platform; improves mobile messaging collaboration

#### **Protects your application investments**

Support for Motorola's Enterprise Mobility Developer Kit (EMDK) APIs preserves existing application investments by enabling easy and cost-effective porting of applications from other Motorola mobile computers

### **ADVANCED WIRELESS CONNECTIVITY**

#### **Works on virtually any wireless LAN**

The 802.11a/b/g/n quad-mode radio offers maximum WLAN bandwidth and throughput, improving application performance and availability; connects easily to any wireless LAN (WLAN) — 2.4 GHz and 5 GHz bands

#### **The most advanced Bluetooth functionality**

Bluetooth® v2.1 with EDR provides a wireless connection to more device types, including modems and printers; simplifies pairing; improves security; reduces power consumption; supports either Microsoft or Stonestreet stacks

### **GOVERNMENT GRADE SECURITY OVER VIRTUALLY ANY WLAN**



#### **Make sure only authorized users access your devices, your data and your network with Motorola MAX Secure**

Bring wired-line security to your wireless communications without impacting wireless performance through a multitude of security features, including: support for all the latest encryption and authentication protocols; compatibility with Motorola's Mobile Security Suite for device-level protection (device level firewall, intrusion prevention, enforced authentication, data encryption and integrity monitoring protect the data that is resident on and in transit to and from your MC55A0/MC55N0 devices); and compatibility with Motorola's Mobile Virtual Private Networks (MVPNs)

## THE INTELLIGENCE TO SENSE AND ACT ON THE ENVIRONMENT

Get real value with our business-class implementation of the accelerometer. We start with the typical ability to automatically switch the display between portrait and landscape modes based on device orientation, and build from there. Right out of the box, you can get the power saving functionality that helps ensure full shift operation on a single battery charge. With just a few clicks, you can configure the device to enter sleep mode if movement is not detected in a specified period of time, or if the display is face down. In addition, the MC55N0 automatically detects and logs drops, helping to increase worker accountability for device

condition. And the open architecture allows enterprises to integrate the accelerometer data into customized applications to improve the safety of technicians working in remote areas of your facility — and prevent device theft.

## THE MOTOROLA ADVANTAGE: WORLD CLASS PARTNERS SUPPORT

When you choose Motorola, our award-winning partner channel provides access to a best-in-class, broad set of ready-to-go and custom applications in your industry, minimizing deployment time and cost. No matter what help your business might need, we have a service that delivers. If you are implementing your first mobility solution, we can provide assistance at every stage —

## FEATURES (continued)

### THE MOST RUGGED DESIGN



**Motorola MAX Rugged for industry leading rugged design — and reliability**

#### Drop (impact) test

Multiple 6 ft./1.8 m drops per MIL-STD 810G

#### Tumble (endurance) test per IEC tumble specifications

Reliable operation after 1,000 1.6 ft./0.5 m consecutive tumbles (2,000 hits) in Motorola's tumble drum

#### IP64 sealing per IEC sealing specifications

Complete protection against dust and splashing liquids

#### Patented Monocoque 'unibody' housing

Greatly improves structural stability and ability to handle the twisting common in a fall or bump

#### Patented industrial-grade connector

Improves the reliability and durability of the accessory point of interface

#### Improved shock absorption for internal components

A rigid yet lightweight magnesium frame encases the main circuit board and all electronics

#### Rugged display construction

Space between display and touchscreen helps prevent damage to the display

### AUTOMATE THE CAPTURE OF VIRTUALLY ANY TYPE OF DATA

#### 101100 Motorola MAX Data Capture for advanced high-performance multi-mode data capture

Choose one of four bar code scanning options that can read even damaged and poor quality codes:

#### 1D Scanners

**SE960:** High performance 1D scanning — adaptive scanning maximizes the range and enables scanning of codes that are damaged or underneath shrinkwrap.

#### 2D Imagers

Motorola's SE4500 latest generation 2D imager offers unparalleled laser-like performance on both 1D and 2D bar codes and omnidirectional rapid-fire easy scanning — no need to align bar code and aiming pattern. Choose one of two options:

**SE4500-SR:** Optimized for low/medium density standard range scanning of 1D/2D bar codes

**SE4500-DL:** Optimized for medium to high density 1D/2D bar codes as well as the PDF bar codes found on driver's licenses and other identification cards — ideal for gate access and border crossings for identity management; patient wristbands and unit doses in healthcare point of care applications; and the high density codes common in the electronics industry

from planning and assessment through design, deployment and ongoing management and support. If you are adding new applications, we can help you identify whether your present wireless LAN can handle the increased load — as well as any other gaps that need to be addressed to ensure smooth deployment. Since even the most rugged devices require a support plan, Service from the Start with Comprehensive Coverage will keep your devices up and running at peak performance. 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.

## EMPOWER YOUR INDOOR WORKFORCE TO GET MORE DONE IN A DAY — WITH THE MOTOROLA MC55N0 SERIES

To find out how, visit [www.motorola.com/mc55N0](http://www.motorola.com/mc55N0) or access our global contacts directory at [www.motorola.com/enterprisemobility/contactus](http://www.motorola.com/enterprisemobility/contactus)

### FEATURES (continued)

#### High resolution camera

Add a 3.2 MP auto-focus flash-enabled digital color camera with user-controllable flash to capture photos, videos, documents with legible fine print and bar codes (for intermittent scanning applications)

#### BUSINESS-CLASS MOTION SENSING



##### **Motorola MAX Sensor for the intelligence to sense — and act — on motion**

Automatically rotates screen to match device orientation; automatically reverts to sleep mode when not in use to preserve battery power; landscape mode improves the display of data-intensive applications; enables utilization of sensor data in custom applications

#### ADVANCED ERGONOMICS

##### **Advanced sleek design for ease of use and user comfort**

Specifically designed for one-handed operation — data entry is easy regardless of hand size with minimal movement



##### **Crystal clear text and graphics with Motorola MAX Display**

3.5 inch extra-crisp PenTile® high-resolution color VGA touchscreen display is easy to view in virtually any lighting condition — indoors and outside; additional white pixel improves contrast; energy-efficient engineering delivers twice the brightness at half the power of typical displays

#### A family of keypads for global data entry flexibility

Numeric, QWERTY, AZERTY and QWERTZ support a wide range of applications all around the world

#### PRESERVE EXISTING ACCESSORY INVESTMENTS

##### **Backwards compatibility with all MC55 accessories**

Upgrade to the latest mobile technology advancements while preserving your existing accessory investments

#### EASY CENTRALIZED MANAGEMENT

##### **Easy global remote management of your devices — and their accessories**

Compatibility with Motorola's Mobility Services Platform (MSP) enables comprehensive and flexible centralized management of a broad range of mobile products and their attached peripherals, anywhere in the world, all from a single console

#### END-TO-END SUPPORT SERVICES

##### **Increase uptime and reduce support costs with all-inclusive support plan**

Optional Service from the Start with Comprehensive Coverage covers normal wear and tear as well as internal and external components damaged through accidental breakage for both device and select accessories

# SPECIFICATIONS CHART

AVAILABLE IN U.S. AND EUROPE

PHYSICAL CHARACTERISTICS	
Dimensions	With rechargeable 2400 mAh Lithium Ion battery: 5.78 in. L x 3.03 in. W x 1.06 in. D 147 mm L x 77 mm W x 27 mm D
Weight	11.1 oz./315 g (with rechargeable 2400 mAh Lithium Ion battery)
Display	PenTile® 3.5 in Color VGA, super bright 650+ NITS
Touch Panel	Glass analog resistive touch
Display Backlight	LED backlight
Standard Battery	Rechargeable Lithium Ion 3.7V, 2400 mAh Smart Battery
Extended Battery	Rechargeable Lithium Ion 3.7V, 3600 mAh Smart Battery
Backup Battery	Ni-MH battery (rechargeable) 18mAh 2.4V (not user accessible)
Expansion Slot	microSD slot (maximum 32GB)
Comm. Interface	USB 1.1 Host and Client
Notification	Audible tone plus multi-color LEDs, Vibrate
Keypad Options	Numeric, QWERTY, AZERTY and QWERTZ
Audio	Speaker, microphone, receiver (for handset mode use) and Bluetooth audio headsets
PERFORMANCE CHARACTERISTICS	
CPU	Marvell™ PXA 320 @ 806 MHz processor
Operating System	Microsoft® Windows Mobile® 6.5 Classic
Memory	256 MB RAM/1 GB Flash
USER ENVIRONMENT	
Operating Temp.	14° F to 122° F/-10° C to 50° C
Storage Temp.	-40° F to 158° F/-40° C to 70° C
Humidity	95% non-condensing
Drop Spec	Multiple 6 ft./1.8 m drops per MIL-STD 810G specifications
Tumble Spec	1000 1.6 ft./0.5 m tumbles (equivalent to 2,000 hits) per IEC tumble specifications
Sealing	IP64 per IEC sealing specifications
Clock	Integrated real time clock
Electrostatic Discharge (ESD)	15KV Air 8KV Touch
BATTERY PERFORMANCE	
User Profiles	Minimally 8 hours based on 600 scans and WLAN transmits per hour with display on and standard capacity battery
DATA CAPTURE OPTIONS	
Options	Multiple configurations available: 1D SE960 laser scanner; 2D SE4500-SR imager; 2D SE4500-DL imager; 3.2 megapixel color camera option available

COLOR CAMERA		
Resolution	3.2 megapixel	
Illumination	User controllable flash	
Lens	Auto focus	
1D LASER SCANNER (SE960)		
Optical Resolution	0.005 in. minimum element width	
Roll	± 35° from vertical	
Pitch Angle	± 65° from normal	
Skew Tolerance	± 40° from normal	
Ambient Light Immunity	Sunlight: 10,000 ft. candles (107,640 lux) Artificial Light: 450 ft. candles (4,844 lux)	
Scan Rate	104 (± 12) scans/sec (bidirectional)	
Scan Angle (typical)*	Wide: (Default) 47°; Medium: 35°; Narrow: 10°	
2D IMAGER ENGINE (SE4500-SR AND SE4500-DL)		
Sensor Resolution	752 H x 480 V pixels (gray scale)	
Roll	360°	
Pitch Angle	± 60° from normal	
Skew Tolerance	± 60° from normal	
Ambient Light	Total darkness to 9,000 ft. candles/96,900 lux	
Aiming Element (VLD)	655 nm ± 10 nm	
Illumination Element	625 nm ± 5 nm	
Field of View	Horizontal: 40°; Vertical: 25°	
Ranges		
<b>SR Focus Range</b>	Near	Far
5 mil Code 39:	2.1 in./53 mm)	7.5 in./191 mm
100% UPC/EAN:	1.6 in./41 mm)	15.5 in./394 mm
6.7 mil PDF417:	3.4 in./86 mm	7.1 in./180 mm
<b>DL Focus Range</b>	Near	Far
5 mil Code 39:	1.4 in./36 mm	7.3 in./185 mm
100% UPC/EAN:	1.6 in./41 mm	12 in./305 mm
5 mil PDF417:	2.8 in./71 mm	4.5 in./114 mm
WIRELESS LAN VOICE AND DATA COMMUNICATIONS		
Radio	Quad-mode IEEE® 802.11a/b/g/n	
Security	Legacy, WPA and WPA2 WEP (40 or 104 bit), TKIP and AES TLS, TTLS (MS-CHAP), TTLS (MS-CHAP v2), TTLS (CHAP), TTLS (MD5), TTLS (PAP), PEAP-TLS, PEAP (MS-CHAP v2), PEAP (EAP-GTC), EAP-FAST-TLS, EAP-FAST (MS-CHAP v2), EAP-FAST (EAP-GTC) and LEAP	
Antenna	Internal	
Data Rates Supported	802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps 802.11n: MCS0 to MSC7 up to 72.2 Mbps	
Operating Channels	Chan 36-165 (5180 – 5825 MHz), Chan 1-13 (2412-2472 MHz)	

## PRODUCT SPEC SHEET

### MC55N0 SERIES

#### WIRELESS PAN DATA

Bluetooth	Class II, v 2.1 Enhanced Data Rate (EDR); integrated antenna
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#### PERIPHERALS AND ACCESSORIES\*

Communication and Battery Chargers/Cradles	Charge only cable; auto charge cable; USB charge/sync cable; 4 slot battery charger toaster; 4-slot Ethernet cradle; 4-slot charge only cradle; single slot USB cradle; vehicle holder using auto charge cable; vehicle cradle with charging capabilities
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Vertical Specific Attachments	Snap-on magnetic stripe reader (MSR); snap-on trigger handle
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Soft Goods	Rigid and soft case holsters, Bluetooth headsets
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\* Visit [www.motorola.com/mc55n0](http://www.motorola.com/mc55n0) for a complete list of available peripherals and accessories

#### CLEANING INSTRUCTIONS

##### Approved Cleanser Active Ingredients:

100% of the active ingredients in any cleaner must consist of one or some combination of the following: isopropyl alcohol; bleach/sodium hypochlorite; hydrogen peroxide; mild dish soap

##### Harmful Ingredients:

The following chemicals are known to damage the plastics on the MC55N0 Series and should not come in contact with the device: ammonia solutions, compounds of amines or ammonia; acetone; ketones; ethers; aromatic and chlorinated hydrocarbons; aqueous or alcoholic alkaline solutions; ethanolamine; toluene; trichloroethylene; benzene; carboric acid and TB-lysoform.

##### Cleaning Instructions:

Do not apply liquid directly to the MC55N0 Series. Dampen a soft cloth or use pre-moistened wipes. Do not wrap the device in the cloth or wipe, but gently wipe the unit. Be careful not to let liquid pool around the display window or other places. Allow the unit to air dry before use.

##### Special Cleaning Notes:

Many vinyl gloves contain phthalate additives, which are often not recommended for medical use and are known to be harmful to the housing of the MC55N0 Series. The mobile computers should not be handled while wearing vinyl gloves containing phthalates, or before hands are washed to remove contaminant residue after gloves are removed. If products containing any of the harmful ingredients listed above are used prior to handling the MC55N0 Series, such as hand sanitizers that contain ethanolamine, hands must be completely dry before handling the MC55N0 Series to prevent damage to the plastics.

#### REGULATORY

Electrical Safety	Certified to UL 60950-1, second edition, CAN/CSA-C22.2 No. 60950-1-07, IEC 60950-1 Edition 2.0 2005-12, EN 60950-1:2006 + A11:2009
Environmental	RoHS-compliant

WLAN and Bluetooth (PAN)	<b>USA:</b> FCC Part 15.247, 15.407 <b>EU:</b> EN 300 328, EN 301 893
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RF Exposure	<b>USA:</b> FCC Part 2, FCC OET Bulletin 65 Supplement C <b>EU:</b> EN 50360: 2001 (Max average 10g SAR 0.472 W/Kg), EN 62311: 2008, EN 62209-1:2006, EN62209-2:2010, EN62479:2010
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EMI/RFI	<b>USA:</b> FCC Part 15, Class B <b>EU:</b> EN55022 Class B, EN 55024: 1998 + A1: 2001 + A2: 2003, EN 61000-3-2: 2006 (Class B), EN 61000-3-3: 2008, EN 50121-3-2: 2006, EN 50121-4: 2006, EN 301 489-1, EN 301 489-17, EN 60601-1-2, IEC 60601-1-2: 2007, (Modified)
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Laser Safety	IEC/Class 2/FDA II in accordance with IEC60825-1: (Ed 2.0)/EN 60825-1:2007
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#### WARRANTY

The MC55N0 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: Managed Device Service Support; Service from the Start with Comprehensive Coverage



**MAX**  
Rugged



**MAX**  
Secure



**MAX**  
Sensor



**MAX**  
Data Capture



**MAX**  
MPA



**MAX**  
Display



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