



# MOTOROLA MT2000 SERIES

A NEW BREED OF HANDHELD MOBILE TERMINALS

## THE INTELLIGENCE OF A MOBILE COMPUTER AND THE SIMPLICITY OF A SCANNER

The MT2000 Series represents another industry first from Motorola — the marriage of the simplicity of a scanner with the brainpower of a mobile computer and an ultra-ergonomic gun-style form factor. The result is a handheld mobile terminal, a highly flexible device capable of streamlining many scan-intensive business processes in a wide variety of industries — from the front to back door in manufacturing plants, retail establishments, warehouses, hospitals and more. The easy-to-use affordable mobile terminal offers a unique hybrid design, able to function as both a scanner and a mobile computer throughout the business day. The MT2000 Series can be utilized right out of the box as a scanner — either tethered to a point of sale (POS), laptop or other computing system — or as a standalone wireless mobile computer capable of enabling inventory and other scan-intensive applications anywhere in the enterprise.

## FLEXIBLE DEPLOYMENT MODES — WIRELESS, CORDLESS, CORDED AND BATCH

Two models provide the flexibility to meet a wide variety of business needs — the MT2090 and the MT2070. The MT2090 offers integrated 802.11a/b/g for real-time direct application connectivity anywhere in your environment, ideal for put-away and picking in the retail backroom and warehouse aisles to material tracking, quality control and error-proofing on the manufacturing floor. Both models offer integrated Bluetooth® for a convenient cordless connection to a host device up to 300 feet (91.44 m) away — such as a Point-of-Sale (POS) or workstation. The MT2000 Series can operate in real-time or batch mode, increasing application flexibility. And regardless of whether the device is connected to your wireless LAN or to a host device, support for the latest wireless security protocols keeps your data safe — and helps ensure compliance with PCI and other government regulations.

## FEATURES

**Comprehensive connectivity options — including wireless, cordless and corded**  
802.11a/b/g connectivity provides complete wireless freedom throughout your facility; Bluetooth enables wireless connectivity as far as 300 feet (91.44 m) away from a Bluetooth-enabled host device; USB and RS-232 provides a flexible corded connection to host devices

**Comprehensive data capture options — 1D, 2D and images**  
Eliminates the need to purchase multiple devices to capture different types of data — today and in the future

**Superior 1D laser scanning technology**  
First time rapid capture of even damaged and poor quality bar codes for all 1D codes over a large working range — from 1 in./2.54 cm to as far as 192 in./487.68 cm

#### A new standard for 2D imaging

Aggressive performance on 1D and 2D bar codes plus the ability to capture signatures, still photos and video; omnidirectional 1D and 2D bar code scanning improves productivity by eliminating the need to align scanner and bar code

#### Windows CE 5.0 operating system

Easy to scale and highly reliable industry-standard open architecture

#### Pre-loaded MCL client

Provides the platform independence required to easily connect to legacy applications as well as develop new ones

#### Forward-scanning pistol grip

Easy-to-grip well-balanced design; reduces fatigue in scan-intensive environments for full shift comfort

#### Rugged design

A 6 ft./1.8 m drop specification plus a tumble specification of 500 3.2 ft./1 m drops (250 tumbles) and IP54 sealing combine to help ensure reliable operation in spite of everyday drops, bumps and exposure to dust and liquids

#### Government grade security with Motorola MAX Secure

FIPS 140-2 certification enables compliance with the most stringent industry security regulations, including HIPAA, PCI and requirements for sensitive government applications\*

#### Compatible with Motorola's Mobility Services Platform (MSP)

Provides complete centralized management capabilities, including the ability to stage, provision, monitor and troubleshoot all MT2090 devices from a single remote location; dramatically simplifies and reduces the time and cost of day-to-day device management

### COMPREHENSIVE DATA CAPTURE

The MT2000 Series is loaded with advanced data capture capabilities. Choose the scan engine that best meets your bar code scanning requirements — a 1D laser scanner or 2D imager, both delivering Motorola's signature performance. The 1D laser scanner offers an extraordinary range, able to capture even damaged and poor quality bar codes from as close as one inch/2.54 cm to as far as 192 inches/487.68 cm away. The industry-leading 2D imager provides the flexibility to capture 1D and 2D bar codes as well as signatures, images and video. In addition, the world-class 2D imager re-sets the bar for imaging technology, providing extraordinary scan speeds on both 1D and 2D bar codes — eliminating the need for businesses to sacrifice scanning performance for 2D capability.

### INDUSTRY-LEADING ERGONOMICS

The MT2000 Series exemplifies Motorola's expertise in industrial design. The handle-forward design balances easily in the hand and combines with a gun form factor, bringing all day comfort to even the most scan-intensive applications. The shiftable alphanumeric keypad helps ensure easy data entry — regardless of whether your applications require primarily numeric or text-based entry — or both. And soft keys enable the completion of a wide range of actions with the single press of a button.

### EXTENSIVE APPLICATION FLEXIBILITY

The industry standard MicrosoftNet Framework development environment enables the easy creation of new applications. In addition, porting existing batch and real-time applications developed for Motorola's mobile computers and scanners, such as the Phaser, is virtually effortless — the new MCL Designer Software (optional) includes a built-in legacy application converter, and the MCL client is pre-loaded on the MT2000 to easily port new applications. The result is a cost-effective migration path that allows enterprises to upgrade to the latest mobile device technology to further improve workflow automation and employee productivity — while preserving existing application investments.

### MOTOROLA'S SIGNATURE RUGGED DESIGN FOR MAXIMUM RELIABILITY

This entry level value-priced mobile terminal offers the same drop specification as Motorola's high-end rugged devices — a 6 ft./1.8 m drop test performed across the entire operating temperature range. You get reliable performance whether the device is dropped at room temperature on carpet or tile — or out on the loading dock and in outdoor shopping areas in extreme winter cold or summer heat. While the drop specification defines the maximum survivable impact height, the tumble test defines endurance — the MT2000 Series experienced no degradation in performance after 250 tumbles in a rotating drum, which subjects the device to 500 consecutive 3.2 ft./1 m drops. And IP54 sealing provides dependable operation in spite of exposure to dusty environments or splashing liquid, such as a beverage spill.

### PROTECT YOUR DATA WITH GOVERNMENT GRADE SECURITY

Native FIPS 140-2 Level 1 certification\* brings government grade security to businesses and government agencies alike, providing easy and cost-effective compliance with HIPAA, PCI and other industry security regulations.

### A RAPID RETURN ON INVESTMENT (ROI) — AND A LOW TOTAL COST OF OWNERSHIP (TCO)

With the MT2000 Series, you can count on an exceptional ROI and TCO. The multi-function hybrid device eliminates the need to purchase separate bar code scanners and mobile computers, greatly reducing capital and operational costs. Motorola's flagship mobile device management solution, Mobility Services Platform (MSP), minimizes the most expensive aspect of any mobility solution — day-to-day management of mobile devices. MSP provides extraordinary centralized control, allowing IT to remotely stage, provision, monitor and troubleshoot devices — regardless of where in the world they are located. And since even the most rugged devices need a support plan, Service from the Start with Comprehensive Coverage sets the standard for post-deployment support by including normal wear and tear as well as accidental damage to internal and external components. Employee uptime is protected while unforeseen repair expenses are reduced.

For more information on how you can leverage the power of the MT2000 Series in your enterprise, please call us toll-free (800) 643-2664.

# SPECIFICATIONS CHART

## PHYSICAL CHARACTERISTICS

Dimensions	7.8 in H x 3.1 in. W x 5.0 in. D 19.8 cm H x 7.8 cm W x 12.7 cm D
Weight	13.5 oz/378 gm
Display	320 X 240 QVGA color graphic display
Battery	2400 mAh Li-Ion @3.7Vdc
Communication Interface	USB 2.0 Host and RS-232
Keypad	21-key single stroke numeric and shifted alpha, 4-way navigation button with 2 soft keys for application control
Color	Dark Gray

## PERFORMANCE CHARACTERISTICS

CPU	IntelXScale PXA270 @312MHz
Operating System	Microsoft Windows CE 5.0
Memory	64MB/64MB
Application Development Environment	Microsoft Windows client CE EMDK; Motorola EMDK; MCL Designer V 3.0 (MCL Client pre-loaded on both the MT2070 and the MT2090; pre-licensed on the MT2070 only)

## USER ENVIRONMENT

Operating Temperature	-4° to 122° F/-20° TO 50° C
Storage Temperature	-40° to 160° F/-40° TO 70° C
Humidity	5% to 95% non-condensing
Drop Specification	6 ft./1.8 m drop to concrete over the operating temperature range
Tumble Specification	250 3.2 ft./1 m tumbles (500 drops)
Environmental Sealing	IP54
ESD	±15kVDC air discharge, ±8kVDC direct/indirect discharge
Ambient Lighting Tolerance	Tolerant to typical artificial indoor and natural outdoor (direct sunlight) lighting conditions. Fluorescent, Incandescent, Mercury Vapor, Sodium Vapor, LED 450 Ft Candles (4,844 Lux) Sunlight: 8000 Ft Candles (86,111 Lux)

## DATA CAPTURE OPTIONS

Options	4 configurations: 1D Laser, 1D/2D Imager, 1D/2D HD Imager, DPM Imager
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## SYMBOLGY DECODE CAPABILITY

1D	UPC/EAN (UPCA/UPCE/UPCE1/EAN-8/EAN-13/JAN-8/JAN-13 plus supplements, ISBN (Bookland), Code 39 (Standard, Full ASCII, UCC/EAN-128, ISBT-128 Concatenated), Code 93, Codabar/NW7, MSI Plessey, I 2 of 5 (Interleaved 2 of 5 / ITF, Discrete 2 of 5, IATA, Chinese 2 of 5), GS1 DataBar (Omnidirectional, Truncated, Stacked, Stacked Omnidirectional, Limited, Expanded, Expanded Stacked, Inverse), Base 32 (Italian Pharmacode)
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2D	TLC-39, Aztec (Standard, Inverse), Maxicode, DataMatrix/ECC 200 (Standard, Inverse), QR code (Standard, Inverse, Micro)
PDF417	PDF417 (Standard, Macro), Composite Codes (CC-A,CC-B,CC-C)
Postal	U.S. Postnet and Planet, U.K. Post, Japan Post, Australian Post, Netherlands KIX Code, Royal Mail 4 State Customer, upu fics 4 State Postal, USPS 4CB

## SECURITY CERTIFICATION

Certified compliant with FIPS 140-2 (available on MT2000 Series Bluetooth-enabled mobile terminals)

## WIRELESS LAN DATA COMMUNICATIONS

Radio	Tri-mode IEEE 802.11a/b/g
Output Power	100mW US and international
Antenna	Internal
Data Rates Supported	802.11b – 11MBPS; 802.11a – 54MBPS; 802.11g – 54MBPS
Frequency Range	Country dependant: typically 2.4 to 2.5 GHz for 802.11b/g and 5.15 to 5.825GHz for 802.11a

## CORDLESS DATA COMMUNICATIONS

Bluetooth	2.4Ghz class I radio – 300 feet (91.44 m) open air
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## PERIPHERALS AND ACCESSORIES

Cradles	Single slot charge only cradle, Single slot multi-interface with Bluetooth cradle, Single slot charge only fork lift cradle, 4-slot charge only cradle, 4-slot Ethernet cradle
Chargers	Four slot battery charger
Other Accessories	Belt holster, desk cup, Intellistand
Printers	Supports Motorola approved 3rd party printers

## REGULATORY

Electrical Safety	Certified to UL60950-1, CSA C22.2 No. 60950-1, EN60950-1
EMI/RFI	North American: FCC Part 2 (SAR), FCC Part 15 Subpart B - Class B, RSS210, EU: EN 301-489-1, 489-17
Laser Safety	IEC Class 2/FDA Class II in accordance with IEC60825-1/EN60825-1

## WARRANTY

The MC2000 Series is warranted against defects in workmanship and materials for a period of 36 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
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1 - LED lighting with high AC ripple content can impact scanning performance

See Decode Zone charts on back

## High resolution high contrast color QVGA display

Easy to view regardless of lighting — from bright sunlight to dimly lit warehouses

## 21-key enhanced keypad

Shifted alphanumeric functionality simplifies data entry; soft keys enable design of easy-to-use applications with a highly intuitive interface

## Tempered glass exit window

Resists scratching and increases device lifecycle

## Microsoft .NET development environment

Provides application flexibility: easily develop new applications as well as port existing applications to the MT2000

## Optional Intellistand

Increases application flexibility by providing a hands-free mode

## Multiple indicators: beeper mode, pager mode and LEDs

Provides dependable user feedback in a wide range of environments

MT2000 SERIES TYPICAL DECODE RANGES (TRIGGER MODE)

Label Density	Depth of Field	
	English	Metric
<b>MT 2070/2090-SL (Standard Range Laser)</b>		
Code 39 - 4 mil	0.10 - 2.80 in.	0.254 - 7.112 cm
Code 39 - 5 mil	0.20 - 5.30 in.	0.508 - 13.462 cm
Code 39 - 7.5 mil	0.50 - 10.40 in.	1.27 - 26.416 cm
UPC 100% - 13 mil	0.20 - 21.90 in.	0.508 - 55.626 cm
Code 39 - 20 mil	** - 29.10 in.	** - 73.914 cm
Code 39 - 40 mil	** - 42.10 in.	** - 106.934 cm
Code 39 - 55 mil	** - 51.20 in.	** - 130.048 cm
<b>MT 2070/2090-ML (Medium Range Laser)</b>		
Code 39 - 5 mil	0.10 - 11.80 in.	0.254 - 29.97 cm
Code 39 - 7.5 mil	0.10 - 18.20 in.	0.254 - 46.23 cm
UPC 100% - 13 mil	0.20 - 26.30 in.	0.508 - 66.80 cm
Code 39 - 20 mil	0.20 - 46.10 in.	0.508 - 117.09 cm
Code 39 - 40 mil	** - 95.00 in.	** - 241.30 cm
Code 39 - 55 mil	** - 100.00 in.	** - 254.00 cm
Code 39 - 100 mil	** - 192.00 in.	** - 487.68 cm
<b>MT 2070/2090-SD (Imager Standard Range)</b>		
Code 39 - 5 mil	1.20 - 6.30 in.	3.048 - 16.002 cm
Code 39 - 7.5 mil	0.20 - 10.60 in.	0.508 - 26.924 cm
UPC 100% - 13 mil	** - 15.40 in.	** - 39.116 cm
Code 39 - 20 mil	** - 23.20 in.	** - 58.928 cm
PDF - 6.67 mil	2.50 - 6.10 in.	6.35 - 15.494 cm
PDF - 10 mil	0.70 - 9.60 in.	1.778 - 24.384 cm
PDF - 15 mil	** - 14.20 in.	** - 36.068 cm
<b>MT 2070/2090-HD (Imager High Density Range)</b>		
Code 39 - 3 mil	0.50 - 2.90 in.	1.27 - 7.366 cm
Code 39 - 5 mil	0 - 4.10 in.	0 - 10.414 cm
Code 39 - 7.5 mil	0.10 - 5.50 in.	0.254 - 13.97 cm
UPC 100% - 13 mil	0.60 - 6.10 in.	1.524 - 15.494 cm
Code 39 - 20 mil	** - 10.30 in.	** - 26.162 cm
PDF - 4 mil	0.80 - 2.60 in.	2.032 - 6.604 cm
PDF - 5 mil	0.50 - 3.00 in.	1.27 - 7.62 cm
PDF - 6.67 mil	0.20 - 3.60 in.	0.508 - 9.144 cm
PDF - 10 mil	0.40 - 4.50 in.	1.016 - 11.43 cm
PDF - 15 mil	** - 5.90 in.	** - 14.986 cm

\*\* Near decode distance is limited by the field of view  
Decode distances are measured under ambient light of 35 (±5) foot-candle in the plane of the farthest bar code.

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