



# Motorola FR68

## Enterprise Mobile Computer



### FEATURES

**Business-essential ruggedness**  
Withstands tough use in variety of environments.

**Industry-leading drop test, IP54 sealing and integrated antennas**

Lightweight yet rugged, with 3 ft / 0.91 m drop to concrete. Built for year-round use in nearly any environment.

**3.5G WWAN HSDPA broadband support**

High performance wireless broadband voice and data anywhere in the world

- Connection to most carriers worldwide

- Best in class cellular broadband throughput with up to 3 Mbps download

- Integrated voice and data services: allows workers to conduct a phone call while maintaining a data connection (where supported by carrier)

### Rugged, compact and great value

The Motorola FR68 elevates the standard for best value pocket-sized enterprise mobile computers with converged voice and data services. This compact and light weight device incorporates a 3.5G mobile phone, GPS with superior sensitivity and tracking capabilities, 1D barcode scanner, high resolution auto-focus color camera, 3.5G wireless WAN (WWAN), wireless LAN (WLAN), wireless PAN (WPAN) and IrDA connectivity ñ all in a single device.

The Motorola FR68 is the ideal partner for mission critical mobile business applications. The device is built on the Microsoft Windows MobileÆ 6.1 computing platform. Equipped with a wide 3.5G bandwidth, the Motorola FR68 has the capability to manage data, voice, video and auto-id capture. The Motorola FR68 has been designed to grow as your business grows. A user-accessible microSD slot enables upgrades for storage and third party accessories. With industry standard IP54 sealing and rugged drop specifications, the Motorola FR68 will thrive on the wear and tear of daily use, whether in retail, field sales, field force automation, track and trace, logistics, transportation and fleet management, public safety or health care. With the Motorola FR68, your business continues running as your mobile workers are always connected, regardless of whether they are inside or outside the four walls of your enterprise. With an incredible range of enterprise class features in a highly compact, yet rugged form factor the Motorola FR68 provides enterprises with a low total cost of ownership (TCO).

### Standards-based, high performance and strong return on investment

Enterprises deploying the Motorola FR68 on a global scale will find that implementation can be simplified, reducing complexity and service requirements. Built on industry standards, a diverse range of mobility solutions is also made possible on the Motorola FR68. Incorporating the Marvell PXA312 624 MHz Processor technology, and built for high performance, the Motorola FR68 provides workers with a single device for worldwide 3.5G voice and data services.

Reducing deployment complexity lowers capital and operational costs while increasing performance productivity. This way, the Motorola FR68 delivers strongly in terms of return on investment. Powered by the Microsoft Windows MobileÆ 6.1 Professional operating system, the Motorola FR68 can also be easily managed by Microsoft System Centre Mobile Device Manager\*.

\*optional

## FEATURES

### WLAN: 802.11 b/g

Reliable and cost-effective data connectivity within the enterprise.

### WPAN: Bluetooth® v2.0

Wireless connectivity to modems, printers, headsets and more; provides improved security and additional profiles for expanded connectivity to more device types. In order for Bluetooth devices to communicate with one another, they must utilize the same Bluetooth profile.

### 1D Laser Scanner (SE955)

Optimal for scan intensive operations. Vibrate alert mode ideal for noisy environment.

### 3.2 megapixel auto-focus flash-enabled color camera designed to meet the needs of enterprise class applications

- Autofocus provides superior image quality and provides greater application flexibility
  - including document capture
- User controllable LED flash enables workers to activate or de-activate the flash as needed
- Captures half and full page documents with ease

### Diverse variety of applications

Large number of third party applications available on the Windows Mobile platform.

### Powerful microprocessor designed for mobility:

Marvell PXA312 624 MHz desktop-like multimedia performance with lower power requirements.

### Microsoft® operating system: Windows Mobile® 6.1 Professional

Increased interoperability with existing enterprise infrastructure, enhanced security features, more flexible development platform; improved mobile messaging collaboration.

### Industry standard for mobile management

Microsoft System Center Mobile Device Manager.

## Versatile and feature packed, designed to support a wide range of applications

When your enterprise deploys the Motorola FR68, you put the combined capabilities of a mobile phone with GPS, laptop computer, camera and barcode scanner at your employees fingertips. Robust mobile voice communications enable users to place individual phone calls and internet accessibility on the Motorola FR68 allows employees the use of many of the key business functions of their laptop from email to messaging, and access to business systems.

The 3.2 megapixel auto-focus color camera enables full or half document capture as well as signature capture with optical character recognition (OCR) capabilities. Color photographs and video also enable a host of functions essential for different industries. For example, delivery personnel can photograph damaged shipments; retail personnel will be able to capture and verify the condition of returned items. Pre-sales and van sales staff can use video to demonstrate promotions and products. Transport officers can capture damage assessments and public safety officers can capture violations.

The onboard barcode scanner also enables a wide range of on-the-spot applications that streamline processes and improve customer service. For example, workers in a retail store can instantly check pricing and stock for a customer by reading the barcode on a shelf or product tag and this reduces wait time for a customer and increases customer satisfaction.

Dispatch drivers can identify parcels and packages and provide real time status updates on their deliveries. Pharmaceutical sales associates can scan barcodes on medication samples and capture the physician's signature to quickly and cost-effectively meet regulatory requirements.

### Tough, rugged, anywhere, anytime

Today's mobile workforce requires a converged, well-styled, compact and ergonomic, yet rugged device. The Motorola FR68 has all these characteristics providing outstanding total cost of ownership (TCO). The Motorola FR68 is built to withstand demanding operating environments and is engineered to withstand multiple drops, a wide range of temperature, moisture and dust, and still deliver reliable performance everyday.

Internal WWAN, WLAN and WPAN radios ensure an aesthetically pleasing design whilst maintaining the integrity and durability of the device, and enabling superior connectivity. Industrial-grade connectors are employed to withstand repeated connection of headset jacks and charging cables throughout every business day. The Motorola FR68 keypad is rated to a minimum of a million key presses, the touch screen to a million taps and 300 thousand strokes, to ensure the Motorola FR68 delivers dependable performance even with heavy daily use.

### Featuring the latest operating system for enterprise needs

Built on Microsoft Windows Mobile® 6.1 Professional, the Motorola FR68 offers significant business advantages. Microsoft Windows Mobile® 6.1 has been designed to support mobile applications and data access. It features significant enhancements such as a comprehensive set of security policies, industry leading, government and industry approved security and encryption protocols, central device management, inventory and reporting; and an unrivaled platform for deploying and developing mobile applications.

## Expandable storage and operation time

An integrated microSD slot ensures the Motorola FR68 is expandable, making the device flexible enough to meet the demands of your enterprise today and tomorrow. Mobile workers can easily add new functionality and applications, such as expanded storage or support of third party accessories such as RFID readers.

An optional large capacity battery enables extended operation times for this business essential device and critical for workers in the field.

## Asian Language Localization

In addition to the standard English language operating system, the Motorola FR68 offers Microsoft Windows Mobile® 6.1 in Japanese, Korean, Simplified and Traditional Chinese. The Motorola FR68 offers these localized Asian language keypad interfaces for highly productive data entry.

## The Motorola advantage

When you choose the Motorola FR68, you enjoy the advantages of a world-class partner ecosystem, management solutions and service offerings. Our award-winning partner program offers a best-in-class, broad set of applications from our partner ecosystem. The Motorola value proposition also includes a long product life cycle, protecting your investment and software application base.

To keep your business always-on and at optimum performance levels, Motorola offers Service from the Start with Comprehensive Coverage. Experience a new standard of service from the very first day of your hardware purchase.

While the Motorola FR68 is a rugged device, accidents may happen; hence Service from the Start with Comprehensive Coverage extends beyond normal wear and tear repair coverage to include accidental breakage such as cracked plastics, broken screens, keypads and more.

Comprehensive Coverage is built into your Service from the Start contract for the Motorola FR68 and providing more service at a lower annualized price than a standard service contract. This enhanced level of coverage virtually eliminates surprise repair costs, helps to lower your total cost of ownership, protects your investment and productivity and provides service peace of mind. However, the Motorola FR68 is currently only available in Asia-Pacific until further notice.

For more information on how your enterprise can benefit from the Motorola FR68, visit us on the web at [www.motorola.com/fr68](http://www.motorola.com/fr68).

# Motorola FR68 Specifications

## Physical Characteristics

Dimensions:	5.57 in. L x 2.59 in. W x 0.93 (1.06) in D 141.5 mm L x 65.9 mm W x 23.5 (27) mm D
	Depth is 23.5 mm with a 1950 mAh battery and 27mm with a 3600 mAh battery
Weight (including standard battery):	Standard 1X battery: 8.89 oz./ 252 g Standard 1.5X battery: 9.88 oz./ 280 g
Display:	Transflective color 2.8i full QVGA with backlight, 320x240
Touch Panel:	Glass analog resistive touch
Backlight:	LED backlight
Main Battery:	Rechargeable Lithium Ion 3.7V, 1950 mAh Battery
Ext. Cap. Battery:	Optional 3.7V, 3600 mAh Battery
Backup Battery:	Lithium battery (rechargeable) 25mAh 3V (not user-accessible)
Expansion Slot:	microSD slot (SDHC compliant)
Notification:	Vibrate and LED
Keypad Options:	52-key Qwerty in English, Japanese, Korean, Simplified Chinese and Traditional Chinese
Audio:	Speaker, receiver, microphone, headset jack, software support for full duplex record and playback (mono)

## Performance Characteristics

CPU:	Marvell PXA312 624 MHz processor
Operating System:	Microsoft Windows Mobile® 6.1 Professional
Memory:	128MB RAM; 256MB Flash
Interface:	RS232, USB 2.0 client

## User Environment

Operating Temperature	14 F to 104 F/-10 C to 40 C
Storage Temperature:	-22 F to 140 F/-30 C to 60 C (w/o battery)
Humidity:	90% non-condensing
Drop Spec:	3 ft. drop to concrete, 1 drop per 6 sides over operating temperature range
Tumble Specification:	150 x 0.5 m tumbles (300 drops)
Sealing:	IP54
IrDA:	Integrated
Clock:	Integrated real time clock
Light Immunity:	Readability: Incandescent n 450 ft. candles; Sunlight o 8000 ft. candles; Fluorescent: 450 ft. candles
Electrostatic Discharge (ESD):	±12kV air discharge, ±8kV direct discharge

## Battery Performance

Standby time:	1X battery: 85 hours; 1.5X battery: 150 hours
Talk time:	1X battery: 3 hours; 1.5X battery: 5 hours

## Wireless WAN Data and Voice Communications

WWAN Radio:	EDGE or HSDPA
GPS:	Integrated Assisted-GPS (A-GPS)

## Wireless LAN Data and Voice Communications

WLAN Radio:	Dual-mode IEEE® 802.11b/g
Data Rates Supported:	1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps (average 12Mbps)
Operating Channels:	Channels 1-13 (2412-2472 MHz) Channels 14 (2484 MHz) Japan only  Actual operating channels/frequencies depend on regulatory rules and certification agency
Security:	WPA2, WEP (40 or 128 bit), TKIP, TLS, PEAP-TLS, PEAP (MS-CHAP v2), AES, LEAP (TTLS not supported)
Spreading Technique:	Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM)
Antenna:	Internal for LAN, External for WAN

## Wireless PAN Data and Voice Communications

Bluetooth:	Class II EDR, v 2.0; on-board chip antenna
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## Data Capture Specifications

Options:	1D laser scanner. Typical range on a 13 mil: 100% UPC - 90% MRD: 1.5 - 24 (in) / 3.81 - 60.96 (cm)
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## Color Camera

Resolution:	3.2 megapixel
Illumination:	User controllable flash
Lens:	Auto focus

## 1D Laser Scanner

Range on 100% UPCA:	13 mil: 100% UPC - 90% MRD: 1.5 - 24 (in) / 3.81 - 60.96 (cm)
Resolution:	4 Mil minimum element width
Roll:	Condition: 100% UPC at 5 in. ± 35 from vertical
Pitch Angle:	Condition: 100% UPC at 5 in. ± 65 from normal
Skew Tolerance:	Condition: 100% UPC at 5 in. ± 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 (typical) / 35 ± 3 (narrow)

## FEATURES

**128MB RAM/256MB Flash**  
Generous memory space to enable robust performance for a wide range of applications.

**Assisted GPS radio**  
Supports a wide range of value-add location-based services and applications.

**QVGA color screen**  
Easy to view in any lighting; supports display of high resolution images including video and maps.

**Touch screen and optional keypad functionality**  
Allows multiple data input methods to maximize application functionality and serve user preference. Support for Asian language keypads.

**Multiple voice modes: Handset, headset and speaker phone**  
Versatile - able to use the right mode at the right time. Flexible voice communication options to meet the needs of any business environment.

**IrDA**  
Connectivity to legacy printers and other business equipment.

**User accessible microSD slot (SDHC compliant)**  
Provides additional memory and expandable functionality.

**Battery options**  
Choice of standard capacity or extended capacity batteries.

**Comprehensive accessory suite**  
The Motorola FR68 incorporates its own accessory suite and re-uses the MC75 battery and cradle offerings.

**Backwards compatible with MC75 charging cradle**  
Provides protection for existing investments.

# Motorola FR68 Specifications

## Motorola FR68 Accessories

- Single Slot Serial/USB charging cradle with a bay for spare battery charging.
- Cradle adaptor clip - adapts FR68 mobile computer to the cradle.
- 4-Slot Battery Charger "Toaster" Kit. Charges spare standard capacity batteries.
- Hands free headset (earbud).
- Screen protector for 2.8" QVGA display, pack of 3.
- Spare stylus, pack of 3.
- Standard capacity spare battery 1900 mAh and battery cover door.
- Large capacity spare battery 3600 mAh and battery cover door.
- Auto Charge/Cigarette Lighter Adapter Cable.

## Peripherals and Accessories\*

Cradles:	Single slot USB/Serial cradle
Battery Chargers:	4-slot battery charger
Electrical Safety:	Certified to UL / cUL 60950-1, IEC / EN60950-1 EMI/RFI: USA: FCC Part 15; Canada: ICES 003 Class B; Europe: EN55022 Class B, EN 55024, EN 60601-1-2; Australia: AS/NZS CISPR 22
	For countries outside of USA, Canada, European Economic Area, Japan or Australia consult your local Motorola representative.
	For a complete list of FR68 Peripherals and Accessories, please visit <a href="http://www.motorola.com/fr68">www.motorola.com/fr68</a>

## Regulatory

Electrical Safety:	Certified to UL / cUL 60950-1, IEC / EN60950-1
Environmental:	RoHS-compliant
WLAN and Bluetooth:	USA: FCC Part 15.247 EU: EN 300 328 Japan: ARIB STD-T33, ARIB STD-T66, ARIB STD-T71 Australia: AS/NZS 4268

## Quad Band GSM/ EDGE, plus Tri-band HSDPA

Global:	3GPP TS 51.010, 3GPP TS 34.121 USA: FCC Part 22, Part 24 EU: EN301 511, EN301 908 Australia: AS/ACIF S042
RF Exposure:	RF Exposure: USA: FCC Part 2, FCC OET Bulletin 65 Supplement C EU: EN 50360 Australia: Radiocommunication Standard 2003
EMI/RFI:	North America: FCC Part 15, Class B EU: EN55022 Class B, EN 301 489-1 EN 301 489-7, EN 301 489-17, EN 301 489-19, EN 301 489-24, EN 60601-1-2 Australia: AS/NZS CISPR-22
Laser Safety:	IEC Class2/FDA Class II in accordance with IEC60825-1/EN60825-1

## Accessories



• Single Slot Serial/USB charging cradle with a bay for spare battery charging.



• Cradle adaptor clip

• 4-Slot Battery Charger "Toaster" Kit. Charges spare standard and high capacity batteries.



• Standard capacity spare battery 1900 mAh 3600 mAh



• Auto Charge/Cigarette Lighter Adapter Cable



• Hands free headset (earbud)



• Spare stylus, pack of 3



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The Motorola FR68 is only available in Asia-Pacific except Japan.

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