ZQ511/ZQ521 Mobile Printers

Exceptional durability and reliability for the toughest environments

Zebra's ZQ500 Series just got tougher. The premium ZQ511 and ZQ521 printers—both available in RFID models—give you best-in-class, rugged mobile printing for applications in any industry. Experience ultimate durability. Engineered for tough, demanding indoor and outdoor conditions, these printers can withstand significant drops, tumbles, accidents and environmental extremes that are common in mobile workplaces. Additional features, enhanced durability and military-grade design mean this printer will work as hard as you do.

Print it All: Receipts, RFID tags, Labels and Linerless

Optimized for on-demand receipt printing in 3 in./72 mm and 4 in./104 mm print widths, the ZQ511 and ZQ521 printers also print a variety of labels including UHF RFID tags for all your tracking needs. Zebra leads the industry in RFID mobility with mobile printers as part of its comprehensive RFID portfolio, helping you reduce errors and print and encode RFID labels on the go.

Tough. Reliable. Built to Endure.

The Most Rugged Printers on the Market
You need a mobile printer that can handle serious abuse. Designed and certified to meet MIL-STD 810G for drop and shock, and tumble tested per the IEC68-2-32 spec to handle 1300 tumbles from 3.3 ft./1 m, the ZQ511 and ZQ521 printers can withstand more than the average mobile printer.

Protection from solid and liquid ingress is no problem with an IP54 rating right out of the box without the need for a protective case.

If this isn't enough to convince you that these are ultra-rugged mobile printers, we also offer an optional exoskeleton case that increases our standard drop testing from 6.6 ft. to 10 ft. and improves the IP rating to IP65.

Built to Last
New over-molding helps increase the longevity and keeps your ZQ500 Series looking good over the life of the printer.

On-the-Go Power, Functionality and Premium Performance

Get All the Benefits of Linerless Media
Eliminate waste and improve your company's green initiative with linerless printing. Linerless media also allows your workforce to spend less time disposing waste and more time on the task at hand—improving your workforce productivity. And, since there are more labels on a roll, there are fewer rolls of media to carry and fewer media roll changes.

Optimize Your Printing Quality and Power
Consistent outstanding print quality and performance are key. New printhead and print mechanism, as well as new processor and added memory, deliver it. Keep your employees on task and on schedule with the ZQ500 Series' secondary Bluetooth® communication channel. Send print jobs to the printer via one channel, while a second channel performs additional functions such as device management.

Boost print speeds (5+ inches-per minute) with the "draft mode" feature for text-only printing. Do more on a single battery charge with Zebra's patented Power Smart Print Technology™ that delivers the exact amount of power required for the highest quality printing. And, experience consistently sharp print quality—even in hot and cold temperatures—with enhanced temperature compensation.

Power Your Team to Do More
The ZQ511 and ZQ521 printers' high-capacity 3250 mAh PowerPrecision+ battery powers your team—even during the longest shift. The printer also conserves battery life by entering sleep mode when not in use, then automatically wakes up when a print job is sent.

Stay Connected Everywhere
With support for 802.11ac Wi-Fi™ and its latest security protocols, plus Bluetooth® Classic and Low Energy, your workers can count on blazing fast and secure connections. Use the dual radio to simultaneously operate 802.11ac and Bluetooth for added connectivity.

Easy to Operate and Manage

No Manual Needed
ZQ500 Series printers are designed for anyone to use. The simple user interface prevents accidental printer setting changes. Large buttons increase accuracy for gloved hands and fingers. Easy media loading cuts time spent changing supplies.

Zebra Print DNA – Your Printers' Built-In Advantage
Print DNA's suite of software capabilities leverages everything we've learned about technology, users and thousands of use cases. Stay a step ahead with remote management tools, heightened security, and ongoing updates, so your ZQ500 Series mobile printers work at their highest potential.

Zebra Print DNA tools and applications help you effortlessly customize and integrate print apps for multiple environments and infrastructures. Your rollouts are accelerated with an easy-to-use setup wizard, remote access and streamlined steps. You give IT the ability to easily manage and maintain your networked mobile printers anywhere, anytime, uncover potential vulnerabilities, defend against security attacks, and alleviate common IT headaches.

Managing Your Printers Remotely Made Easy
Zebra's Printer Profile Manager Enterprise is a full featured remote printer management solution. It gives you real-time visibility of your networked mobile printers, and the ability to easily manage them from anywhere, at any time, no matter where they are in the world. The browser-based application lets you discover your Print DNA printers, create and distribute configurations, and update printers on your schedule.

Supplies, Service and Support

Zebra Certified Supplies
Printing supplies provide a digital voice for assets across your supply chain. You rely on them to keep things running smoothly by disseminating operation-critical data throughout your organization. If something goes wrong with your printing supplies, operations are interrupted, productivity and efficiency suffer, and costs rise. That's why we design, produce and rigorously pretest our own line of labels, tags and receipt paper to ensure consistent, optimized performance, in your Zebra printer—and peace of mind for you. For industry-leading quality, service and thermal printing expertise, choose Zebra Certified Supplies.

Maximize Uptime, Business Operations and Printer Visibility with Services
You invest in Zebra printers to better serve your customers and boost operational efficiency. Now, you can ensure predictable performance and eliminate unbudgeted repair expenses with Zebra OneCare™. You get unmatched technical support direct from Zebra, as well as comprehensive repair services, including accidental damage and defined repair turn-around times. And Zebra's Visibility Services provide the real-time insight into printer operational information you need to increase printer availability and optimize utilization within your workflows.

Added Peace of Mind
Get increased protection with the ZQ511 and ZQ521 printers' standard two-year warranty, making your purchase an even better investment.

Make the Job Easier with Accessories

Arm your teams to do more with accessories that make the job easier. From power and charging to vehicle mounts and protection options, cradles and more, please refer to the Mobile Printer Accessory Guide, at zebra.com/mobile-printer-accessories, to see all the ZQ500 Series accessories.

Accessories	
Adapters	
	AC Adapter: Connect the AC adapter to your ZQ500 Series printer and wall outlet to charge the printer's PowerPrecision+ battery while in the printer. The printer can print receipts and labels and perform other functions during charging. Connect the ZQ500 Series printer (or charging cradle) to AC power to charge the printer's internal battery. **Dual Charging Vehicle Adapter:** Charges a ZQ500 Series printer and a TC70, TC72, TC75 or TC77 mobile computer simultaneously via the vehicle lighter power adapter.
Vehicle Cradle	
	Dock and charge a single ZQ500 Series printer on a tabletop/countertop or mount in a vehicle/on a forklift. Must be ordered with an open-ended, vehicle lighter adapter or AC adapter. Meets IP43-rating for additional protection from liquid and solid ingress. Compatible with the ZQ500 Series printers with or without extended battery and with or without exoskeleton. Can be mounted with RAM mounting arm. Requires specific driver for connecting via USB.
4-Slot Power Station	
	Docks and charges up to four ZQ500 Series printers simultaneously. Supports printers in the exoskeleton and with/without extended battery. Power supply ships with the 4-Slot Power Station.
12-24V DC Power Supply	
	12-24V DC power supply charges the ZQ500 Series printer via vehicle open-ended or vehicle lighter power adapter. Connects to barrel jack on printer, or on the vehicle/single slot printer charging cradle.

Continued on following page

Accessories

Battery Chargers

3-Slot Battery Charger: Dock and charge up to three ZQ500 Series PowerPrecision+ Li-Ion printer batteries at a time. The 3-slot battery charger ships with a power supply and line cord.

1-Slot Battery Charger: Docks and charges a single ZQ500 Series PowerPrecision+ Li-Ion printer battery. Integrated power supply. Ships with line cord.

Exoskeleton

Increase drop specification to 10 ft./3 m, seals off ports, and increases to IP65 rating for extreme-use environments. Can be used with single and extended battery packs, 4-slot printer power station and single slot charging cradle.

Specifications

Standard Features

- Android, Apple iOS®, Windows® Mobile connectivity
- Bluetooth specification 4.1 EDR + LE
- WLAN 802.11ac
- Fast roaming 802.11r supported
- 3250 mAh PowerPrecision+ (retrievable, rechargeable Li-Ion)
- USB On-The-Go ports (with optional strain relief)
- Power Smart Print Technology—anticipates upcoming printing to optimize battery consumption and print speed
- Direct thermal printing of barcodes, text and graphics
- IP54 rated for protection against solid and liquid ingress
- MIL-STD 810G certified for drop and shock
- Tolerance of multiple drops from 6.6 ft./2 m to concrete
- Tumble testing per the IEC68-2-32 spec with 1300 free falls from 3.3 ft./1 m
- Simple easy-to-read LCD with large icons for battery and wireless status
- Dual-sided tear bar which allows for clean tears in either direction (not available with linerless SKUs)
- Supports vertical and horizontal printing
- Printer can be used in any orientation
- Center loading, adjustable for variable roll widths
- "Clamshell" design for easy media loading
- Label odometer
- XML support
- Resident fixed and scalable fonts
- Black mark and gap media sensing using fixed center position sensors (Note: RFID models do not support gap sensing)
- Cold Temperature Compensation mode-optimizes/balances print speeds to allow for better print performance at lower temperatures
- PPME, Mirror, SNMP, WebServer, AirWatch® and Soto Connectors and Wavelink Avalanche®
- NTP (Network Time Protocol) support via Wi-Fi
- Sleep mode supported. Wake on Bluetooth, Wi-Fi and Touch
- Real time clock (RTC) supported for time stamp certificates in WLAN SKU's only
- QR code links to web-based help pages; not displayed on LCD
- Zebra Print Touch simplifies Bluetooth pairing and launches web-based pages with Near Field Communication (NFC) enabled devices
- RFID is available on both the ZQ511 and ZQ521 as separate products (standard channel offering)

Physical Characteristics

Dimensions	ZQ511: 5.9 in. L x 4.7 in. W x 2.4 in. H 150 mm L x 120 mm W x 62 mm H ZQ521: 6.2 in. L x 6.1 in. W x 2.6 in. H 158 mm L x 155 mm W x 67 mm H
Weight with Battery	ZQ511: 1.39lbs/0.63 kgs ZQ521: 1.73lbs/0.79 kgs

Printer Specifications

Operating System	Link-OS® printer operating system
Resolution	203 dpi resolution (8 dots per mm)
Memory	256MB RAM, 512MB Flash (standard) 8MB RAM, 64MB Flash (user available)
Maximum Print Width	ZQ511: 2.83 in./72 mm ZQ521: 4.09 in./104 mm
Maximum Print Speed	Up to 5 in./127 mm per second (with Draft Mode enabled)
Media Sensors	Black mark and gap media sensing using fixed center position sensors Note: RFID models do not support gap sensing
Print Length	Maximum: 39 in.
Power	3250 mAh (nominal), removable, rechargeable PowerPrecision+ Li-Ion battery, with optional 6500 mAh extended battery

Media Characteristics

Minimum/Maximum Media Width	ZQ511: 1.38 in./35 mm to 3.15 in./80 mm+1 mm ZQ521: 2.0 in./50.8 mm to 4.45 in./113 mm+1 2mm
Maximum Media Roll Size	ZQ511: 2.0 in./51 mm ZQ521: 2.24 in./57 mm
Maximum Media Thickness	0.0063 in./0.1600 mm for labels and 0.0055 in./0.1397 mm for tag/receipt
Minimum Media Thickness	0.0023 in./0.05842 mm for all media (ZQ511 Linerless SKU is 0.0021 in./0.05334 mm)
Media Types	Receipt, Gap/Black-mark Label, Tag, Linerless, RFID Note: ZQ511R/ZQ521R require black mark RFID media and do not support gap sensing

Operating Characteristics

Environment	Operating Temperature: -4°F to 131°F/-20°C to 55°C Operating Humidity: 10% to 90% non-condensing Charging Temperature: 32°F to 104°F/0°C to 40°C Cradle Temperature: 32°F to 122°F/0°C to 50°C Storage Temperature: -22°F to 150°F/-30°C to 66°C Storage Humidity: 10% to 90% non-condensing
Agency Approvals	Emissions: FCC Part 15, Subpart B, EN55022 Class-B, EN55024, ICES- 003, EN55032, and EN301489
Security	FIPS support is available at no cost as a printer OS download. Please contact your Zebra Sales Representative for further information

Firmware

CPCL and ZPL® programming languages
ZBI 2.x™—powerful programming language that lets printers run standalone applications, connect to peripherals, and much more

Options

- RFID encoding
- Linerless printing (with silicone platen roller only)

Barcode Symbologies

CPCL Barcode Symbologies
- Barcode Ratios: 1.5:1, 2:1, 2.5:1, 3:1, 3.5:1
- Linear Barcodes: Code 39, Code 93, UCC/EAN128, Code 128, Codabar (NW-7), Interleaved 2-of-5, UPC-A, UPC-E, 2 and 5 digit add-on, EAN-8, EAN-13, 2 and 5 digit add-on
- 2D Barcodes: PDF417, MicroPDF417, MaxiCode, QR Code, GS1/DataBar™ (RSS) family, Aztec, MSI/Plessey, FIM Postnet, Data Matrix, TLC39

ZPL Barcode Symbologies
- Barcode Ratios: 2:1, 3:1, 5:2, 7:3
- Linear Barcodes: Code 11, Code 39, Code 93, Code 128, ISBT-128, UPC-A, UPC-E, EAN-8, EAN-13, UPC-A and UPC-E with EAN 2 or 5 digit extensions, Planet Code, Plessey, POSTNET, Standard 2 of 5, Industrial 2 of 5, Interleaved 2 of 5, LOGMARS, MSI, Codabar, and GS1 DataBar (RSS)
- 2D Barcodes: PDF417, MicroPDF-417, Code 49, TLC39, Maxicode, Codablock, Data Matrix, QR code, Aztec

Markets and Applications

Transportation and Logistics
- Field Service
- Cross-Docking
- Direct Store Delivery
- Proof of Pickup and Delivery and Route Accounting
- Bag Reconciliation
- Post and Parcel
- Passenger Ticketing

Manufacturing/ Warehouse
- Field Service
- Direct Store Delivery
- Pallet Labeling
- Packing/Staging/ Cross-Docking Labeling

Government
- Energy and Utility Meter Reading
- Parking Violations
- E-Citation

Retail and Hospitality
- Click and Collect Receipt and Label Printing
- Shelf-Edge Labels
- Drive-Through Receipt Printing
- Arenas/Concert Venues/Theme Parks Receipt Printing

Fonts and Character Sets

Standard Fonts	25 bitmapped, 1 smooth, scalable (CG Triumvirate Bold Condensed, contains UFST® from Agfa Monotype Corporation)
Included in All Models and Part Numbers	Scalable Fonts: Swiss721 (supporting Latin, Cyrillic, Hebrew and Arabic characters)
Additional Asian Fonts Supported	Group A: Part Numbers supporting Indonesia, Taiwan, Korea, Malaysia, Australia, New Zealand, Sri Lanka, India include: Scalable Traditional Chinese Characters: NotoMono, Bitmap: 24x24 MKai, 16x16 New Sans MT, Scalable Korean Characters: NotoMono Group B: Part Numbers supporting, Singapore, Thailand, Philippines, HongKong and Vietnam include: Scalable Traditional Chinese characters: NotoMono and Bitmap 16x16 NewSans MT. Scalable Thai Characters: Angsana, Scalable Vietnamese Characters: SourceCodePro and Bitmap 16x16 Utah Group C: Part Numbers supporting China include: Scalable Simplified Chinese Characters: Hans and Bitmap 24x24 Msung, 16x16 SimSun Group J: Part Numbers supporting Japan include: Scalable NotoMono and Square Gothic J MT, Bitmap 16x16, 24X24 Square Gothic J MT

Communication and Interface Capabilities

ZebraNet® 802.11ac radio with support for:
- WPA and WPA2 with AES encryption
- 802.1x (with WPA or WPA2)
- EAP-FAST, EAP-TTLS, EAP-TLS, PEAP, LEAP
- 802.11d, 802.11i, 802.11r
- Simultaneous Bluetooth 5.2 ready[1] / 802.11ac Multiport Radio
- Wi-Fi Certification
- Fast roaming using Pairwise Master Key (PMK) caching, Opportunistic Key Caching (OKC), EAP Fast Session resumption or 802.11r

Bluetooth 4.1 (Classic and BLE) radio:
- Security models 1-4
- "Made for iPod/iPhone/iPad" certified
- Key Bonding

Cabled Communications Specifications:
- USB 2.0 full-speed on-the-go interface (12 Mbps)
- Micro-AB Connector with optional strain relief

Product Warranty

The ZQ511 and ZQ521 printers are warranted against defects in workmanship and materials for a period of 2 (two) years from the date of shipment. (Note: Batteries and Printheads are considered consumables. Zebra Batteries are warranted for one year from the date of shipment and printheads for 6 months from the date of shipment.) For a complete warranty statement, please visit the Product Warranty Exceptions list on www.zebra.com/warranty

Recommended Services

Zebra OneCare Essential™ and Select™ Services maximize the availability and productivity of your devices. Key features include 24/7 technical support, comprehensive coverage, advance replacement and software updates. Optional Visibility Services are available. For more information go to www.zebra.com/zebraonecare (Note: Service availability may vary by region.)

Print DNA Software

Print DNA is a suite of software that enables Zebra printers to deliver a full lifecycle of exceptional experiences for every kind of user through built-in applications, utilities and tools to get your printer up and running quickly and securely. For more information, please visit www.zebra.com/printdna

Footnotes

1. Supports errata fixes for Version 5.2 only. Future upgrades and updates will not support additional functionality.

For optimum print quality and printer performance, use genuine Zebra supplies. Specifications subject to change without notice.

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