Zebra® ZQ500™ Series Mobile Printers

SEE MORE. DO MORE.

AB&R
identify. track. manage.

Optimized for on-demand receipt printing in transportation & logistics and government, the ZQ500 Series can also produce labels for a range of applications. These printers can withstand the drops, bangs, bumps, accidents and environmental extremes that are common in mobile workplaces—making them ideal for on-the-go employees whose productivity depends on maximum printer functionality.

With Zebra's ZQ500 Series, you gain the peace of mind knowing your mobile printers will not only withstand the elements, but also provide the power, connectivity and reliability your mobile employees

The ZQ500 Series printers feature a unique combination of an IP54-rated design for protection from dust ingress and water spray and engineering details--making these printers the most rugged mobile printers on the market.

In addition to offering easy setup, the printers are simple to manage and maintain with the Link-OS® environment, advanced Bluetooth® Smart Ready 4.0 (Low Energy) connectivity and Print Touch™ device pairing. ZQ500 printers are "Made for iPod®/iPhone®/iPad®" (MFi) and Wi-Fi Alliance certified to support connectivity to a range of Apple®, Android™ and Windows® Mobile devices. And, with best-in-class accessories that are compact and multi-purpose, the ZQ510 and ZQ520 printers can transform cars, trucks and vehicles into productive mobile offices.

For more information, visit Zebra.com/ZQ500.

Ideal for These Applications

Government: E-citation and parking enforcement, such as printing weather-resistant tickets to be placed on a vehicle's windshield

Transportation & Logistics: Field sales and service receipts, invoices and reports; transportation tickets, direct store delivery (DSD) receipts, cash on delivery (COD) receipts; car rental receipts for vehicle return; parcel and logistics proof of delivery receipts, notices, labels and documentation, utility readings and invoices.

IP⁵⁴

Made for iPod iPhone iPad

Windows 8 Compatible

TOUGH, RELIABLE, POWERFUL

On-the-go productivity requires dependable solutions in every situation. The high-performing ZQ500 Series stands up to the test every time regardless of the environment.

Rugged Design

Mobile work environments can be abusive for hardware. The ZQ500 printers are lightweight, yet engineered to handle the bumps, drops and collisions that are part of the job. The ZQ510 and ZQ520 printers feature a patented military design that meets third-party-verified MIL-STD 810g military standards for shock, vibration and temperature exposure. The printers can withstand repeated drops to concrete from 6.6' on multiple sides—and when paired with the optional exoskeleton case can withstand drops from 10'. And for additional protection, the ZQ510 and ZQ520 printers are designed to guard media from being ejected when the printer is dropped, keeping your workforce productive and focused while on the move.

Environmental Endurance

Zebra not only protects your hardware, but also your operational uptime. The ZQ500 printers meet IP54-rating for resistance to dust and liquids that are common in mobile environments—from dirt in the field to crumbs in a service vehicle. And with cold temperature compensation, the ZQ500 Series automatically optimizes and balances print speed and print quality in cold temperatures.

Optimized Printing Power

To keep your employees on task and on schedule, the ZQ500 Series are the first Zebra products to support a secondary Bluetooth communication channel, an innovative feature that allows one channel to send print jobs to the printer while a second channel performs additional functions such as device management. ZQ500 printers also feature "draft mode," which optimizes the printing speed (5+ inches-per-minute) for text-only printing. And with Power Smart Print Technology™, the printers can anticipate what users will print, saving batter power yet delivering fast, high-quality receipts and labels.

Simple to Use

ZQ500 printers are designed for intuitive, simple use—from the first shift to the last. The simplified user interface reduces the amount of accidentally changed printer settings, and the large buttons increase accuracy for gloved hands and fingers. Intuitive media loading reduces time employees spend changing rolls, and with sleep mode the printer wakes up when a job is sent and conserves battery power when not in use.

ON-THE-GO FUNCTIONALITY FOR PREMIUM PERFORMANCE

The ZQ500 Series is not limited by typical office boundaries. With reliable connectivity options and space-saving, multi-functional accessories, the ZQ500 Series transforms every space into a productive work environment.

Reliable Connectivity

The ZQ500 Series comes standard with the latest in Bluetooth connectivity: Bluetooth 4.0. The printers also offer 802.11a/b/g/n WLAN connectivity that supports both 2.4GHz and 5GHz bands and roaming within and across bands. And, with the multiport radio, your employees can simultaneously operate 802.11a/b/g/n and Bluetooth 3.0—meaning they can be constantly updated and connected. If users lose their Bluetooth connectivity while on the road, Print Touch™ via NFC technology serves as an alternate option, ensuring users are always connected. The ZQ500 Series is "Made for iPod/iPhone/iPad" (MFi certified) and Wi-Fi Alliance-certified, offering connectivity to a range of Apple, Android and Windows Mobile devices.

Mobile-Workspace Accessories

ZQ500 accessories are designed to optimize the tight spaces of mobile work environments—such as vehicles—through small footprints and multipurpose use. With easy and reliable vehicle charging options, employees can grab their device and go. The battery eliminator enables users to rely solely on vehicle power for fixed in-vehicle applications—erasing the need to replace the battery over the life of the printer. ZQ500 Series printers also offer adapters to attach vehicle cradles to existing e-charge and settlement room brackets.

Remote Management

The ZQ500 Series offers several device management options, including Profile Manager, which allows you to manage printers anywhere, anytime via a browser. Support for industry-standard MDM utilities makes it easy to communicate with all devices. ZQ500 printers are equipped with Syslog, an IT diagnostics tool that enables the printer to save and record error events that are written and can be retrieved from a file or, for remote troubleshooting, written to an IP port.

The ZQ500 offers several Link-OS environment software solutions and tools, including:

- PrintTouch NFC technology for fast pairing and easy access to essential data
- Profile Manager to monitor and control Link-OS printers anywhere in the world—all from one PC, tablet or smartphone screen
- Cloud Connect for direct and secure connection to the cloud
- Virtual Device Support – enabling printing using non-Zebra command languages

Accessory	Requirements and Compatibility	Product Image
POWER & CHARGING		
4-Bay Power Station	Docks and charges up to four ZQ500 Series printers simultaneously. Supports printers in exoskeleton and with/without extended battery.	
AC Adapter	Charges printer via wall outlet.	
Battery Eliminator	Connects printer directly to vehicle power without using battery as consumable product. Available as open-ended or cigarette adapter power supply. Dummy battery pack fits into printer. Can be used with vehicle mounting plate.	
Battery Eliminator Vehicle Cradle**	Enables printer to be powered with vehicle power only. Eliminates need to replace the battery over the life of the printer. Printer is still detachable from vehicle.	
Extended Battery	Extends life of printer for high-duty cycle applications. Four-cell bump-out pack. Has LED on outside for visible indication when battery is due for replacement.	
Quad Battery Charger	Docks and charges up to four ZQ500 Series batteries at a time. Supports both standard and extended batteries.	
Smart Battery*	Powers printer. Can be polled and managed to monitor battery health and replacement. Compatible with ZQ510 and ZQ520 printers, smart battery single charger, vehicle charger, quad battery charger and 4-bay power station.	
Smart Battery Single Charger	Docks and charges a single battery. Monitors and alerts on battery health. Supports both standard and extended battery.	
Vehicle Charger	Charges printer via vehicle open-ended or cigarette adapter power supply. May be used without vehicle cradle. Available as 12-24V or 15-60V.	
MOUNTING		
Vehicle Cradle	Docks and charges ZQ500 Series printers. Available with open-ended or cigarette adapter power supply. Compatible with ZQ510/ZQ520 with or without extended battery and with or without exoskeleton. Can be mounted with RAM mounting arm. Meets IP43-rating for additional protection from liquids and spills. Requires specific driver for connecting via USB.	
Mounting Plate	Allows the printer to be fix-mounted in a vehicle with or without battery eliminator. Attaches to RAM mounting arm.	
RAM Mounting Arm	Attaches to the ZQ500 mounting plate or vehicle cradle for flexible mounting orientation.	

Accessory	Requirements and Compatibility	Product Image
WIRING & ADAPTERS		
D-Ring Adapter Kit	Attaches to ZQ500 vehicle cradle to enable use with installed Datamax O'Neil e-charge brackets. Plastic female half-moon part allows users to attach ZQ500 vehicle cradle to existing Datamax O'Neil brackets.	
RW420 Vehicle Cradle Adapter	Enables attachment of ZQ500 Series cradle to existing RW cradles without rewiring. Measures 6 inches. Legacy RAM arms are compatible with ZQ500 via this adapter.	
CARRYING		
2-Roll Spare Media Case	Carries two rolls of spare ZQ500 media. Attaches between the RAM arm and Vehicle Cradle.	
Belt Clip*	Allows printer to be clipped to user's belt.	
Hand Strap	Enables printer to be carried like a toolbox.	
Rugged Shoulder Strap	Offers over-the-shoulder carrying option. Connects with metal attachment clips.	
Standard Shoulder Strap	Offers over-the-shoulder carrying option. Connects with plastic attachment clips.	
Swivel Belt Loop	Alternative to a standard belt clip. One piece connects to the user's belt and one piece (D-Ring Adapter Belt Attachment) attaches in lieu of the belt clip on the ZQ500, so you can easily attach and rotate the printer to the hip.	
PROTECTION		
Exoskeleton Case**	Increases drop specification, seals off ports and increases IP rating for extreme use environments. Can be used with extended battery pack, 4-bay power station and vehicle cradle. Cannot be used with linerless. Users must tear down when using exoskeleton. Not compatible with belt clip included with printer. AC adapter and vehicle charger cannot be used when printer is in exoskeleton case.	
Soft Case	Canvas case adds layer of printer protection. Includes shoulder strap. Battery (including extended pack) and ports remain accessible via flaps. Cannot be used with printer belt clip.	
OTHER		
USB Cables with Strain Relief	Prevents USB cable breakage via hard plastic twist lock.	
USB Cable (Micro A/B to USB A converter- 6")	Adapter cable for connecting USB memory sticks or other traditional USB A devices to the printer.	
Encrypted Magnetic Stripe Reader Module	Attaches to printer to enable payment processing and reading of licenses, credit cards and badges. Encryption keys can be loaded via Zebra Custom Application Group.	

*Included in the box with your Zebra ZQ510 or ZQ520 printer. **The battery eliminator vehicle charger and exoskeleton case will not be available at initial release.

SPECIFICATIONS AT A GLANCE*

Printer Name

ZQ510
ZQ520

Standard Features

- Apple iOS, Android, Windows Mobile and BlackBerry® connectivity
- Direct thermal printing of barcodes, text and graphics
- 203 dpi resolution (8 dots per mm)
- Print speed up to 5"/127 mm per second (with Draft mode enabled)
- CPCL and ZPL® programming languages
- XML support
- Resident fixed and scalable fonts
- 400 MHz 32-bit ARM® processor with 256 MB RAM (8 MB available for user applications)
- 512 MB Flash supports downloadable programs, receipt formats, fonts and graphics (64 MB available for user storage)
- USB On-The-Go ports (with optional strain relief cable)
- 2600 mAh removable Li-Ion smart battery, with optional extended battery
- Built-in battery charger
- Black mark and gap media sensing using fixed center position sensors
- Optional linerless platen
- Cold Temperature Compensation mode– optimizes/balances print speeds to allow for better print performance at lower temps
- Dual-sided tear bar which allows for clean tear in either direction (not available with linerless SKUs)
- Supports vertical and horizontal printing
- Printer can be used in any orientation
- Center-loading media locking for variable roll widths
- "Clamshell" design for easy media loading
- Management: Mirror, SNMP, Web server, Profile Manager, AirWatch® and Wavelink Avalanche®
- Bluetooth 4.0 Smart Ready Low Energy radio
- Simple easy-to-read LCD with large icons for battery and wireless status
- Tolerance of multiple drops from 6.6' (2 m) to concrete
- Label odometer
- Real-time clock
- QR code links to web-based help pages; not displayed on LCD
- Semi-sleep/instant on mode – which allows the printer to "wake" on touch (Wake on BT only supported in BT 4.0 radio), or on Bluetooth print job transmission
- Zebra Print Touch simplifies Bluetooth pairing and launches web-based help pages with Near Field Communication (NFC) enabled devices
- Power Smart Print Technology – anticipates upcoming printing to optimize battery consumption and print speed

Printer Specifications

Resolution

203 dpi resolution (8 dots/mm)

Maximum Print Width

- ZQ510: 2.83"/72mm
- ZQ520: 4.09"/104mm

Print Length

Max: 39"

Print Speed

Up to 5"/127mm per second

Operating Characteristics

Environmental

- Operating Temperature: -4° to 131°F (-20° to 55°C)
- Charging Temperature: 32° to 104°F (0° to 40°C)
- Cradle Temperature: 32° to 122°F (0° to 50°C)
- Storage Temperature: -22° to 150°F (-30° to 66°C) to 150°F (66°C)
- Relative Humidity:
  - Operation: 10% to 90% non-condensing
  - Storage: 10% to 90% non-condensing
- IP Rating: IP54 (IP65 with exoskeleton)

Agency Approvals

- **Emissions**: FCC Part 15, Subpart B, EN55022 Class-B, EN60950, EN55024 and VCCI class B
- **Susceptibility**: EN55024, EN61000-4-2, EN61000-4-3, EN61000-4-4, and EN61000-4-5

- **Safety**: CE, UL, TUV, CSA

Media Characteristics

Maximum Media Width

- ZQ510: 3.15"/80 mm +1 mm
- ZQ520: 4.45"/113 mm +1 mm

Maximum Media Roll OD

- ZQ510: 2.0"/51 mm
- ZQ520: 2.24"/57 mm

Maximum Media Thickness

- ZQ510: 0.0063" (0.1600 mm) for labels and 0.0055" (0.1397 mm) for tag/receipt
- ZQ520: 0.0063" (0.1600 mm) for labels and 0.0055" (0.1397 mm) for tag/receipt

Media Types

Receipt, Gap/Black mark Label, Tag

Physical Characteristics

	ZQ510	ZQ520
Height:	5.9"/150 mm	6.2"/158 mm
Width:	4.7"/120 mm	6.1"/155 mm
Depth:	2.4"/62 mm	2.6"/67 mm
Weight (w/battery):	1.39lbs/22.3 oz	1.73lbs/27.6oz

Fonts/Graphics/Symbologies

CPCL Font Specifications

- Standard Fonts: 25 bitmapped, 1 smooth, scalable (CG Triumvirate Bold Condensed*)
- Optional Fonts: downloadable bitmapped/scalable fonts
- CPCL Asian Fonts are not supported

*Contains UFST from Agfa Monotype Corporation

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
- 2-Dimensional: PDF417, MicroPDF417, MaxiCode, QR Code, GS1 / DataBar™ (RSS) family, Aztec, MSI/Plessey, FIM Postnet, Data Matrix, TLC39

ZPL Font Specifications

- Character Fonts: Standard bitmapped Zebra fonts: A, B, C, D, E (OCR-B), F, G, H, (OCR-A), GS, P, Q, R, S, T, U, V & Ø Smooth font (CG Triumvirate Bold Condensed)
- Unicode Scalable Swiss 721 is preloaded on the printers E: memory location (supports Latin, Cyrillic, Arabic and Hebrew)
- Google/ Adobe Hans (Asia SKUs only)
- Thai Angsana (Asia SKUs only)

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)
- 2-Dimensional: PDF417, MicroPDF-417, Code 49, TLC39, Maxicode, Codablock, Data Matrix, QR code, Aztec

Optional Features

- ZebraNet® 802.11a/b/g/n radio with support for:

  Wi-Fi® Certification

- Bluetooth 3.0 / 802.11b/g Multiport Radio (can be used simultaneously)
  - Security modes 1 – 4
  - "Made for iPod/iPhone/iPad" (MFi) certified
  - WEP, TKIP and AES encryption
  - WPA and WPA2
  - 802.1x
  - EAP-FAST, EAP-TTLS, EAP-TLS, PEAP, LEAP
  - 802.11d and 802.11i
  - Key Bonding
- ZBI 2.x™ – powerful programming language that lets printers run standalone applications, connect to peripherals, and much more
- ESC-POS available via post-sale download

Link-OS Software Solutions

- Profile Manager – Advanced, server based device management for networked printers, operates via a web browser interface
- Cloud Connect – Secure, direct, encrypted and authenticated connections to the web for printing and device management
- Virtual Devices – Use legacy and non-Zebra command languages to print labels and tags
- Zebra Utilities – Print from iOS, Android, Windows Mobile devices
- Print Station – Driverless printing from Android devices
- AirWatch Connector – Manage from within the AirWatch environment
- Mulitplatform Software Development Kit – Simplifies printing application development with support for Blackberry, Apple, Android, WinCE®, WinMobile®, Windows desktop and Linux/Unix platforms

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