TC52X-HC Series Mobile Computers

The ultimate healthcare feature set for the ultimate in quality of care

Building on the highly successful TC52-HC, this series offers two models that help caregivers improve the quality of care and the patient experience — the TC52x-HC and the TC52ax-HC. Give workers a superior mobile voice and data experience with best-in-class processing power. See more and scroll less with the large screen. Get never-ending power with a hot-swappable battery. The clog-proof design enables easier disinfecting. Summon the right help with one-press of the red alert button. Capture barcodes in any condition with healthcare safe illumination LEDs and aimer colors. Take high quality photos to easily document patient condition and enable better remote collaboration with physicians. Keep Android updated effortlessly with over-the-air automatic updates. Locate devices — even if the battery is dead or they are powered off. Create a fully functional mobile-powered workstation in a split second. And with Wi-Fi 6 and double the memory, the TC52ax-HC offers faster Wi-Fi, support for more users and future proofing.



The ultimate data capture experience

Exceptional touchscreen technology
The 5-inch Full HD display delivers maximum screen space, resolution and readability. Text and graphics are sharper. The 600 nit display is easy to read in any light. And the easy and familiar multi-touch operation works when wet, with a gloved finger or a stylus.

First-time every time flawless 1D/2D barcode capture
Capture barcodes in virtually any condition with the integrated scanner's global shutter and PRZM Intelligent Imaging — even on curved or uneven surfaces like medicine vials and bags. And the white illumination LEDs and green aimer are ideal in healthcare, making it easy to scan barcodes on color-coded specimen trays and biopsy cassettes.

Ultra high-resolution photos and videos
The 13 MP color rear camera with Phase Detection Autofocus (PDAF) captures detailed photos and videos to document wound condition and more. Software advancements deliver more accurate color and sharper, crisper images, even in low light — while new on screen icons make the user interface more intuitive.

Improve collaboration with high quality video conferencing
The front-facing 5 MP camera enables Telehealth consultations, better patient monitoring and better collaboration with colleagues.

Out-of-the-box capture of Unique Device Identifier (UDI) barcodes
Caregivers can instantly check to see if medical equipment has been recalled before use, protecting patient safety. Ensure that all charges for all items are captured, protecting the bottom line. And inventory visibility is complete and more accurate, eliminating risky out of stocks.

Automatically capture data on labels and forms
Need to capture multiple barcodes on a single label or data on a medical form, such as checkboxes, text fields and signatures?

The TC52X-HC Series — the ultimate feature set for the ultimate in clinical quality of care
For more information, please visit www.zebra.com/tc52x-hc-series

Do it all with one button press with Multi-Barcode Scanning, a no-cost, pre-installed Mobility DNA application.

The ultimate in communication options

Unbeatable world-class wireless connections

2x2 Multiple-User Multiple Input Multiple Output (MU-MIMO) technology boosts Wi-Fi network capacity, speed and range. The proprietary features in Zebra Mobility DNA Wireless set the bar for Wi-Fi connection performance and reliability, delivering unsurpassed wired-style Wi-Fi connections. Need the latest Wi-Fi technology? The future-ready TC52ax-HC supports Wi-Fi 6, taking capacity and performance to the next level. Support for 802.11mc enables highly accurate indoor locationing applications for way-finding, improved staff safety and more. Bluetooth 5.x delivers maximum Bluetooth peripheral performance. And with NFC, just tap-to-pair Bluetooth peripherals and read ID cards.

Fully programmable dedicated emergency Alert button

A red alert button can be configured to call the security desk or launch an application in emergency or duress situations. And you can define the sequence to activate the button to prevent false alarms — and the phone number of the right responder.

Highest quality voice for crystal clear calls

There is no room for misunderstandings on a call. With three microphones, high-volume speakers and the latest in noise-cancellation technology, callers on both ends hear every word, even in noisy areas.

The most powerful family of ready-to-use optional voice solutions

Take collaboration to the next level with Zebra Mobility DNA's Workforce Connect, a solution that enables instant push-to-talk (PTT) with any other healthcare worker carrying any PTT-enabled Zebra mobile computer, inside or outside the four walls. And Workforce Connect Voice adds cordless PBX handset functionality, eliminating the need for healthcare workers to carry and manage more than one device.

Secure text messaging

Standard text messaging services lack the security required in healthcare, but voice conversations are often inappropriate in a hospital. Now, staff can meet HIPAA privacy and security requirements with discrete text communications via Zebra's easy-to-deploy Workforce Connect Enterprise Messaging or a Partner's approved secure texting application.

The ultimate purpose-built platform for healthcare

Turn TC52X-HC Series devices into mobile-driven workstations

Do some tasks need a larger display to best view information and interact with applications? With Zebra's Workstation Connect[1], just insert the TC52X-HC Series healthcare mobile computers into a compatible cradle to get a true desktop experience, complete with a large monitor, a mouse, keyboard, scanner and more. The user interface takes advantage of the additional screen real estate — and users can resize windows and open multiple apps in multiple windows. To switch back to mobile computer mode, just lift the device from the cradle.

Disinfectant-ready to withstand frequent cleanings

The TC52X-HC Series is designed for healthcare from the ground up — screw holes are covered and the number of crevices and seams have been minimized to eliminate places where germs can hide. Innovative clog-resistant audio grills prevent debris and disinfectants from entering the receiver, protecting audio quality. Advanced medical grade plastics provide superior toughness, able to withstand frequent cleanings with a wide selection of disinfectants.

Maximum processing power

Get the most powerful platform in this class with the 2.45 GHz octa-core SD660 processor, 4 GB RAM and either 32 GB (TC52x-HC) or 64 GB (TC52ax-HC) of Universal Flash Storage (UFS), delivering simultaneous read/write capability that rivals solid state drive (SSD) performance and speeds.

The most powerful, fully featured battery technology

The PowerPrecision+ high capacity battery delivers plenty of power for the longest shift. Change batteries without shutting down or rebooting with hot swapping. Batteries are fully charged and ready to go in record time with Fast Charging. And PowerPrecision Console, a complimentary Mobility DNA tool, allows you to easily identify and discard batteries that can no longer hold a full charge, ensuring that every battery in your pool is healthy.

Easily find lost and misplaced devices

An integrated Bluetooth beacon and support for Device Tracker allows users to quickly and easily locate misplaced or lost devices — even if the device is turned off or the battery is dead.

Rugged and ready for the toughest shifts

The TC52X-HC Series is ready for around the clock use, delivering reliable operation — even if you drop it on the floor or get it wet. The unibody design provides extra impact protection for the sensitive electronics. And the Corning™ Gorilla™ Glass touch panel and imager window bring maximum scratch-resistance and shatter-proofing to two of the most vulnerable device features.

LifeGuard™ for Android™ — a lifetime security guard for your Zebra Android devices

Now it's even easier to keep your Zebra mobile devices, their data and your networks secure with new LifeGuard features. No-touch over-the-air updates enable effortless security. With A/B streaming support, updates are applied as they are received in the background, eliminating unnecessary downtime and multiple reboots. And more.

Specifications

Physical Characteristics

Dimensions	TC52ax-HC: 6.1 in. L x 2.9 in. W x 0.73 in. H 154.4 mm L x 75.5 mm W x 18.6 mm H TC52x-HC: 6.1 in. L x 2.9 in. W x 0.73 in. H 154.4 mm L x 75.5 mm W x 18.6 mm H
Weight	Terminal with standard battery TC52x-HC: 9.3 oz./263 g TC52ax-HC: 9.1 oz./259 g
Display	5.0 in. Full High Definition (1920x1080); LED Backlight; exceptionally bright, outdoor viewable; optically bonded to touch panel
Touchpanel	Dual mode capacitive touch with stylus or bare or gloved fingertip input (conductive stylus sold separately); Corning™ Gorilla™ Glass; water droplet rejection; fingerprint resistant anti-smudge coating
Power	Rechargeable Li-Ion, PowerPrecision+, 15.48 Watt hours, 4150 mAh, improved battery metrics for better battery management, fast charging (up to 2.4 A); hot swap supported; BLE battery option
Expansion Slot	User accessible MicroSD supports up to 256 GB SDXC
Network Connections	WLAN, WPAN (Bluetooth), USB 2.0, High Speed (Host and Client)
Notifications	Audible tone; multi-color LEDs; vibration; haptic feedback
Keypad	On-screen keypad and enterprise keyboard
Voice and Audio	Three microphones with noise cancellation; vibrate alert; front facing speaker; Bluetooth wireless headset support; high quality speaker phone; PTT headset support; HD voice; Super-wideband (SWB) and Fullband (FB) audio. Alert button triggers an emergency call
Buttons	Six programmable buttons for maximum flexibility: Alert button, dual dedicated scan buttons, dedicated push-to-talk button and volume up/down buttons
Safety/Alert	Red Alert button on the back of the device with emergency dialer feature

Performance Characteristics

CPU	Qualcomm Snapdragon™ 660 octa-core, 2.45 GHz
Operating System	TC52x-HC: Upgradeable to Android 14 TC52ax-HC: Upgradeable to Android 14
Android Enterprise Recommended (AER)	Google AER Validated Rugged Device
Memory	TC52x-HC: 4 GB RAM/32 GB UFS Flash TC52ax-HC: 4 GB RAM/64 GB UFS Flash
Security	Product is FIPS 140-2 Validated (ISO 19790) and Common Criteria certified (ISO 15408). FIPS 140-2 cryptography can be enabled on select configurations through a custom SKU request. Product supports Secure Boot and Verified Boot.

Wireless PAN

Bluetooth	Class 2, Bluetooth v5.0 (TC52x-HC) and Bluetooth v5.1 (TC52ax-HC), Bluetooth Low Energy (BLE)
BLE (Battery Pack accessory) (Supported)	Class 2, BLE v5.2, Device tracking solution when unit is powered off

Disinfecting and Cleaning

For information on Zebra-approved disinfectants and guidelines on cleaning TC52x-HC/TC52ax-HC devices, please visit: www.zebra.com/tc52x-hc-series

Warranty

Subject to the terms of Zebra's hardware warranty statement, the TC52x-HC and TC52ax-HC are warranted against defects in workmanship and materials for a period of one (1) year from the date of shipment. For complete warranty statement, please visit: www.zebra.com/warranty

Recommended Services

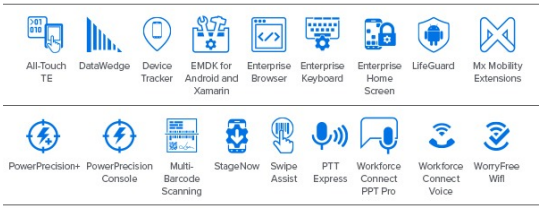
Zebra OneCare™ Essential and Select support services
Zebra Visibility Services — VisibilityIQ™ Foresight

Footnotes

1. Available for the TC52ax-HC in Q4 2021 and the TC52x-HC in Q1 2022.Specifications subject to change without notice.

Mobility DNA Software

Mobility DNA solutions help you get more value out of our mobile computers by adding functionality as well as simplifying deployment and management of our mobile devices. For more information on these Zebra-only features, please visit: www.zebra.com/mobilitydnaMobility DNA is available on Android only. Features may vary by model and a Support Contract may be required. To learn what solutions are supported, please visit: https://developer.zebra.com/mobilitydna



Markets and Applications

Users

- Nurses
- Doctors
- Clinical support staff
- Therapists
- Lab/Pharmacy technicians
- Phlebotomists
- Nutritionists
- Hospital supply chain management

Applications

- Voice calls through the PBX
- Push-to-talk (PTT) inside and outside the four walls
- Secure text messaging
- Mobile alarms and alerts
- Medication administration
- Prescription tracking
- Blood transfusion administration
- Electronic patient record access
- Breast milk management
- Inventory management (local floor supplies)

User Environment

Operating Temp.	-4° F to 122° F/-20° C to 50° C
Storage Temp.	-40° F to 158° F/-40° C to 70° C
Humidity	5% to 95% non-condensing
Drop Specifications	Multiple 4 ft./1.2 m drops to tile over concrete over 14° F to 122° F/-10° C to 50° C
Tumble Specification	500 1.6 ft./0.5 m tumbles, meets or exceeds IEC tumble specification
Sealing	IP65 with battery per applicable IEC sealing specifications
Vibration	4 g's PK Sine (5 Hz to 2 kHz); 0.04 g 2/Hz Random (20 Hz to 2 kHz); 60 minute duration per axis, 3 axis
Electrostatic Discharge (ESD)	+/- 15kv air discharge; +/- 8kv direct discharge; +/- 8kv indirect discharge

Interactive Sensor Technology (IST)

Motion Sensor	3-axis Accelerometer with MEMS Gyro
Light Sensor	Automatically adjusts display backlight brightness
Proximity Sensor	Automatically detects when the user places the handset against head during a phone call to disable display output and touch input
Magnetometer	eCompass automatically detects direction and orientation

General Certifications

TAA compliant; ARCore Google certification sustained

Data Capture

Scanning	All models: SE4720 1D/2D Imager
Camera	Front — 5 MP Rear — 13 MP autofocus with Phase Detection Autofocus (PDAF); flash LED generates balanced white light; supports Torch mode
NFC	ISO 14443 Type A and B; FeliCa and ISO 15693 cards; P2P mode (up to A10 only) and Card Emulation via Host

Wireless LAN

WLAN Radio	IEEE 802.11 a/b/g/n/ac/d/h/i/r/k/v/w/mc/ax*(TC52ax-HC*); 2x2 MU-MIMO; Wi-Fi™ certified; Dual Band Simultaneous; IPv4, IPv6
Data Rates	TC52x-HC: 5 GHz: 802.11a/n/ac — 20 MHz, 40 MHz, 80 MHz — up to 866.7 Mbps 2.4 GHz: 802.11b/g/n — 20 MHz, 40 MHz — up to 300 MbpsTC52ax-HC: 5 GHz: 802.11a/n/ac/ax — 20 MHz, 40 MHz, 80 MHz — up to 1201 Mbps 2.4 GHz: 802.11b/g/n/ax — 20 MHz — up to 286.8 Mbps
Operating Channels	Channel 1-13 (2412-2472 MHz): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13Channel 36-165 (5180-5825 MHz): 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108,

Wireless LAN

	112, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 157, 161, 165Channel Bandwidth: 20, 40, 80 MHzActual operating channel/frequencies and bandwidths depend on regulatory rules and certification agency
Security and Encryption	WEP (40 or 104 bit); WPA/WPA2 Personal (TKIP, and AES); WPA3 Personal (SAE); WPA/WPA2 Enterprise (TKIP and AES); WPA3 Enterprise (AES) — EAP-TTLS (PAP, MSCHAP, MSCHAPv2), EAP-TLS, PEAPv0-MSCHAPv2, PEAPv1-EAP-GTC, LEAP and EAP-PWD; WPA3 Enterprise 192-bit mode (GCMP256) - EAP-TLS; Enhanced Open (OWE)
Certifications	Wi-Fi Alliance Certifications: Wi-Fi CERTIFIED n; Wi-Fi CERTIFIED ac; Wi-Fi CERTIFIED 6 (TC52ax-HC only); Wi-Fi Enhanced Open; WPA2-Personal; WPA2-Enterprise; WPA3-Personal; WPA3-Enterprise (includes 192-bit mode); Protected Management Frames; Wi-Fi Agile Multiband; WMM; WMM-Power Save; WMM-Admission Control; Voice-Enterprise; Wi-Fi Direct
Fast Roam	PMKID caching; Cisco CCKM; 802.11r (Over-the-Air); OKC

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