ZEBRA
CAPTURE
YOUR EDGE

TC51-HC Touch Computer

Everything your healthcare workers want — and everything your hospital needs

To provide the highest quality care on every shift, nurses and other healthcare workers need to call or text physicians and other co-workers, take calls coming in from the PBX, access electronic patient records, scan barcodes to ensure accuracy in medicine administration and specimen collection, monitor medical equipment alarms and more. As a result, the average healthcare worker needs a multitude of devices, from a two-way radio, a personal consumer smartphone, a mobile PBX handset to a barcode scanner and a pager. This translates into a lot of devices to purchase, manage and disinfect to prevent the spread of germs.

While many mobile computers can address some of these capabilities, the TC51-HC from Zebra delivers it all. With the TC51-HC in hand, healthcare workers have all the functionality they need to tackle virtually any task – without compromising on patient privacy or data security. When it comes to quality, you can expect the best — the TC51-HC sets the bar in its class for rugged design, screen functionality and size, barcode scanning performance, battery capacity, camera resolution, power, memory and data storage – all in a housing created with the industry's most resilient medical-grade plastics. When it comes to value, get a device that delivers unsurpassed investment protection. The TC51-HC is built to last for years — and it can support the the next generation of Android, delivering superior investment protection.[1]

Give your workers all the tools they need to improve productivity, task accuracy and the patient experience with the Zebra TC51-HC — because when it comes to the quality of care, your patients deserve the best.

The power to run many simultaneous voice and data applications

Workers can answer an urgent PTT call, send a high-resolution photo of a wound to a physician and access a patient's electronic health record, all in near real time — the TC51-HC can run it all. With more memory and between 2-8 times the data storage capacity offered by competitive enterprise-class healthcare mobile computers, the TC51-HC is the only device in this class to utilize hexa-core technology for blazing fast application performance and processing power. The 1.8 GHz hexa-core 64-bit processor runs apps up to five times faster — and consumes 15 percent less power.

Highest quality voice for crystal clear voice calls

In the hospital, there is no room for misunderstandings on a voice call. That's why the TC51-HC offers the highest quality voice in its class. With noise-cancellation and one-watt speakers, callers on both ends of the call will hear every word — no matter how hectic the environment may be.

The most sanitizable housing design

The TC51-HC is designed for healthcare from the ground up — screw holes are covered and the number of crevices and seams have been minimized, eliminating places where germs can hide. Advanced medical grade plastics provide superior toughness, with maximum resistance to cracking and the ability to withstand constant exposure to the widest selection of disinfectants in the industry.

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

Give your healthcare workers better voice connections for better collaboration — and better outcomes. Workforce Connect PTT Express is pre-installed and pre-licensed, enabling push-to-talk right out of the box, inside the four walls, with any other worker carrying any PTT Express-enabled Zebra mobile computer. Want to enable PTT with physicians, paramedics and more outside the four walls? Make it happen with our optional, cloud-based, cost-effective Workforce Connect PTT Pro. And with optional Workforce Connect Voice, your TC51-HC mobile computers can double as cordless PBX handsets, reducing costs and eliminating a device to carry and manage.

Secure text messaging

In a hospital, there can be many situations where a voice conversation is inappropriate. With Workforce Connect Enterprise Messaging or the support of approved Partner voice and secure texting applications, your workers can text which eliminates the risk of others overhearing sensitive patient information. And since this easy-to-deploy cloud-based solution works over Wi-Fi, your workers have the connections they need for superior collaboration — and better patient results.

Maximum display space...maximum input options

The 5-inch display is the largest in its class, providing workers with more space to view more critical patient data. In addition, workers can use a bare or gloved finger to interact with applications and features, even if the screen is wet.

The TC51-HC — Better connections. Better care.

For more information, visit www.Zebra.com/TC51hc or access our global contact directory at www.zebra.com/contact

One-touch access to the most used features

The integrated Active Edge™ Touch Zone improves worker productivity by eliminating the multiple key presses users are forced to enter countless times on every shift, just to access the features they need. Now, users can create unique dedicated keys on either side of the display to access the most frequently used device features and applications with the single press of a finger — from the scanner and camera to specific apps and text messaging.

The most rugged design in its class

Dust and even jetting water are no match for the IP65-sealed TC51-HC. In addition to the broadest operating temperature range, the TC51-HC is also the only mobile computer in its class that can handle 4 ft./1.2 m drops over the entire operating temperature range. The Gorilla Glass touch panel and imager window bring maximum scratch- and shatter-proofing to two of the most vulnerable device features — the display and the scanner exit window. And the unibody design provides extra impact protection for the sensitive electronics.

A programmable button for instant communications

In healthcare, seconds can mean the difference between life and death. That's why the TC51-HC has a button on the back of the device that can be programmed to access the most frequently used application or feature. For example, with one push of a button, a nurse can alert all appropriate healthcare workers to respond to a code blue.

First-time every-time fast and flawless scanning

Your workers scan barcodes all shift long for medication administration, patient identification, inventory management and more — there's no time to waste re-scanning or waiting for a scan to decode. With our advanced scanning technology and PRZM Intelligent Imaging, your workers get lightning fast capture of 1D and 2D barcodes, even if they are damaged, dirty and poorly printed — or displayed on a screen. An extraordinary working range plus a wide field of view increases application flexibility — workers can scan barcodes nearer and farther away. And omnidirectional scanning delivers true point and shoot performance.

Two cameras improve speed and the quality of care

The 13 MP ultra-high resolution rear-facing camera offers nearly two to three times the resolution found in competitive devices, providing the detail needed to document patient condition, such as wound status. And the front facing 1.3 MP camera enables Remote Consultation, allowing healthcare services to be administered quickly and easily to patients at home or in the hospital.

UDI (Unique Device Identifier) Feature Enabled

With the FDA's mandate that all medical device packages bear a machine readable Unique Device Identifier (UDI), nurses and supply chain workers are facing growing challenges when they scan. It is often unclear which barcode (1D or 2D), or set of barcodes on a package contains the UDI. The TC51-HC, with a built in UDI mode allows the end user to simply place the label in the field of view of the imager, and the TC51-HC determines which barcode(s) are UDI or not. All this can be done quickly in one scan operation, saving the nurse time and the hospital money by having more consistently accurate UDI data for charge capture and patient safety needs.

Dependable power for every minute of every shift

In the mission critical world of healthcare, there's no time to hunt for and change batteries. The best-in-class PowerPrecision+ battery delivers up to 14 hours of battery life,[2] ensuring workers have plenty of power for the longest shift — and devices are always available. A wealth of easily accessible battery metrics makes it easier to identify, remove and replace aging batteries. And with Warm Swap mode, you can change the battery without powering the device down or closing open applications.

The fastest, most dependable Wi-Fi connections

With support for 802.11ac and r, you get the fastest possible Wi-Fi speeds and the most robust roaming support, delivering dependable application performance — fast screen draws, fast data input, quality Voice-over-WLAN calls and no dropped calls.

FIPS 140-2 Validated

The TC51-HC uses FIPS 140-2 validated cryptographic modules to keep patient data safe and secure -- for data in motion and at rest. The TC51-HC also incorporates advanced software features to meet HIPAA, Veterans Administration and other healthcare security regulations.

TAA Compliant

The TC51-HC is Trade Agreements Act (TAA) compliant.

Upgradeable, with future support for Android

With a Zebra service and support agreement, you can upgrade your TC51-HC to Android-O, providing the peace of mind that comes from knowing that the device you purchase today can serve your needs until the end of its lifecycle — delivering a superior return on investment.

Loadable Dictionary

In an environment when every minute counts, quick and accurate communication is key. Nurses do not have time to fight with auto-correct to enter abbreviations and commonly used healthcare terms in text messages. Now, you can easily create, deploy and update a custom dictionary of healthcare words and phrases, complete with shortcuts you define, enabling more efficient and effective text communications.

CartScan for improved workflow versatility

When a patient room is crowded with care staff and equipment, it may be difficult to maneuver the Workstation on Wheels to the patient bedside. With Zebra's CartScan application, the TC51-HC simply becomes an extension of the Workstation on Wheels, allowing nurses to scan and enter barcodes at the patient bedside via the TC51-HC, improving workflow flexibility and worker efficiency.

The enterprise accessories you need for easy device management and expanded device flexibility

Backroom management is easier with the ShareCradle that charges it all — device and batteries. And with the optional Ethernet connection, syncing data with backend apps is easy.

The TC51-HC is designed for:

- Nurses
- Respiratory therapists
- Nutritionists
- Lab/Pharmacy technicians
- Phlebotomists
- Hospital supply chain management

Capabilities include:

- 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)

TC51-HC Specifications

PHYSICAL CHARACTERISTICS

Dimensions	6.1 in. L x 2.9 in. W x 0.73 in. H 155 mm L x 75.5 mm W x 18.6 mm H
Weight	8.8 oz./249 g with battery
Display	5.0 in. High Definition (1280 x 720); exceptionally bright, outdoor viewable; optically bonded to touch panel
Imager Window	Corning Gorilla Glass
Touchpanel	Dual mode capacitive touch with bare or gloved fingertip input; Corning Gorilla Glass
Backlight	LED backlight
Power	Rechargeable Li-Ion, Power Precision + Standard Capacity, 4300 mAh typical/ 4050 mAh minimum; improved battery technology for longer cycle times and real-time visibility into battery metrics for better battery management; fast charging (500mA)
Expansion Slot	User accessible MicroSD up to 32 GB SDHC and up to 128 GB SDXC, using FAT32 format
Network Connections	WLAN, WPAN (Bluetooth)
Notification	Audible tone; multi-color LEDs; vibration
Keypad	On-screen keypad and enterprise keyboard
Voice and Audio	Two microphones with noise cancellation; vibrate alert; speaker; Bluetooth wireless headset support; High quality speaker phone; HD Voice
Buttons	Programmable back button; dual dedicated scan buttons; dedicated push-to-talk button, and volume up/down buttons

PERFORMANCE CHARACTERISTICS

CPU	Snapdragon 650 64-bit hexa-core 1.8GHz ARM Cortex A72, power optimization
Operating System	Android 8.0 Oreo
Memory	Standard: 2GB RAM/16GB Flash Optional: 4GB RAM/32GB Flash

USER ENVIRONMENT

Operating Temperature	14°F to 122°F/-10°C to 50°C (RH 5% to 95% Non-condensing)
Storage Temperature	-40°F to 158°F/-40°C to 70°C
Drop Specifications	Multiple 4 ft./1.2 m drops to tile over concrete over operating temperature range, per MIL-STD 810G
Tumble Specification	500 1.6 ft./0.5 m tumbles, meets or exceeds IEC tumble specification
Sealing	IP65 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

USER ENVIRONMENT (CONTINUED)

Thermal Shock	-40° F to 158° F/-40° C to 70° C rapid transition
Electrostatic Discharge (ESD)	+/-15kv air; +/-8kv contact; +/-8kv charge body

INTERACTIVE SENSOR TECHNOLOGY (IST)

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

DATA CAPTURE

Scanning	SE4710 imager (1D and 2D) with extraordinary range:
	Scan range – Code 39 barcode:
	  20 Mil: 1.8 in. to 32.0 in./4.5 cm to 81.3 cm
	  3 Mil: 3.1 in. to 5.6 in./7.9 cm to 14.2 cm

Camera — Front Facing	1.3 MP fixed focus
Camera — Rear Facing	13 MP autofocus; f/2.4 aperture; rear camera flash LED generates balanced white light; supports Torch mode
NFC	ISO 14443 Type A and B; F; FeliCa and ISO 15693 cards; P2P mode and Card Emulation via Host

WIRELESS LAN

Radio	IEEE 802.11a/b/g/n/ac/d/h/i/k/r/w; Wi-Fi™ certified; IPv4, IPv6; 2x2 MIMO
Data Rates	5GHz: 802.11a/n/ac — up to 866.7 Mbps 2.4GHz: 802.11b/g/n — up to 144 Mbps
Operating Channels	Channel 1-13 (2412-2472 MHz); Chan 36-165 (5180-5825 MHz) Channel Bandwidth: 20, 40, 80 MHz Actual operating channels/ frequencies and bandwidths depend on regulatory rules and certification agency
Security and Encryption	WEP (40 or 104 bit); WPA/WPA2 Personal (TKIP, and AES); WPA/WPA2 Enterprise (TKIP and AES) — EAP-TTLS (PAP, MSCHAP, MSCHAPv2), EAP-TLS, PEAPv0-MSCHAPv2, PEAPv1-EAP-GTC and LEAP Data in Motion: FIPS 140-2 Level 1 Data at Rest: FIPS 140-2 Level 1
Certifications	WFA (802.11n, 802.11ac, WMM-AC, Voice Enterprise, WMM-PS), Miracast
Fast Roam	PMKID caching; Cisco CCKM; 802.11r; OKC

WIRELESS PAN

Bluetooth	Class 2, Bluetooth v4.1 (Bluetooth® Smart technology); Bluetooth Wideband support HFPv1.6; Bluetooth v4.1 Low Energy (LE)

TC51-HC Specifications (continued)

CLEANING INSTRUCTIONS

Harmful Ingredients
The following chemicals at certain concentrations and/or combinations are known to damage the plastics on the TC51-HC mobile computers and should not come in contact with the device: acetone; ketones; ethers; aromatic and chlorinated hydrocarbons; aqueous or alcoholic alkaline solutions; ethanolamine; toluene; trichloroethylene; benzene; carbolic acid; TB-lysoform.

Cleaning Instructions
Follow the instructions of the cleaning agent manufacturer. Do not apply liquid directly to the TC51-HC mobile computers. Dampen a soft cloth or use pre-moistened wipes. Do not wrap the device in the cloth or wipe, but gently wipe the unit. Be careful not to let liquid pool around the display window or other places. Allow the unit to air dry before use.

Special Cleaning Notes
Many vinyl gloves contain phthalate additives, which are often not recommended for medical use and are known to be harmful to the housing of the TC51-HC mobile computers. The devices should not be handled while wearing vinyl gloves containing phthalates, or before hands are washed to remove contaminant residue after gloves are removed. If products containing any of the harmful ingredients listed above are used prior to handling the TC51-HC mobile computers, such as hand sanitizers that contain ethanolamine, hands must be completely dry before handling the devices to prevent damage to the plastics.

Approved Disinfectant Products
The following products have been tested and approved for use with the TC51-HC. Please note that some of these products have chemicals listed as harmful, but the levels of concentration and combination with other chemicals for these listed products have shown to not cause an issue. Contact the service desk with any questions regarding approved cleaners and disinfectants for the TC51-HC terminal. The use of chemical agents not on the Approved Cleaning Products list may cause damage to the TC51-HC device.

Clorox - Dispatch with Bleach
Clorox Healthcare Bleach Germicidal Wipes
Diversey D10 Detergent Sanitizer
Diversey - Dimension 256 Neutral Disinfectant Cleaner
Diversey - Virex II 256
Metrex - CaviWipes
Metrex - CaviWipes 1
PDI Easy Screen
PDI Sani-Cloth AF3
PDI Sani-Cloth Bleach
PDI Sani Cloth Plus
PDI Sani-Hands
PDI Super Sani Cloth Germicidal Wipes
Sani Professional Sani-Wipes
SC Johnson - Windex Original Glass Cleaner
The Clorox Company - 409 Glass and Surface Cleaner

Non-Approved Disinfectant Products

Clorex Healthcare Hydrogen Peroxide Cleaner Disinfectant Wipes
Diversey - Oxiver Tb Wipes

ADDITIONAL MOBILITY DNA SOLUTIONS

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/mobilitydna

- AppGallery
- EMDK
- Enterprise Browser
- Enterprise Home Screen
- SimulScan
- StageNow
- SwipeAssist
- Mobility Extensions

Mobility 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

WARRANTY

Subject to the terms of Zebra's hardware warranty statement, the TC51-HC is warranted against defects in workmanship and materials for a period of 1 (one) year from the date of shipment. For complete warranty statement, please visit: www.zebra.com/warranty

RECOMMENDED SERVICES

Zebra OneCare; Managed Device Service

1. Requires the purchase of a Zebra OneCare Service contract.
2. Based on typical user profiles.

Specifications subject to change without notice.