

# Dolphin CT50

Mobile Computer  
with Windows® Embedded 8.1 Handheld



User Guide

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# Customer Support

If you need assistance installing or troubleshooting your product, contact us by using one of these methods:

**Knowledge Base:** [www.hsmknowledgebase.com](http://www.hsmknowledgebase.com)

Our Knowledge Base provides thousands of immediate solutions. If the Knowledge Base does not help you solve your problem, log into the Technical Support Portal to submit your problem or ask your question.

**Technical Support Portal:** [www.hsmsupportportal.com](http://www.hsmsupportportal.com)

Log into the Technical Support Portal to search our Knowledge Base, submit your problem or question, request a call back, or provide feedback. When filling out one of the forms, provide as much detail as possible. You can even include attachments.

**Telephone:** [www.honeywellaidc.com/locations](http://www.honeywellaidc.com/locations)

For our latest contact information, please check our website.

## Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. To find your service center, go to [www.honeywellaidc.com](http://www.honeywellaidc.com) and select **Support > Contact Support > Service and Repair**. Contact your service center to obtain a Return Material Authorization number (RMA #) before you return the product.

To obtain warranty or non-warranty service, return your product to Honeywell (postage paid) with a copy of the dated purchase record.

## Limited Warranty

For warranty information, go to [www.honeywellaidc.com](http://www.honeywellaidc.com) and click **Resources > Warranty**.

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Your feedback is crucial to the continual improvement of our documentation. To provide feedback about this manual, please contact the Technical Communications department directly at [ACSHSMTechnicalCommunications@honeywell.com](mailto:ACSHSMTechnicalCommunications@honeywell.com).





# 1

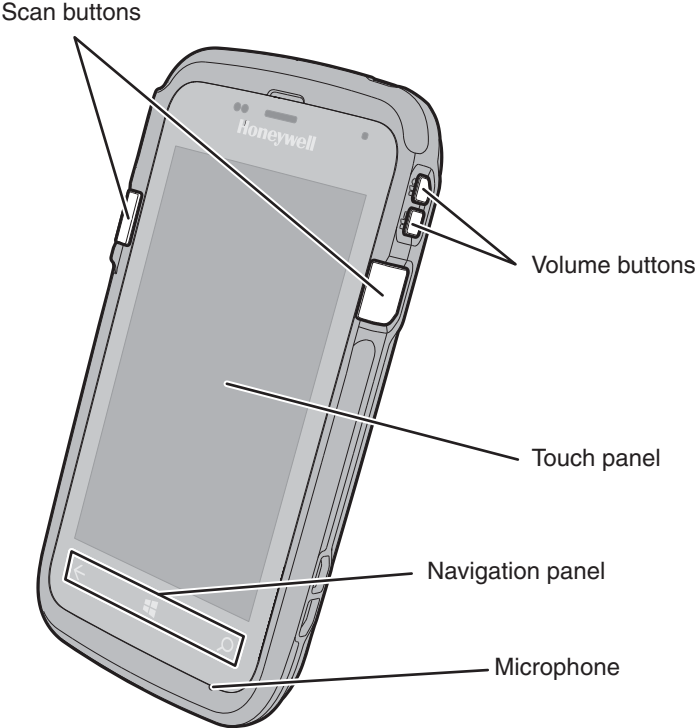
## About the Computer Features

This chapter introduces the Dolphin CT50 Mobile Computer with the Windows<sup>®</sup> Embedded 8.1 Handheld operating system. Use this chapter to learn about the basic computer features, functions, and accessories.

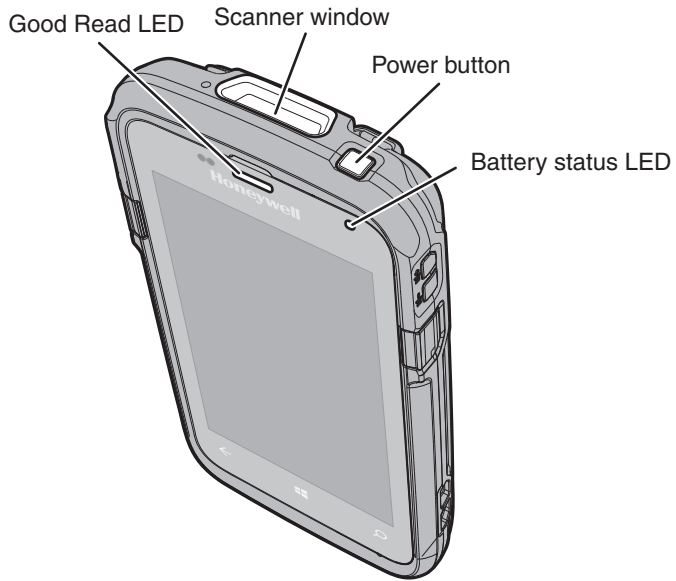
# About the Dolphin CT50 Mobile Computer

The Honeywell Dolphin CT50 Mobile Computer is an enterprise-focused smartphone that uses the Windows Embedded 8.1 Handheld operating system to provide reliable and secure management of corporate data and wireless communications. The CT50 offers key features such as a large display, long-lasting battery, bar code imager, and rugged durability.

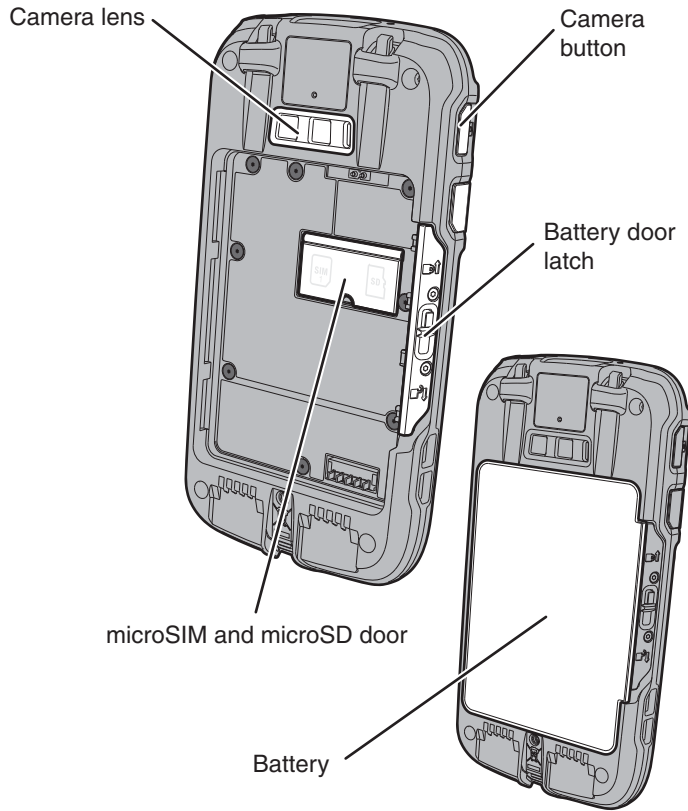
- Windows Embedded 8.1 Handheld operating system.
- 2 GB DRAM, 16 GB flash memory
- Large, sunlight-readable display with responsive multi-touch screen
- High performance 2D imager with ergonomic scan trigger keys
- Software-definable LTE/UMTS or CDMA/EVDO wireless WWAN radio for high speed data and quality voice support across all network technologies
- IEEE 802.11a/b/g/n radio
- Bluetooth radio
- NFC technology for short-range wireless data exchange
- Value-added software components supporting specialized imaging and OCR functions
- Mid-tier rugged specifications with IP67 sealing
- Customer-accessible microSD™ slot for removable memory cards (up to 32 GB)
- Integrated GPS receiver (with WWAN radio option)
- 8-megapixel color camera
- Receiver Category 3 in accordance with EN 300 440-1



**Front View of the CT50**



**Top View of the CT50**



***Back View of the CT50***

# About the Battery

The CT50 uses a rechargeable 3.6 Vdc Li-ion battery as its main power source. The battery has a 14.6 watt-hour capacity. Several factors determine the life of your battery, such as display brightness, display timeout, input device, extreme temperature, and your usage.

Honeywell recommends that you keep the battery charged at all times to prevent data loss. When you change the battery, the computer automatically goes into a power-off state.

Contact your local sales representative for replacement batteries.



**Caution: The battery used in this device may present a fire or chemical burn hazard if it is mistreated. Do not disassemble it, heat it above 100 °C (212 °F), or incinerate it. Dispose of used batteries promptly. Keep away from children.**



**Caution: We recommend the use of Honeywell Li-ion battery packs. The use of any non-Honeywell battery may result in damage not covered by the warranty.**

## Charge the Battery

Make sure you fully charge the battery (Model CT50-BTSC) before you use your CT50. You can charge the battery before or after you install it in the CT50. It takes about 6 hours for the battery to fully charge in any of the accessories.

- Insert the battery into a Quad Battery Charger or the battery well of an eHomeBase.

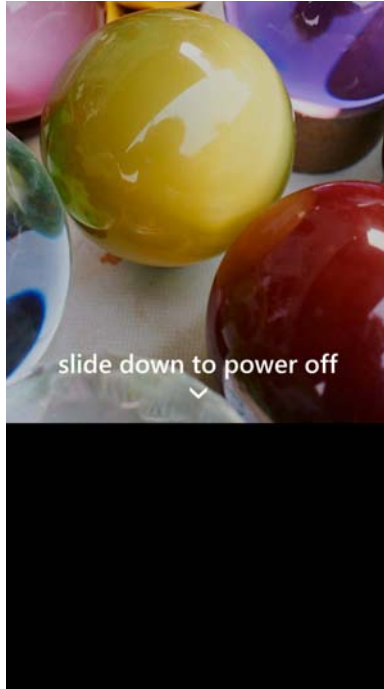
or

- Insert the CT50 with the battery installed into an eHomeBase, ChargeBase, NetBase, Quad Battery Charger, USB Adapter, or Vehicle Power Adapter.

## Change the Battery

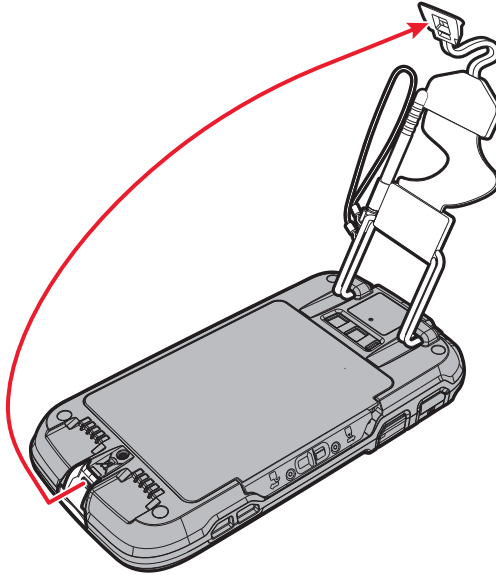
If your battery power is low, you need to either charge the battery in the computer, or replace it with a charged battery.

- 1 Save your files and close any open applications.
- 2 Press and hold the **Power** button. This screen appears:

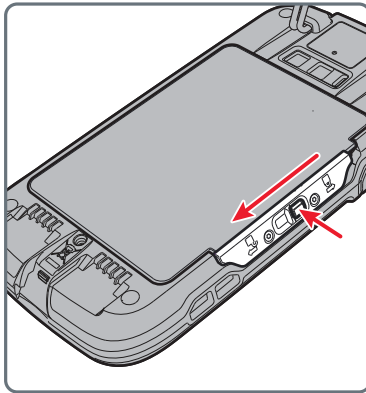


- 3 Swipe down toward the bottom of the screen to power off the CT50. The word “goodbye” appears on the screen as the computer powers off.

- 4 Disconnect the handstrap from the bottom of the computer.

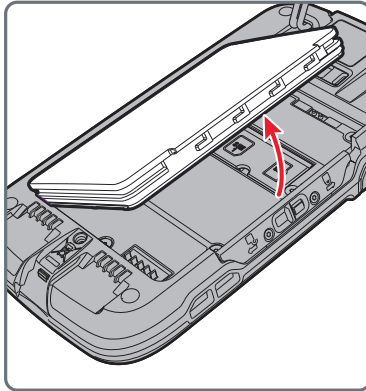


- 5 Press and slide the battery door toward the bottom of the computer to unlock the door.





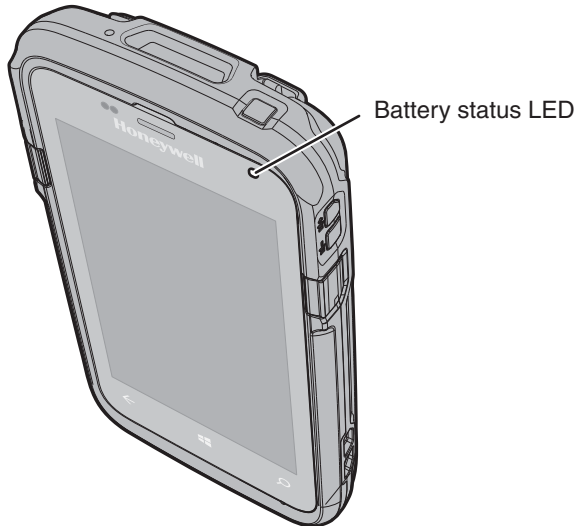
- 6 Lift up on the edge of the battery and remove it from the computer.



- 7 Insert the charged battery into the computer.
- 8 Press in on the battery door and slide it into the locked position.

## About the Battery Status LED

The Battery status LED in the upper right corner of the computer indicates the charging status of the battery.



### **Battery Status LED Descriptions**

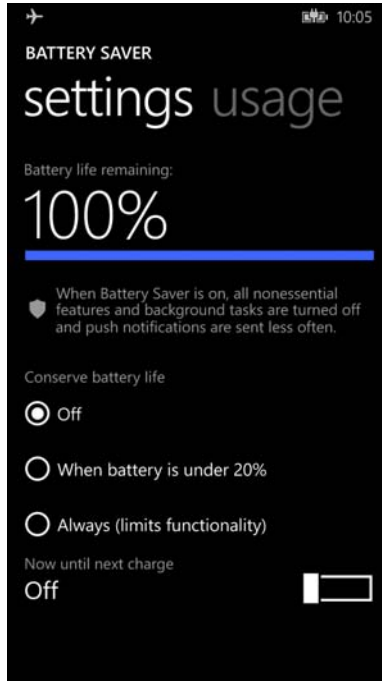
<b>LED State</b>	<b>Description</b>
Steady green	The computer is connected to a charger and the battery is more than 95% charged.
Blinking green	The computer is connected to a charger and the battery level is between 61% and 95% charged.
Steady amber	The computer is connected to a charger and the battery level is between 0% and 60% charged.
Blinking red	There is a battery error or the computer is not connected to a charger and the battery level is below 15% charged.  If there is a battery error, the battery may not be charging because it is missing, faulty, or outside the allowable charging temperature range. If it is outside the charging temperature range, charging will resume when the battery temperature returns to the acceptable range of 0 °C to 45 °C (32 °F to 113 °F).
Off	The computer is not connected to external power, the battery is operating normally, and the battery level is above 15% charged.

## **Check the Battery Settings**

In addition to Battery status LED, you can get battery information from the Battery Saver app.

- 1 Scroll to the bottom of the main screen and tap **All apps**.
- 2 From the apps list, tap **Battery Saver**.
- 3 Swipe left to view the settings screen. From the setting screen, you can choose these options:
  - **Off**: Turns the Battery Saver feature off.
  - **When battery is under 20%**: Turns the Battery Saver features on when the battery charge level drops below 20%.

- **Always (limits functionality):** Turns the Battery Saver feature on all the time.
- **Now until next charge:** Temporarily turns on the Battery Saver until the next time you charge the computer. Once the charge cycle starts, the computer switches back to normal battery usage.



## About Battery Life and Conservation

If you store the batteries outside of the computer for long periods of time, they slowly discharge. Honeywell recommends storing the battery in a charger to maintain battery performance.

### ***Battery Conservation Tips***

<b>When You Want to:</b>	<b>Do this to Save Battery Power:</b>
Use the computer and the low battery status icon appears or the battery status LED turns on.	Connect the computer to an external power source. Press and hold the <b>Power</b> button and then swipe toward the bottom of the screen to power off the computer. After the computer turns off, remove the battery and insert a fully charged battery.

### Battery Conservation Tips (continued)

When You Want to:	Do this to Save Battery Power:
Stop using the computer for 5 minutes or more.	Make sure that the low battery status icon is not on the screen and that the battery status LED is not on. Press the <b>Power</b> button to suspend the computer.
Store the computer for more than a day.	<ul style="list-style-type: none"><li>• If you are storing the computer for a few days (such as over the weekend), install a charged battery or connect the computer to a power source.</li><li>• If you are storing the computer for a longer period of time, remove and charge the battery. When the battery is done charging, store both the battery and the computer in a cool location.</li><li>• If you store the battery for several months, recharge the battery periodically to keep it at peak performance.</li></ul>
Store the battery outside of the computer.	Store the batteries in a charger.

## Battery Recommendations and Safety Precautions

- Charge the battery before use. Battery ships with a partial charge only.
- See [“Charge the Battery” on page 6](#) for approved charging methods. Use of this battery in other devices could result in damage to the device or battery.
- The temperature range for charging this battery is 0 °C to 45 °C (32 °F to 113 °F). Do not charge this battery outside of this range. For maximum battery life, charge at 23 °C (73 °F).
- Do not store the battery at temperatures above 60 °C (140 °F), such as inside a car on a hot day or in direct sunlight. Storage above 60 °C (140 °F) may damage the battery.
- Avoid dropping the battery or computer. If you suspect that the battery or computer is damaged, send it to a Honeywell service center for inspection.

- Replace this battery only with another model CT50-BTSC battery. These batteries have been tested in accordance with applicable safety standards. Contact your Honeywell sales representative or distributor if this battery is no longer available.
- Discarded batteries may create a safety hazard. Before disposal, cover the battery contacts with electrical insulating tape.
- Do not modify the battery or attempt to insert foreign objects into it.
- Do not solder directly to the battery contacts.
- Do not short circuit the battery, and keep it away from metallic items.
- Do not drop the battery or apply mechanical shocks or pressure to it.
- Do not disassemble or open, crush, bend or deform, puncture, shred or burn the battery.
- Do not immerse the battery in water or get the battery wet.
- Battery usage by children should be supervised.

## **Enable Airplane Mode**

If you do not need to connect to any wireless networks, you can enable Airplane mode to turn off all the radios and save battery power.

- 1 Swipe down from the top of the screen to view the action center.
- 2 Touch **Airplane Mode** to turn it on. The Airplane Mode icon appears in the status bar.

# Power On the CT50 for the First Time

To learn about creating custom provisioning XML files, see the *Windows Embedded 8.1 Handheld Administrators Guide* at

<https://technet.microsoft.com/en-us/library/dn499757.aspx>.

To quickly start the mobile computer for the first time, use one of these options:

- Scan the Quick Start bar code
- Use the Consumer Setup option

## Scan the Quick Start Bar Code

- 1 Press the **Power** button.
- 2 From the Welcome screen, select your language and then touch **next**.
- 3 Point the computer at the bar code below.
- 4 Press one of the **Scan** buttons.



The computer beeps twice and “configuration received” appears on the screen under Barcode.

- 5 Touch **next**. “Configuration progress...” appears on the screen.

When the computer finishes starting up, the Start screen appears.

## Use the Consumer Setup Option

- 1 Press the **Power** button.
- 2 From the Welcome screen, select your language and then touch **next**.
- 3 On the Set up Your Handheld screen, touch **More Options**.
- 4 Select **Consumer setup**. The computer restarts and then displays the Welcome back screen.
- 5 On the Connect to Wi-Fi screen, select a Wi-Fi network from the available network list.
- 6 Type the appropriate security credentials and then select **done**.
- 7 Select either **recommended** or **custom** from the Set up your Handheld screen and touch **OK**.
- 8 Follow the onscreen prompts to set up the computer and create a Microsoft® account (optional).

To learn more about what you can do with a Microsoft account, go to [www.windowsphone.com](http://www.windowsphone.com).

## Turn Power On or Off



**Note:** You should always power off the computer before removing the battery.

To turn the computer on:

- Press and release the **Power** button.

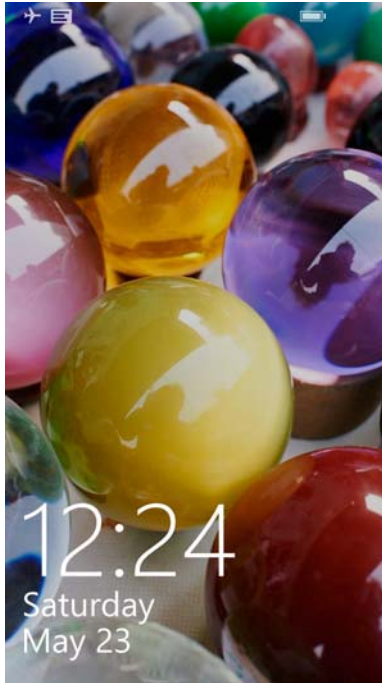
To turn the computer off:

- 1 Press and hold the **Power** button until “slide down to power off” appears on the screen.
- 2 Slide the screen down until the image disappears and “Goodbye” appears on the screen,

# Unlock the Screen

Every time you power on the computer, you will need to unlock it.

- Swipe up from the bottom of the screen to unlock it.



After you start using the computer, you should set a password to protect the computer.

- 1 Tap **All Apps > Settings > lock screen**.
- 2 Tap the toggle box to turn Password **On**.
- 3 In the Create a password screen, type the new password in the text box.
- 4 Type the password again in the Confirm password text box.
- 5 (Optional) Select the Show password check boxes if you want to see the password on the screen.
- 6 Tap **done**.



# About the Good Read LED

The Good Read LED indicates the status of the scanner. For more information on how to scan bar codes, see [“Scan a Bar Code” on page 38](#).

Good read LED



## ***Good Read LED Descriptions***

<b>LED Color</b>	<b>Description</b>
Green	Good read of a bar code.
Blinking green	The data collection engine is processing or starting up.

## Configure the Screen Backlight

The display has an ambient light sensor that automatically adjusts the backlight intensity to conserve power and ensure the display is readable. You can set the backlight intensity level as needed for your environment.

- 1 Tap **All Apps** > **Settings** > **brightness**.

- 2 Tap the toggle box to turn Automatically Adjust to **On** or **Off**.

If Automatic Adjust is turned off, select **low**, **medium**, or **high** from the Level setting.

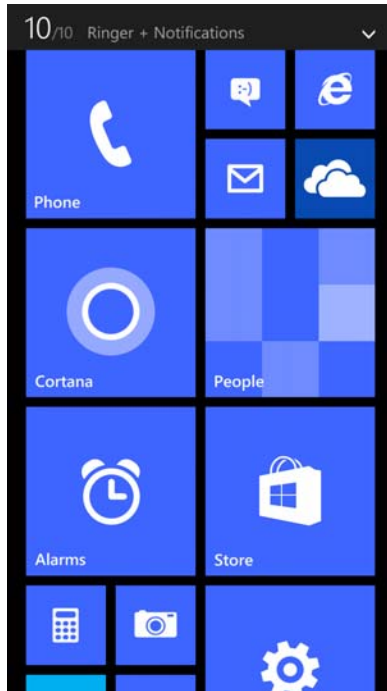
## About the Audio Features

The CT50 has a speaker, a microphone, and several software tools for configuring the volume of sounds.

### Adjust Ringer and Notification Volume

You can quickly adjust the volume of ringtone and notification sounds by using the side volume buttons.

- 1 Press one of the buttons on the right side of the computer. The Ringer + Notifications volume level appears at the top of the screen.

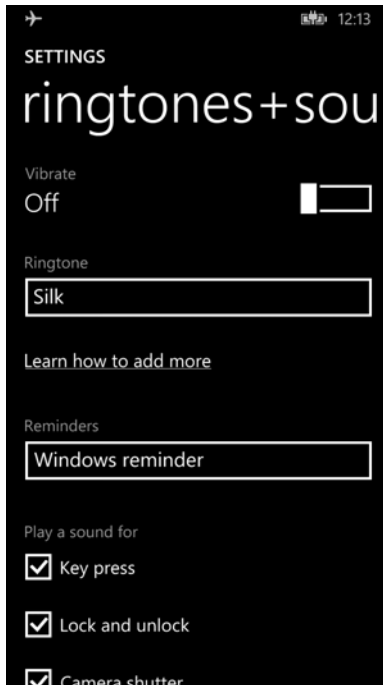


- 2 Press the buttons or adjust the slider to change the volume.

## Enable Vibrate Mode

You can switch to Vibrate mode and disable the speaker if necessary for your working environment.

- 1 Tap **All Apps > Settings > ringtones+sounds**.



- 2 Touch the Vibrate toggle box to turn on Vibrate mode.

## Audio Settings

This section describes the audio and sound settings you can configure in the Settings app. To change audio settings, start the Settings app and tap **ringtones+sound**.

### *Audio and Sound Settings*

Setting	Description
Vibrate	Turns vibrate mode on or off.
Ringtone	Select a ringtone.
Reminders	Select which app you want to notify you when you have a reminder.
Key press	Select to enable audio tones when you press a key.
Lock and unlock	Select to enable audio tones when you lock or unlock an app.
Camera shutter	Select to enable audio tones when you press the camera icon.
System alerts	Select to enable audio tones when the system sends you an alert.

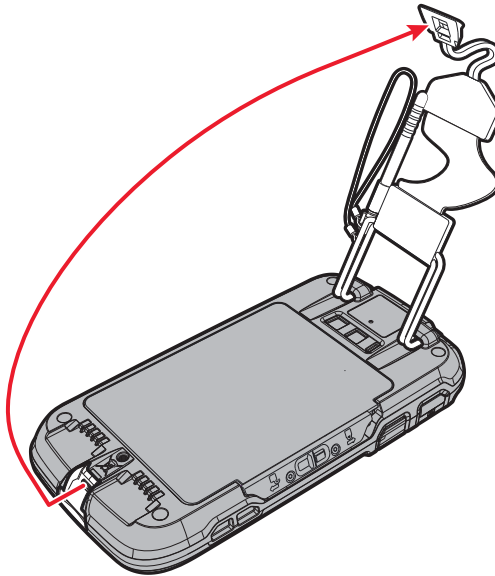
## Insert a microSD Card

You can use a microSD card to increase file storage capacity or to install software. Honeywell recommends the use of Single Level Cell (SLC) industrial grade microSD or microSDHC memory cards with the CT50 computer for maximum performance and durability.

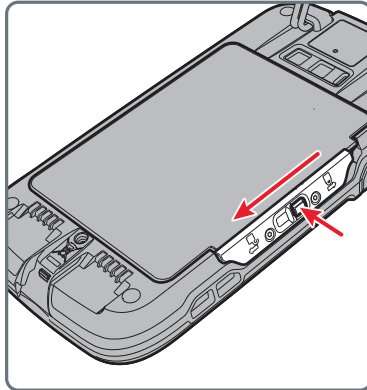


**Note:** Format memory card before initial use.

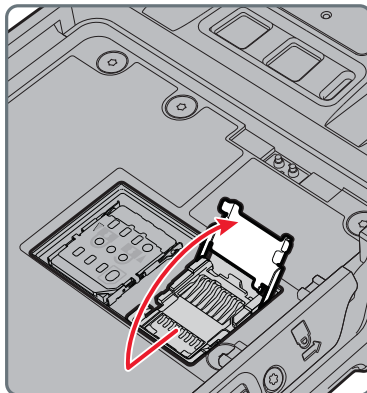
- 1 Power off the computer.
- 2 Disconnect the handstrap from the bottom of the computer.



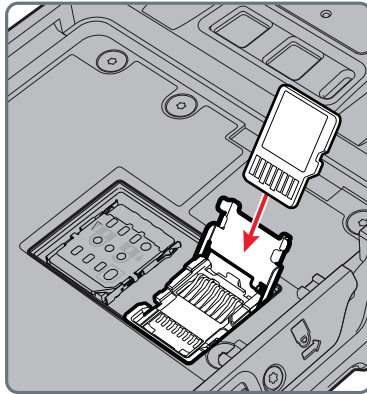
- 3 Press and slide the battery door toward the bottom of the computer to unlock the door.



- 4 Lift up on the edge of the battery and remove it from the computer.
- 5 Press down on the SD card door and slide it toward the top of the computer to open it.



- 6 Insert the SD card into the door.



- 7 Press down on the SD card door and slide the door toward the bottom of the computer to lock it.
- 8 Insert the battery into the computer.
- 9 Press in on the battery door and slide it into the locked position.
- 10 Replace the handstrap.

## How to Transfer Files

You can transfer files between your desktop PC and the CT50 with the HomeBase (and standard USB cable) or the USB adapter. When the computer is connected through USB, you can browse to it and drag-and-drop to move files back and forth to a PC.

You can transfer files with the:

- Windows Phone app
- File Explorer or Windows Explorer.



**Note:** The CT50 supports Hi-Speed USB communications (USB 2.0) with a maximum data transfer rate of 480 Mbps.



## Transfer Files with Windows Phone App

- 1 Connect the CT50 to your PC through a USB accessory and cable connection.
- 2 On the CT50, when asked if you want to use the USB data connection, tap **yes**.

If you are using Windows 8, the Windows Phone app automatically opens on your PC. If you are using Windows 7 or a Mac, go to [www.windowsphone.com](http://www.windowsphone.com) to download and install the Windows Phone app for desktop or Mac.

- 3 In the Windows Phone app, set your phone name and sync preferences.

The default phone name is “Windows Embedded Handheld.” If you want to change your phone name in the future, go to **All Apps > Settings > about**.

## Transfer Files with File Explorer or Windows Explorer

- 1 Connect the CT50 to your PC through a USB accessory and cable connection.
- 2 Depending on the Windows operating system, open **File Explorer** or **Windows Explorer**.
- 3 Under **Computer**, click on **Windows Embedded Handheld > Phone**.
- 4 You can now copy, delete and/or move files or folders between the computer and the PC or the an microSD card installed in the computer as you would with any other storage drive (for example, cut and paste or drag and drop).

# Accessories for the CT50

The CT50 with a battery. All other accessories are ordered and shipped separately. For help, contact your local sales representative.

## *CT50 Accessories and Descriptions*

<b>Accessory</b>	<b>Description</b>
CT50 Battery (Model CT50-BTSC)	The battery provides hours of power to the CT50. You may want to purchase spare battery packs for longer shifts.
Ethernet HomeBase (Model CT50-EB)	Use the Ethernet HomeBase to hold a CT50 with its battery installed, charge a spare battery pack, charge the main battery pack, and provide power to the mobile computer. The dock has a USB client connector as well as an Ethernet connector.
HomeBase (Model CT50-HB)	Use the HomeBase to hold a CT50 with its battery installed, charge a spare battery pack, charge the main battery pack, and provide power to the mobile computer. The HomeBase has a USB client connector.
ChargeBase (Model CT50-CB)	The CT50 ChargeBase is a 4-slot charging cradle that can power four computers, and charge their main batteries in 6 hours.
NetBase (Model CT50-NB)	The Net Base enables up to four CT50 computers to communicate with a host device over an Ethernet network. The Net Base also provides a second RJ45 Ethernet port for connection to an additional device such as a printer, workstation, or another Net Base.
Vehicle Power Adapter (Model CT50-MC)	Use the vehicle power adapter to charge the battery installed in the CT50 from the accessory port in your vehicle.
Vehicle Dock (Model CT50-MB)	Use the vehicle docks to hold and charge the CT50 while using it on a vehicle.
Quad Charger (Model CT50-QBC)	Use the quad charger to charge up to 4 batteries.

***CT50 Accessories and Descriptions (continued)***

<b>Accessory</b>	<b>Description</b>
USB Adapter (Model CT50-USB)	Use this snap-on adapter to provide USB host and client communications through the CT50.
Non-Dockable Scan Handle	Attach to a CT50 to have an easy way to grip the computer and scan labels.
Holster	Use the holster to carry the CT50 hands-free in the work environment. You can choose between three different holsters.



# 2

## About the User Interface and Applications

Use this chapter to learn about the Windows user interface and how to interact with the screen. You can also use this chapter to learn about the Honeywell applications on the computer.

# About the User Interface

The Windows Embedded 8.1 Handheld operating system provides a touch-friendly and easy to navigate user interface.

## About the Start Screen




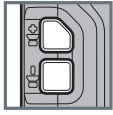
When you turn on the mobile computer, the Home screen is the first screen that appears after language provisioning is complete. The Status bar contains icons to the left tell you current wireless and network connection state. The status icons to the right show you the date, time, and the battery level.



## Navigation and Function Buttons

There are navigation and function buttons below the Status screen on the front panel of the computer and on the right side of the computer.







### *Navigation and Function Buttons*

Button	Description	Function
	Back	Takes you back to the previous screen.
	Home	Returns you to the Start screen.
	Search	Starts a search on the computer or the internet.
	Volume	Raises or lowers the volume of the speaker.




## About Status Bar Icons

Status and notification icons show you the current status of your network, the battery, notifications, and the sounds.

### *Common Status and Notification Icons*

Icon	Description
	An app or service is using computer location information.
	Unread notification.
	Wi-Fi network connection is active with full signal strength.
	The computer is paired and connected with a Bluetooth device.
	Vibrate mode is turned on.
	Battery is fully charged.

### Common Status and Notification Icons (continued)

Icon	Description
	Battery saver mode is turned on.
	The computer is connected to external power. When the battery is charging, the battery charge and external power icons alternate.
	Airplane mode is turned on.

## About Screen Gestures

Use your fingers or the stylus to manipulate icons, buttons, menus, the onscreen keyboard, and other items on the screen.

- To select or activate something, tap it.
- To type something, such as a name or password, touch where you want to type. A keyboard appears that lets you type into the field.

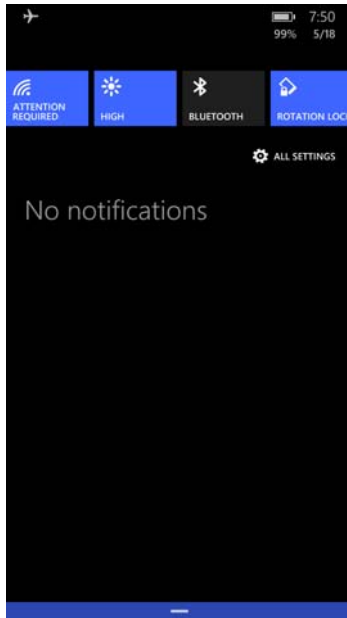
Other common gestures include:

- Touch and hold: Touch and hold an item by touching it and lifting your finger until an action occurs.
- Drag: Touch and hold an item for a moment. Without lifting your finger, move your finger on the screen until you reach the target position. For example, you can drag to reposition shortcuts on the Home screen.
- Swipe or slide: Quickly move your finger across the screen, without pausing when you first touch. For example, you can slide a Home screen left or right to view the other Home screens.
- Double-tap: Tap quickly twice on a web page, map, or other screen to zoom in. Double-tap again to zoom out.
- Pinch: In some apps, you can zoom in and out by placing two fingers on the screen at once and pinching them together (to zoom out) or spreading them apart (to zoom in).



## View Action Center

Use the Action Center to view the battery charge level, details about a notification or to quickly access and modify settings.





### **Windows Action Center**

- To open the action center, touch and hold the status bar at the top of the screen and then drag down.
- To close the action center, swipe up from the bottom of the screen, or tap the Back or Home buttons.
  - To dismiss a notification, swipe it sideways.
  - To dismiss all notifications, tap the X in the top right corner.

## Customize the Start Screen

The Start screen is the first screen you see when you power on the computer and unlock the screen. You can add, delete, move, resize, or group tiles into folders for quick access. Tiles can be apps, contacts, maps, albums, or office files. Live tiles provide notifications and updates in real time, such as weather information.


On the Start screen:

- 1 Touch and hold a tile.
- 2 Drag the tile to a new location on the Start screen:
  - Tap Unpin () to delete the tile.
  - Tap the arrow () to toggle through the tile sizes

## Set the Date, Time, or Time Zone

The computer gets the current date and time from its network connection. You can manually set the date, time, and time zone for your location. The 24-hour clock is turned off by default. By default, the CT50 is set to automatically update the time and date for your current location. Use this procedure to manually set the date, time, or time zone.

- 1 Tap **All Apps > Settings > date+time**.
- 2 Tap the toggle box for **Set date and time automatically** to turn it off.
- 3 Tap the Time zone, Date, and Time to set each one manually.

To set the Date and Time, you need to select the correct values and then tap .



To set the Time zone, you just need to tap the new time zone.

## View Software Information

- 1 Tap **All Apps > Settings > About**.
- 2 Tap **more info**. The following information appears on the screen:
  - Model
  - Carrier
  - Software
  - OS version
  - Firmware and hardware revision numbers
  - Radio software and hardware version number
  - Bootloader version
  - Chip SOC version
  - Screen resolution
  - MAC address
  - MEID, MDN, IMEI, and IMS
  - Custom ID

## View Hardware Information






Use the DiagnosticInfo app to view detailed hardware information on the computer.

- 1 Tap **All Apps > DiagnosticInfo**.
- 2 Swipe up or down to scroll through these settings:
  - System Date/Time
  - Device Information
  - Scanner Information
  - Honeywell Apps (version number)
  - Radio Information (includes MAC, Bluetooth, IP Addresses)
  - Battery Information
  - Memory Information
- 3 To export the diagnostic information to a text file, tap .
- 4 Select a folder location and then tap .
- 5 Tap **ok** to return to the DiagnosticInfo screen.

# Honeywell Applications on the Computer

Honeywell applications help you troubleshoot and connect your computer to other devices and networks.

## ***Honeywell Applications Available on the CT50***

Icon	Application	Description
	DiagnosticInfo	Use the DiagnosticInfo app to view device information, Honeywell Apps, Radio Information, Battery Information, Memory Information, and Scanner Information.
	IPConfig	Use IPConfig to view network adapter information.
	Ping	Use Ping to verify communication links or to make sure a specific IP address is working.
	Route	Use Route to view and edit the rules that govern how packets destined for various subnets are routed.
	ScanDemo	Use ScanDemo to demonstrate how the scanner works. You can use it to scan a bar code, set the symbologies it scans, and determine the computer response to a scanned bar code.

# 3

## About the Scanner

Use this chapter to understand how to scan bar codes and how to configure the scanner.

# About the Scanner

The internal scanner can read 1D and 2D bar code symbologies, composite symbologies, and postal codes. It also supports omni-directional scanning for greater flexibility in real-world settings. The image engine can also capture black and white images, such as signatures and pictures of damaged inventory.



**Warning:** Do not stare into the imager laser aimer.

## Scan a Bar Code

ScanDemo demonstrates the functionality of the scanner in the CT50 and is not intended as a functional business solution. Detailed information on how to create custom applications for the CT50 is provided in the *Software Development Kit (SDK)* section of the Dolphin CT50 Software tab on [www.honeywellaidc.com](http://www.honeywellaidc.com).

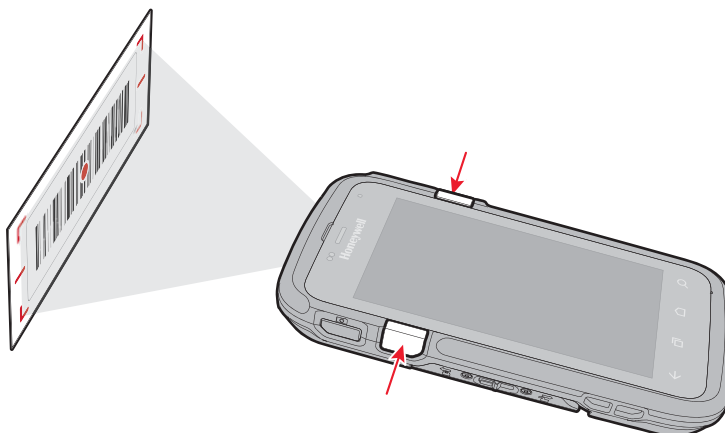
The scanner has an aiming beam to help you correctly frame bar codes. It also supports omni-directional (360°) scanning to make it easier for you to scan bar codes.



**Note:** Before you start scanning bar codes, use the Settings app to enable only the bar code symbologies that you need.

- 1 Tap **All Apps** > **ScanDemo**.
- 2 Point the scanner window at the bar code and hold the computer steady a few inches from the label.

- 3 Press one of the **Scan** buttons. The illumination frame appears.



Make sure the entire bar code is inside of the frame. When the scanner successfully reads a bar code, you hear a high beep and the Good Read LED turns on briefly.

- 4 Release the **Scan** button.

## About the Scanner Settings

You can set several scanner settings from the ScanDemo application that determine scanning options and profile settings. Settings include these sections Scan, Symbology, and Profiles.

### Scan Settings

Use the scan settings to determine how the scanner acts when you scan a bar code. You can control whether it vibrates, makes a sound, and how it scans.

#### *Scan Settings and Descriptions*

Scan Setting	Description
Vibrate	Turns on or off the vibrate on a good read.
Sound	Turns on or off the beeps to indicate a good read.

**Scan Settings and Descriptions (continued)**

Scan Setting	Description
Scan Mode	<p>There are three options for scan mode:</p> <ul style="list-style-type: none"> <li>• <b>Normal:</b> Normal mode requires you to press <b>Scan</b> or one of the <b>Scan</b> buttons between each scan.</li> <li>• <b>Automatic:</b> Automatic mode activates the scanner for continuous scanning without requiring you to touch <b>Scan</b> on the screen each time.</li> <li>• <b>Continuous:</b> Continuous mode activates the scanner only when you touch and hold one of the <b>Scan</b> buttons.</li> </ul>
Automatic Interval	Adjusts the automatic interval from 0 to 30 seconds between each scan.

**Symbology Settings**

The Symbology Settings define the bar code symbologies the scanner will decode with the ScanDemo app.

- Touch the toggle box next to a symbology to enable or disable it.
- Swipe up or down to scroll through the list of available symbologies.

For a complete list of all available symbologies, see Appendix A.

**Profile Settings**

The built-in Point of Service (POS) profiles are applied by the ScanDemo app using the Microsoft POS application program interface (API), `ClamiedBarcodeScanner.SetActiveProfileAsync`. This API sets the active profile on the CT50 bar code scanner. The profile strings defined by the `HoneywellDecoderSettingsv2.exm` file are returned to the app using `BarcodeScanner.GetSupportedProfiles`. It gets the list of profiles supported by the bar code scanner.

**Profile Settings and Descriptions**

Profile	Description
HON:Reset	Resets all symbology settings to disabled.
HON:EnablePreviewOnDecode	Profile not supported in ScanDemo.
HON:EnablePreviewOnDecodeAttempt	Profile not supported in ScanDemo.



**Profile Settings and Descriptions (continued)**

Profile	Description
HON:DisablePreview	The default profile. Disables sending images to the application. Only decode results are shown on the screen.
HON:ScanButtonEnable	<p>Enables scanner driver handling when you press and release the <b>Scan</b> button. ScanDemo automatically handles the Scan button events, so this profile has no visible effect.</p> <p><b>Example:</b></p> <ol style="list-style-type: none"> <li>1 When you press the <b>Scan</b> button, the scanner driver starts scanning and sends the ClaimedBarcodeScanner.TriggerPressed event.</li> <li>2 When you release the <b>Scan</b> button, the scanner driver stops scanning and sends the ClaimedBarcodeScanner.TriggerReleased event.</li> </ol>
HON:ScanButtonDisable	<p>Disables scanner driver handling when you press the <b>Scan</b> button. ScanDemo automatically handles the Scan button events, so this profile has no visible effect.</p> <p><b>Example:</b></p> <ol style="list-style-type: none"> <li>1 When you press the <b>Scan</b> button, the scanner only sends the ClaimedBarcodeScanner.TriggerPressed event.</li> <li>2 When you release the <b>Scan</b> button, the scanner only sends the ClaimedBarcodeScanner.TriggerReleased event.</li> </ol>
HON:EnableOOBE	Enables the symbology types required when the built-in Out-of-box plug-in runs at first boot for scanning EZConfig labels. This profile allows you to scan a prov.xml file to set up the CT50. You cannot modify this profile.



# 4

## Use the Phone

You can use the phone feature to make and receive phone calls as well as transmit data through wireless wide-area networks (WWANs).

# About the Phone

Phone features on the computer include a speaker and a microphone. You can also use a Bluetooth headset or hands-free kit. The phone feature is enabled by default.

The WAN radio in your computer determines the supported network types:

- If your computer includes the UMTS/HSPA+ WAN radio, you can connect to UMTS networks.
- If your computer includes the Flexible Network Radio, you can connect to CDMA or UMTS networks in all regions that support these technologies. The Flexible Network Radio is a software-defined radio (SDR) that can be configured for CDMA or UMTS depending on your wireless communication needs.

Honeywell supports Verizon in the United States (only) as a CDMA network carrier.

After you turn on the phone and activate service with your wireless carrier, you can customize the phone features and network settings in the Wireless & Networks section of the Settings app.



**Note:** Both WWAN radios support Network Information and Time Zone (NITZ) messages to automatically set the system time.

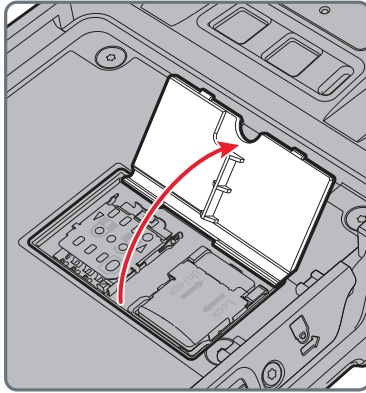
## Activate the UMTS Phone

Activating the UMTS phone on your CT50 is done the same way whether your computer has the Flexible Network Radio or the UMTS/HSPA+WAN radio.

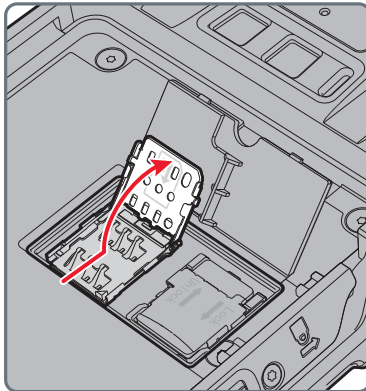
You use a SIM card to activate the UMTS phone on the CT50. You can purchase the SIM card from your network provider.

- 1 Power off the CT50.
- 2 Disconnect the handstrap from the bottom of the computer.
- 3 Press and slide the battery door toward the bottom of the computer to unlock the door.
- 4 Lift up on the edge of the battery and remove it from the computer.

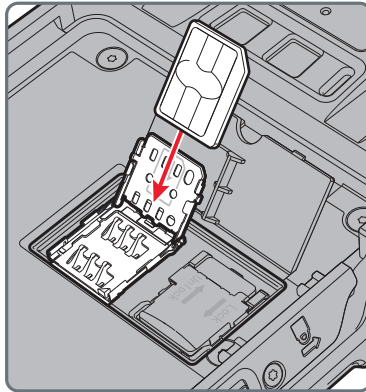
- 5 Lift up on the SIM and MicroSD door.



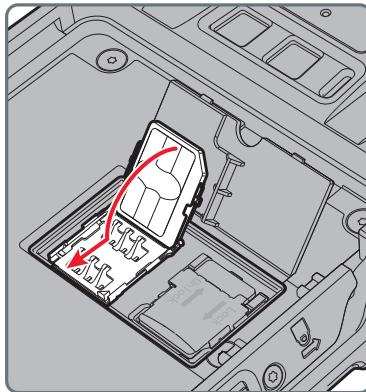
- 6 Press down and slide the SIM door toward the top of the CT50 to open it.



- 7** Insert the SIM card in the door.



- 8** Close the SIM card door and slide it toward the bottom of the CT50 to secure it.



- 9** Replace the battery, reconnect the handstrap, and press the Power button to turn on the CT50. The phone is now ready to use.

## Activate the CDMA Phone

To activate the CDMA phone in your mobile computer, you need to contact your wireless carrier and set up an account.

You also need to provide the carrier with the Mobile Equipment Identifier (MEID) for the computer. You can find the MEID:

- on a label located in the battery compartment.
- on the outside of the computer shipping box.




**Note:** For the CDMA phone, settings are permanently stored in the WWAN radio after activation. CDMA settings persist through a factory data reset.

The activation process is slightly different for each CDMA carrier. Your carrier sales contact and a Honeywell representative can guide you through the process.

## Make a Phone Call

Once the phone is activated, you can make a phone call.

- 1 On the Start screen, tap .
- 2 Tap the keypad icon to enter the number, and then touch the Call button to dial the number.

## Answer the Phone

When you receive a phone call, the Incoming Call screen opens, showing the caller ID. All incoming calls are recorded in the Call log. If you miss a call, you receive a notification.

## Make an Emergency Phone Call

You can use the phone to make an emergency phone call, even if the SIM card is missing from your UMTS phone or if you do not have a valid CDMA account. In either case, the phone shows that you have no service. However, if you dial certain emergency numbers (such as 112, 911, 000, 08, 118, 119, or 999) the call will go through.





# 5

## Use the Camera

Use this chapter to learn how to take pictures and record videos with the color camera.

# About the Color Camera

The CT50 contains an 8-megapixel color camera for taking pictures and videos. The camera and flash are located on the back of the computer.

Use the Photos app to view photos and videos stored on the CT50.

## Adjust the Camera and Video Settings

The camera and video settings are adjustable from within the **Camera** app.

### How to Zoom

The camera zoom is controlled using a pinching motion on the touch screen. Place two fingers on the screen at the same time, and then:

- spread them apart to zoom in (enlarge an object).
- pinch them together to zoom out.

### Change Photo Settings

You can change the camera settings for best results when taking pictures.

- 1 Press the **Camera** button and then tap More (...).
- 2 Tap **photo settings**. You can turn on/off or modify these settings:
  - Flash
  - Tap to take photo
  - Keep unsaved burst photos for
  - Resolution
  - Scene mode
  - ISO
  - Exposure compensation
  - White balance
  - Focus Assist Light
  - Antibanding
- 3 When you are done changing the settings, tap **save**.

## Change Video Settings

You can change the video settings for best results when taking videos.


- 1 Press the **Camera** button and then tap More (...).
- 2 Tap **video settings**. You can turn on/off or modify these settings:
  - Video light
  - Resolution
- 3 When you are done changing the settings, tap **save**.

## Choose the Settings for the Viewfinder

When you open the Camera app, the viewfinder settings appear at the top of the screen. Options to appear in the viewfinder include none, camera roll, resolution, lens picker, Flash, and Scene mode.



- 1 Press the **Camera** button and then tap More (...).
- 2 Tap one of the boxes underneath “show these settings in the viewfinder.”
- 3 Choose one of the options you want to appear in the viewfinder.
- 4 Repeat Step 3 for the remaining boxes.
- 5 When you are done choosing the settings for the viewfinder, tap More (...). You return to the camera app and your options now appear in the viewfinder at the top of the screen.

## Take a Photo



- 1 Press the **Camera** button or tap **All Apps > Camera**.
- 2 Using the screen as a viewfinder, move the computer until you see the image you want to capture.
- 3 Tap the screen to set the focus.
- 4 Press the Camera button or tap the camera icon () to take a picture. The camera takes a picture and small image of the picture appears in viewfinder at the top of the screen.
  - To view the picture, tap the thumbnail image.
  - To return to the Camera app, swipe the thumbnail image to the left.

## Take a Burst Photo

Use burst mode to take eleven photos in rapid succession when you want to make sure you get the picture you want.

- 1 Press the **Camera** button or tap **All Apps > Camera**.
- 2 Tap **burst mode** () at the bottom of the screen.
- 3 Using the screen as a viewfinder, move the computer until you see the image you want to capture.
- 4 Tap the screen to set the focus.
- 5 Press the Camera button or tap the burst mode icon to start taking the pictures. The number of pictures taken appears in the lower left corner of the screen.
- 6 View the photo album and touch Burst to see the series of photos you just took.
- 7 Swipe the filmstrip left or right to scroll through the photos.
- 8 Touch the photos you want to keep. A check mark on the photo indicates that you selected it.
- 9 Tap the save icon in the bottom middle of the screen.
- 10 Tap the Back button () to return to the camera app.

## Record a Video

- 1 Press the **Camera** button or tap **All Apps > Camera**.
- 2 Tap video mode at the bottom of the screen.
- 3 Tap  to begin recording video.
- 4 When you are done recording, tap .

# 6

## Configure the Computer

Use this chapter to learn how to configure the CT50. You will also find information on how to configure network communications and wireless security.

# How to Configure the Computer

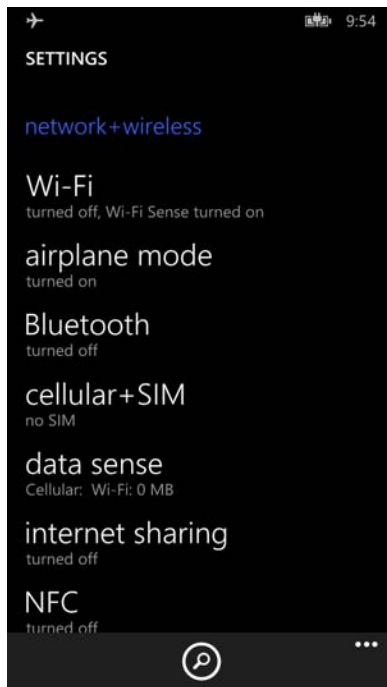
You can configure many parameters on the computer such as the bar code symbologies it decodes, or the network settings. The values you set for these parameters determine how the computer operates.

You configure the computer using the Settings app.

## Start the Settings App

The Settings app is located in the All Apps menu.

- Tap **All Apps > Settings**. Or, pull down the Action Center from the top of the screen and tap **All Settings**.



## About the Structure of the Settings App

Use this section to learn about the structure of the Settings app so you can find parameters quickly.

### Settings App Structure

Setting	Description
Network+Wireless	Lets you configure your Wi-Fi network, turn on or off airplane mode, configure Bluetooth, turn on or off NFC, and configure cellular data usage.
Personalization	Lets you personize the CT50 according to your needs. You can configure the theme, sounds, screen lock times, notifications, and more.
Accounts	Lets you set up email, contacts, and workplace accounts.
System	Provides information about your CT50 and lets you set the brightness level, screen rotation, battery saver settings, and photos+camera settings.
Time+Language	Lets you configure the date and time, language, region, and keyboard settings.
Input+Accessibility	Lets you configure the text size, contrast, zooming capability, and narration and speech settings for the CT50.
Privacy	Lets you configure the privacy settings for your CT50 such as location and find my phone.
Update+Backup	Lets you backup data to the cloud and check for updates.
Extras	Lets you configure extra information for the CT50 such as turn off display on face down. It also provides battery information.

# About Network Communications

You can use the mobile computer in your wireless or wired data collection network. You can connect your computer using:

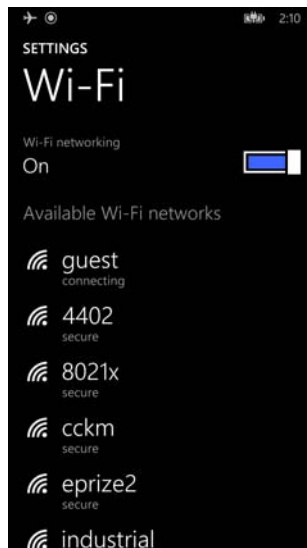
- 802.11 radio communications.
- Ethernet communications.
- Bluetooth communications.
- Near Field Communication (NFC) technology.
- USB and serial communications.

## Connect to a Wi-Fi Network

The CT50 has an 802.11 radio to transfer data using wireless communications. Before you connect to a Wi-Fi network, you need to know about your network security protocol and its required credentials. By default, the 802.11 radio is disabled.

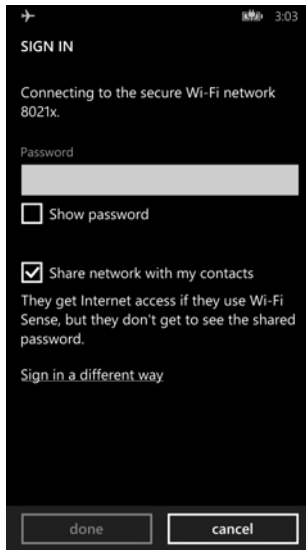
When a Wi-Fi connection is active, you can view connection information or edit the networks settings by selecting the network name on the Wi-Fi Settings screen.

- 1 Tap **All Apps > Settings > Wi-Fi**.
- 2 Touch the toggle box to turn on Wi-Fi. A list of discovered networks appears.






- 3 Tap a network name in the list to view details:



If the network is secured, a list of required information appears (such as a password, or other credentials). To connect to the secured network, enter the required information and tap **done**.


## Connect to a Hidden Wi-Fi Network

For security reasons, some networks do not appear on the available network list even if you are in range.

- 1 Tap **All Apps > Settings > Wi-Fi**.
- 2 Touch the toggle box to turn on Wi-Fi. A list of discovered networks appears.
- 3 Scroll to the bottom of the screen and tap **manage**.
- 4 Tap  and the Add Network screen appears.
- 5 In the **Network name** box, type the network name. The network name is case-sensitive.
- 6 Tap **add**.
- 7 If the network is secure, you are asked to provide information relevant to the network security protocol such as a password, key, or certificate. Type the required information.
- 8 Tap **Done** to connect.


## Modify Channel Settings

You can manually select the channels the 802.11 radio uses for communication.

- 1 Tap **All Apps > Settings > extras > Wi-Fi Radio Settings**.
- 2 Tap **Channel Settings**.
- 3 Swipe left or right to view the channels available under the 2.5 GHz, 5 GHz, and DFS bands.
- 4 Select the boxes next to the channels to enable or disable them.
- 5 Tap  to save the settings.

## Change Roaming Settings

By default, roaming is enabled for the 802.11 radio. When enabled, the Wi-Fi radio automatically roams from one access point to another as needed to provide seamless connectivity.

- 1 Tap **All Apps > Settings > extras > Wi-Fi Radio Settings**.
- 2 Tap **Roaming Settings**.
- 3 Tap the **Roaming** check box to disable roaming.
- 4 Tap  to save the settings.

## Connect to an Ethernet Network

By default, the CT50 is configured to obtain IP addresses automatically through the DHCP server. In most cases, you can simply insert the CT50 into an Ethernet dock and connect to the Ethernet network. To connect the computer to an Ethernet network, you need an Ethernet dock.


- 1 Make sure the dock is connected to your Ethernet network.
- 2 Place the computer in the dock.
- 3 Tap **All Apps > DiagnosticInfo** to view the assigned IP address.

## How to Connect to Virtual Private Networks

The computer supports connecting to virtual private networks (VPNs). This section describes how to add and connect to VPNs. To configure VPN access, you must obtain details from your network administrator. To establish a VPN connections, you must first create a VPN profile on the CT50. You view and change VPN settings in **All Apps > Settings**.

## Add a VPN Profile

Before you can connect to a VPN, you must add VPN information.

- 1 Tap **All Apps > Settings > VPN**.
- 2 Touch the toggle box to turn on VPN.
- 3 Touch .
- 4 In the **Server name or IP address** box, type the server name or IP address of the VPN server.
- 5 In the **Type** box, choose either **IKEv2, L2TP with IPSec**, or your **VPN service provider** for the type of VPN connection you want to create.  
  
The VPN service provider only appears in the options if you have already downloaded and installed the service provider app. If necessary, you can touch the link under the Type box to connect and download an SSL VPN app from the Windows Store.
- 6 Touch the **Connect using** box.
- 7 Select the security type required to connect to the VPN server and then type the required information:
  - **User name + password:** Type your **User name** and **Password**.
  - **Certificate:** The CT50 automatically searches for a certificate on the computer. Touch the security certificate you want to use.
  - **User name + password + preshared key:** Type your **User name**, **Password**, and **Preshared Key**.
  - **Preshared key:** Type your **Preshared Key**.
  - **Preshared key + certificate:** The CT50 automatically searches for certificates on the computer. Touch the security certificate you want to use and then enter the **Preshared Key**.
- 8 (Optional) Touch **Server certificate validation** to make sure the server is authenticated.
- 9 Type the name you want to use for this VPN profile in the **Profile name** box.
- 10 If necessary, you can touch **Advanced** to modify proxy and Wi-Fi settings.
- 11 Tap **Save**.

# About Wireless Security

The computer provides these security solutions for your wireless network:

- Wi-Fi Protected Access 2 (WPA2™)
- Wi-Fi Protected Access (WPA)
- 802.1x
- LEAP
- WEP

Honeywell recommends WPA2 security with PSK (Personal) or 802.1x (Enterprise) key management.

Before you set security, you need to enable the radio, set the date, and set the SSID on your computer. To use 802.1x security, you need to load a root certificate on your computer. To use transport layer security (TLS) with 802.1x security, you also need to load a user certificate.

Use the Settings app to access and configure all wireless security settings.

## About Certificates

The CT50 allows you to install digital certificates for secure client communications with websites and services. You can install certificates through Internet Explorer, email, or mobile device management (MDM). Once you install a certificate, you can use it to set up your VPN profiles, Wi-Fi, and email accounts. You can only remove a certificate by resetting the CT50 (include link to Reset the CT50).

### Install a Certificate with Internet Explorer

Some certificates are posted and made available for download through a device-accessible URL.

- 1 Type the URL in the Internet Explorer address bar.
- 2 Select the certificate. It opens on the CT50.
- 3 When prompted, select to install the certificate.

## Install a Certificate with Email

The Windows Embedded 8.1 Handheld certificate installer supports .cer, .p7b, .pem, and .pfx files.

- 1 Open the email with the encrypted certificate file attached.
- 2 Save the file to the CT50.
- 3 Select the file to open it and choose install.
- 4 Type any security information required.

## How to Install a Certificate with MDM

Administrators can use Mobile Device Management (MDM) software to add root and CA certificates or configure the CT50 to enroll a client certificate with an enrollment server that supports Simple Certificate Enrollment Protocol (SCEP) used for certificate based client authentication (such as Wi-Fi, VPN, or email). To learn how to install certificates with MDM, go to <https://msdn.microsoft.com/en-us/library/dn643705.aspx>.

# About Bluetooth Communications

The CT50 is Bluetooth-enabled, which lets you connect to other Bluetooth devices. You need to turn on the Bluetooth radio before you can discover and connect to Bluetooth devices. By default, the radio is turned off.

The Bluetooth radio maintains its current state through a system reset. If you perform a factory data reset, you must recreate pairings to devices.

## Connect a Bluetooth Device

To connect to a Bluetooth device, you must enable Bluetooth and then select the device from a list of discovered devices.



**Note:** If you are attempting to connect to a printer or a headset, the default pin may be 1234 or 0000. If neither of these pin numbers work, consult the device documentation for the pin number.

- 1 Tap **All Apps > Settings > Bluetooth**.
- 2 Touch the toggle box to turn on Bluetooth. A list of available Bluetooth devices appears.

- 3 Tap the name of the device you want to pair with the CT50. As the Bluetooth radio attempts to connect with the device, “pairing” appears under the name.
- 4 If the device requires a pin, do one of the following:
  - Compare the pin displayed on both the computer and other device in the Pairing accessory message box. If they match, select **OK**.
  - Enter the pin for the device and then select **done**.
- 5 When the devices are paired successfully, “paired” appears under the device name.

## **Disconnect a Paired Device**

You can disconnect a paired Bluetooth device from the Settings app.

- 1 Tap **All Apps > Settings > Bluetooth**.
- 2 Touch and hold the name of the paired device and then select **delete**.

## **About Serial and USB Communications**

You can use these accessories to transmit data to and receive data from another device through serial or USB communications:

- Vehicle dock
- HomeBase
- Ethernet HomeBase
- USB snap-on adapter
- RS-232 DEX adapter

For information on these accessories, contact your local sales representative.

# About Near Field Communication (NFC)

NFC technology provides the ability for short-range, wireless data transfer between the CT50 and NFC tags or other NFC enabled devices placed in close proximity to the back of the computer. NFC equipped CT50 models support the following modes of operation:

- **NFC tag reader/writer mode:** The computer reads and/or writes digital information from or to an NFC tag.
- **Peer-to-Peer (P2P) mode:** The computer uses Android Beam and/or Bluetooth technology to transfer screen content (such as a picture, contact information, Web page url, or file) between NFC enabled devices.



**Note:** Sleep Mode (Suspend Mode) and the screen lock temporarily turns the NFC radio off.





# 7

## Manage and Maintain the CT50

Use this chapter to understand how to upload software, perform troubleshooting, and maintain the CT50.

# Update the CT50 Software

You can use a microSD card to flash a specific firmware image to the CT50 or to update the computer if there is no access to the internet for over-the-air (OTA) automatic updates. To update the CT50 with a microSD card, you will need a:

- 2GB microSD card.
- valid Windows Embedded 8 Handheld full flash update image (Flash.ffu).



**Caution: All data on the CT50 is erased during the flash process.**

- 1 Copy the Flash.ffu image to the root directory on the microSD card. The image name must be Flash.ffu and it must be signed by the OEM for the manual flash feature to recognize the image.
- 2 Insert the microSD card into the CT50. For help, see [“Insert a microSD Card” on page 22.](#)
- 3 Apply external power to the CT50. The computer must have power for the entire flash process.
- 4 Tap **All Apps > Settings > Manual Flash.**

If a valid Flash.ffu image is found on the microSD card, a “Configuration received” message appears under SD Card.



- 5 Tap **SD Card** to start flashing the computer.
- 6 When prompted, select **OK** to confirm. All data on the computer will be erased.
- 7 Select **OK** to verify that the computer is connected to a reliable power source.

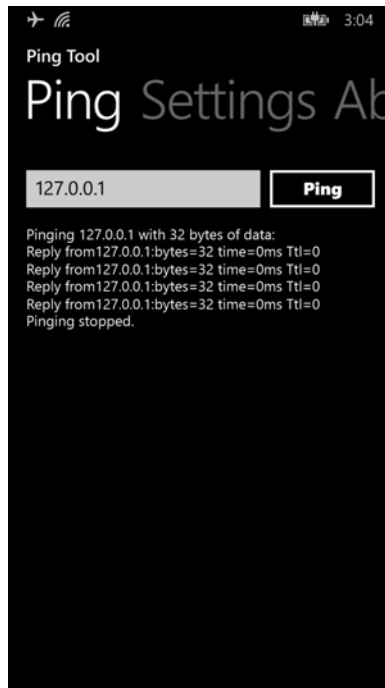
A “Goodbye” message appears on the screen and then the computer reboots into flash mode. A lightning bolt appears on the screen as the image flashes onto the computer. The flash process takes several minutes without a progress indicator. When the flashing process is complete, the CT50 restarts and is back to the same configuration as the first time you powered it on.
- 8 Set up your computer again.

## Test a Network Connection

The Ping app provides a GUI-based version of the traditional command line ping utility. Pinging sends out an echo request to a specific computer on the network. Use Ping to verify communication links or to make sure a specific address is working.

- 1 Tap **All Apps > Ping**.
- 2 Type the destination IP address in the box.

- 3 Tap **Ping**. The results appear in the lower half of the screen.



## View Network Adapter Information

The IPConfig app displays, releases, and renews IP parameters for on-board network adapters. Use IPConfig to view information on the network adapters including the MAC address, IP address, netmask, gateway, and DHCP settings.

- 1 Tap **All Apps > IPConfig**.
- 2 From the AdapterInfo screen, touch the box under **Adapter**.
- 3 Select one of the integrated network adapters installed in the computer from the drop-down menu.

# Change How Data Packets are Routed

The Route app allows you to view and edit the rules that govern how packets destined for various subnets are routed. These rules tell the computer which gateways, on a given subnet, may be used to route packets to hosts on other subnets. You can add, delete, clear, or print a route. This procedure explains how to add a route.

- 1 Tap **All Apps > Route**.
- 2 Type the range of IP addresses to which this rule will apply in the **Destination** and **Netmask** fields.
- 3 Type the **Gateway**.
- 4 (Optional) Type the **Metric**.
- 5 (Optional) Type the **Interface**.
- 6 Tap **Execute**. The system verifies your results and the Output screen lets you know if your entry was added successfully.

# How to Restart the Computer

If the computer or an application locks up, or if the computer does not respond when you press the **Power** button, you may need to restart the computer.

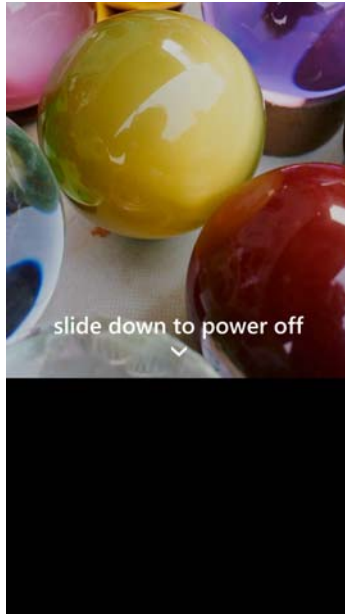
The computer uses the configuration currently saved in flash memory during the boot process. Try these methods, in order, to restart the computer:

- **Reset:** Restarts the computer and goes through the initialization process.
- **Clean boot:** Completely erases the computer memory, including all applications and data files, except those in the Flash File Store or any removable storage.

## Reset the Computer

You may need to restart the computer to correct conditions where an application stops responding to the system.

- 1 Save your files and close any open applications.
- 2 Press and hold the **Power** button until this screen appears:



- 3 Swipe down toward the bottom of the screen to power off the CT50. The word “goodbye” appears on the screen as the computer powers off.
- 4 Press the **Power** button to turn on the CT50.

## Clean Boot the Computer

If the computer seems to be locked up, try resetting it. If reset does not work, use a clean boot to get the computer up and running for further troubleshooting.

When you perform a clean boot, all personal content is erased and all factory default settings are restored on the computer. The clean boot discards any account information you may have added, including your Microsoft account information. Only installed Microsoft over-the-air (OTA) updates persist after you perform a clean boot.



**Caution: A clean boot erases the memory on the computer, including all applications and data files with the exception of the information in the Flash File Store or any removable storage. You must reimplement any custom provisioning after a clean boot.**

- 1 Tap **All Apps > Settings > about**.
- 2 Scroll to the bottom of the screen and tap **reset your phone**.
- 3 When asked if you want to continue, tap **yes**.
- 4 When prompted again, tap **yes**. You should see “goodbye” appear on the screen and then a set of gears with a status bar below until the computer turns off.
- 5 Press the **Power** button to turn on the CT50. You will need to set up your computer again.

# Clean the Computer

To keep the computer in good working order, you may need to clean the scanner window, color camera window, and the touch screen. Clean the windows and the touch screen as often as needed for the environment in which you are using the computer. To clean the computer, use one of these recommended cleaning agents:

- Acetic acid, 10% in water
- Ethyl alcohol, 10% in water
- Mild soap solutions



**Caution:** There are no user-serviceable parts inside the computer. Opening the computer will void the warranty and may cause damage to the internal components.



**Note:** Honeywell recommends that you leave the battery installed when you clean the computer. Leaving the battery installed helps prevent fluids from entering the computer through the SIM card and microSD card connectors,

- 1 Press the **Power** button to suspend the computer.
- 2 Dip a clean cloth towel in the cleaning agent and wring out the excess.
- 3 Wipe off the scanner window, camera lens, and flash area. Do not allow any abrasive material to touch these surfaces.
- 4 Wipe dry.
- 5 Let the computer completely air dry before using again.



# A

## Specifications

# Physical and Environmental Specifications

This section lists the physical and environmental specifications for the CT50.

## ***Physical Dimensions***

Length:	160 mm (6.30 in)
Width:	82.5 mm (3.25 in)
Depth:	19 mm (0.75 in) (without handstrap) 22.6 mm (0.89 in) (with handstrap)
Weight (with battery):	342 g (1.13 lbs) (including battery)

## ***Tumble and Drop Specifications***

Tumble specification:	1000 1 m tumbles
Drop specification:	5 ft multiple drops to unyielding steel plate, -10 °C to +50 °C (14 °F to 122 °F) temperature range and 4 ft drop at -20 °C (-4 °F)

## ***Power and Electrical Specifications***

Operating battery:	Rechargeable Lithium-ion 3.9 V, 4000 mAh battery
Electrical rating:	5 V, 2 A

## ***Temperature and Humidity Specifications***

Operating temperature:	-20 °C to 50 °C (-4 °F to 122 °F)
Storage temperature:	-30 °C to 70 °C (-22 °F to 158 °F) For maximum battery life, store at 23 °C (73 °F) at 50% charge.
Relative humidity (operating):	0% to 95% non-condensing
Environmental rating:	IP67, Category 1

## **Screen Specifications**

4.66-inch TFT color LCD with backlight, 720-pixel HD, outdoor viewable touch screen.

## **Language Support**

World-wide English, French, German, Italian, Spanish, Simplified Chinese, Traditional Chinese.

## **Bar Code Symbolologies Supported**

The CT50 supports these bar code symbolologies:

### **1D Symbolologies**

- China Post
- Codabar
- Code 11
- Code 128
- Code 32
- Code 39
- Code 39 with Full ASCII
- Code 93
- EAN-8
- EAN-8 with 2 Digit Addenda
- EAN-8 with 5 Digit Addenda
- EAN-13
- EAN-13 with 2 Digit Addenda
- EAN-13 with 5 Digit Addenda
- GS1-128
- Korea Post
- IATA 2 of 5
- Industrial 2 of 5
- Interleaved 2 of 5
- ISBN
- ISBN with 5 Digit Addenda
- ISBT 128
- Matrix 2 of 5
- MSI
- EAN.RCC (RSS-14)
- RSS Limited
- RSS Expanded

## **Appendix A — Specifications**

- Telepen
- Trioptic Code
- UPC-A
- UPC-A with 2 Digit Addenda
- UPC-A with 5 Digit Addenda
- UPC-E0
- UPC-E with 2 Digit Addenda
- UPC-E with 5 Digit Addenda
- UPC-A (Coupon Code)

### **2D Symbolologies**

- Aztec Code
- Codablock A
- Codablock F
- DataMatrix
- HanXin
- Maxicode
- Micro PDF 417
- MicroQr
- PDF 417
- QR Code
- TLC39
- OCR-A
- OCR-B

### **Postal Codes**

- Australian Post
- Canadian Post
- KIX (Netherlands Dutch) Post
- Japanese Post
- British Post
- Planet Code
- Postnet
- UsIntelligent

## Imager Reading Distances

The guaranteed depth of field measurements were taken using these parameters:

- Distances are measured from the front of the engine.
- 23 °C (73 °F), 0 lux
- Photographic quality codes



**Note:** Time to Read and Depth of Field are impacted if the bar code symbol is at the edge of the image.

### *White Illumination Monochrome Sensor Only - Guaranteed Specs*

Focus Symbology	Standard Range (SR)		
	Near Distance (in/cm)	Far Distance (in/cm)	Delta (in/cm)
5 mil Code 39/128	3.6 (9.1)	5.6 (14.2)	2.0 (5.1)
10 mil Code 39/128	1.9 (4.8)	12.0 (30.5)	10.1 (25.6)
100% UPC	2.1 (5.3)	15.1 (38.1)	12.9 (32.7)
6.7 mil PDF 417	2.5 (6.4)	6.6 (16.7)	4.1 (10.4)
10 mil DataMatrix/Aztec	2.9 (7.4)	7.3 (18.5)	4.4 (11.1)

### *White Illumination Monochrome Sensor Only - Typical Specs*

Focus Symbology	Standard Range (SR)		
	Near Distance (in/cm)	Far Distance (in/cm)	Delta (in/cm)
5 mil Code 39/128	2.5 (6.4)	6.4 (16.3)	3.9 (9.9)
10 mil Code 39/128	1.1 (2.8)	13.0 (33.0)	11.9 (30.2)
100% UPC	1.8 (4.6)	16.5 (41.9)	14.7 (37.3)
6.7 mil PDF 417	1.8 (4.6)	7.3 (18.5)	5.5 (14.0)
10 mil DataMatrix/Aztec	2.1 (5.3)	8.0 (20.3)	5.9 (15.0)

**Honeywell**

[www.honeywellaidc.com](http://www.honeywellaidc.com)

Dolphin CT50 Mobile Computer for Windows Embedded 8.1 Handheld User Guide



P/N CT50W8-ENUS-UG Rev A