

# EC30

Enterprise Companion



**ZEBRA**

## **Product Reference Guide**

### Android 11™

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# About this Guide

This guide provides information about using the EC30 enterprise companion and accessories.



**NOTE:** Screens and windows pictured in this guide are samples and can differ from actual screens.

## Configurations

This guide covers the following configuration:

Configuration	Radios	Display	Memory	Data Capture Options	Operating System
EC30	WLAN: 802.11 a/b/g/n/ac/d/h/i/k/r/w WPAN: Bluetooth v5.0 Low Energy	3.0" Full Wide Video Graphics Array (854 x 480)	4 GB RAM / 32 GB Flash	2D imager (SE-2100)	Android-based, Google™ Mobile Services (GMS) 11. Android-based AOSP 11.

## Notational Conventions

The following conventions are used in this document:

- **Bold** text is used to highlight the following:
  - Dialog box, window, and screen names
  - Drop-down list and list box names
  - Checkbox and radio button names
  - Icons on a screen
  - Key names on a keypad
  - Button names on a screen
- Bullets (•) indicate:
  - Action items
  - List of alternatives
  - Lists of required steps that are not necessarily sequential.
- Sequential lists (for example, those that describe step-by-step procedures) appear as numbered lists.

## Icon Conventions

The documentation set is designed to give the reader more visual clues. The following graphic icons are used throughout the documentation set.



**NOTE:** The text here indicates information that is supplemental for the user to know and that is not required to complete a task. The text here indicates information that is important for the user to know.



**IMPORTANT:** The text here indicates information that is important for the user to know.



**CAUTION:** If the precaution is not heeded, the user could receive a minor or moderate injury.



**WARNING:** If danger is not avoided, the user CAN be seriously injured or killed.



**DANGER:** If danger is not avoided, the user WILL be seriously injured or killed.

## Service Information

If you have a problem with your equipment, contact Zebra Global Customer Support for your region. Contact information is available at: [zebra.com/support](https://zebra.com/support).

When contacting support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number


Zebra responds to calls by email, telephone, or fax within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra Customer Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your Zebra business product from a Zebra business partner, contact that business partner for support.

## Determining Software Versions

Before contacting Customer Support, determine the current software version on your device.

1. Swipe down from the Status bar with two fingers to open the Quick Access panel, and then touch .
2. Touch **About phone**.

**3.** Scroll to view the following information:

- Battery information
- SW components
- Legal information
- Model & hardware
- Android version
  - Android security patch level
  - Android security patch version
  - Baseband version
  - Kernel version
  - Build number

## Determining the Serial Number

Before contacting Customer Support, determine the serial number of your device.

- 1.** Touch **About phone**.
- 2.** Touch **Model & hardware**.
- 3.** Touch **Serial number**.

# Getting Started

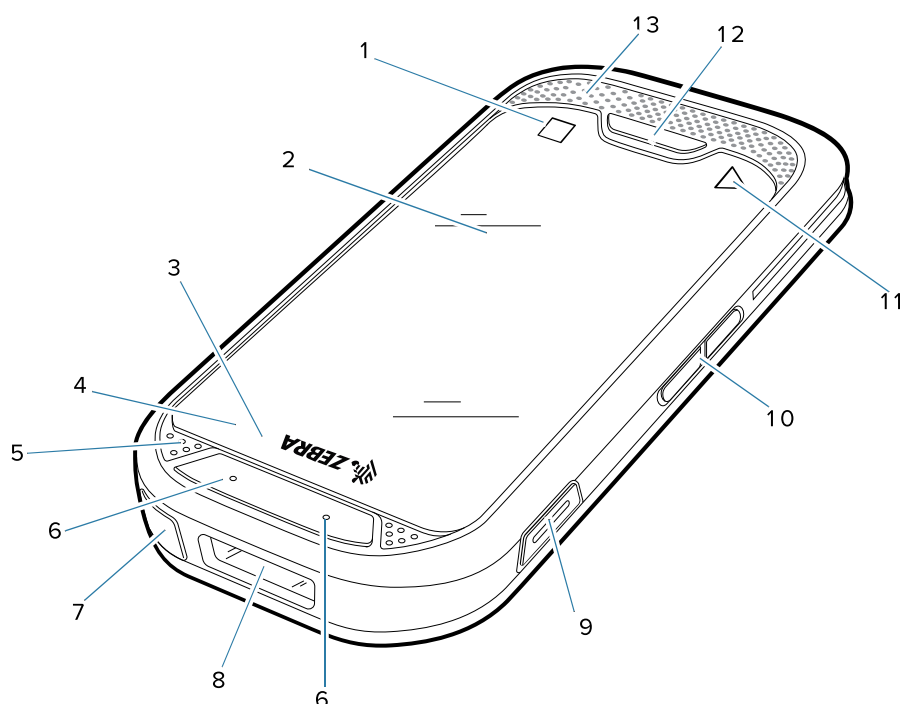
This chapter provides information for getting the device up and running for the first time.

## Unpacking

1. Carefully remove all protective material from the device and save the shipping container for later storage and shipping.
2. Verify that the following were received:
  - Enterprise Computer
  - Regulatory Guide.
3. Inspect the equipment for damage. If any equipment is missing or damaged, contact the Global Customer Support center immediately.
4. Prior to using the device for the first time, remove the protective shipping film that covers the scan window and display.

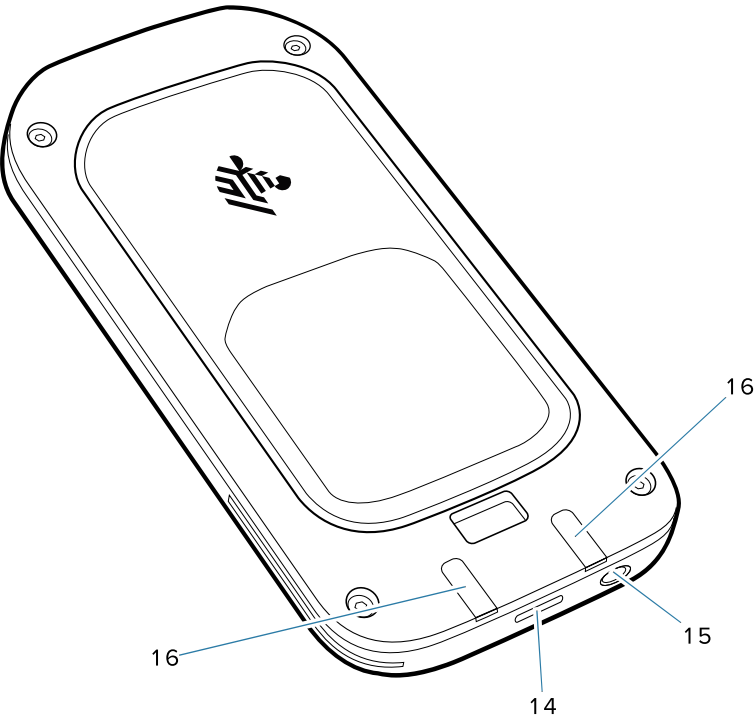
## Features

**Figure 1** Front View



Number	Item	Function
1	Recent	Displays recently used applications (programmable).
2	Touch Screen	Displays all information needed to operate the device.
3	Data Capture LED	Indicates data capture status.
4	Charging/Notification LED	Indicates battery charging status while charging and application generated notifications.
5	Microphone	Use for voice or audio input and recording or for PTT communications.
6	Scan Button	Initiates data capture (programmable).
7	Power Button	Turns the display on and off. Press and hold to reset the device or power off.
8	Exit Window	Provides data capture using the imager.
9	PTT Button	Initiates push-to-talk communications (programmable).
10	Volume Up/Down Button	Increase and decrease audio volume (programmable).
11	Back	Displays the previous screen (programmable).
12	Home Button	Displays the Home screen (programmable).
13	Speaker	Provides audio output for video and music playback. Provides audio for PTT communications.


Figure 2 Rear View




Number	Item	Function
14	USB-C Connector	Provides USB host and client communications, device charging via cables and accessories.
15	3.5 mm Headset Jack	(TC52 Standard) For audio output to headset (CTIA standard).
16	Cradle Charging Contacts	Provides device charging via cradles and accessories.

Setting Up the Device


To start using the device for the first time charge the device to at least 30% capacity.

 **NOTE:** When the device is shipped from the factory, it is placed into Ship Mode, where the device enters its lowest possible power state. The device exits Ship Mode when you dock it in a powered cradle or attach it to a powered USB cable.

 **NOTE:** Ensure that you follow the guidelines for battery safety described in Maintenance and Troubleshooting.

1. Connect the charging accessory to the appropriate power source.
2. Insert the device into a cradle or attach to a cable. The device turns on and begins charging. The Charging/Notification LED blinks amber while charging, then turns solid green when fully charged.

Device Charging

 **CAUTION:** Do not store the device for extended periods of time as the battery may drain completely and become unrecoverable.



Use one of the following accessories to charge the EC30.

**Table 1** Charging Accessories

Description	Part Number
<b>Cradles</b>	
2-Slot Charge Only Cradle	CRD-EC30-2SCHG1-01
10-Slot Charge Only Cradle	CRD-EC30-10SC1-01
10-Slot Charge Only Locking Cradle	CRD-EC30-10SLC1-01
<b>Charge and Communication Cables</b>	
USB-C Charging Cable 1.5 m (4.92 ft)	CBL-TC2X-USBC-01
USB-C Charging Cable 1 m (3.28 ft)	CBL-TC5X-USBC2A-01

## Charging Indicators

**Table 2** Charging LED Status Indicators

State	Indication
Off	Device is not charging. Device is not inserted correctly in the cradle or connected to a power source. Charger/cradle is not powered.
Slow Blinking Amber (1 blink every 4 seconds)	Device is charging.
Slow Blinking Red (1 blink every 4 seconds)	Device is charging but the battery is at end of useful life.
Solid Green	Charging complete.
Solid Red	Charging complete but the battery is at end of useful life.
Fast Blinking Amber (2 blinks/second)	Charging error, for example: <ul style="list-style-type: none"> <li>Temperature is too low or too high.</li> <li>Charging has gone on too long without completion (typically eight hours).</li> </ul>
Fast Blinking Red (2 blinks/second)	Charging error but the battery is at end of useful lif, for example: <ul style="list-style-type: none"> <li>Temperature is too low or too high.</li> <li>Charging has gone on too long without completion (typically eight hours).</li> </ul>

## Charging Temperature

Charge batteries in temperatures from 0 °C to 40 °C (32 °F to 104 °F). The device or cradle always performs battery charging in a safe and intelligent manner. At higher temperatures (for example, approximately +37 °C (+98 °F)) the device or cradle may for small periods of time alternately enable and disable battery charging to keep the battery at acceptable temperatures. The device and cradle indicates when charging is disabled due to abnormal temperatures via its LED.

# Using the Device

This section explains how to use the device.

## Home Screen

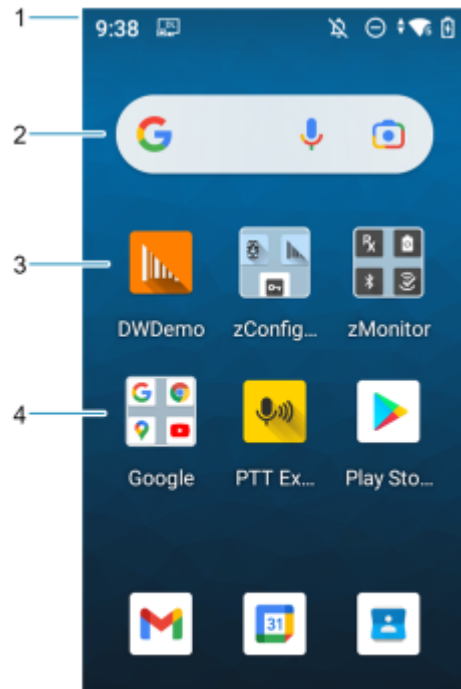
Turn on the device to display the Home screen. Depending on how your system administrator configured your device, your Home screen may appear differently than the graphics in this section.

After a suspend or screen time-out, the Home screen displays with the lock slider. Touch the screen and slide up to unlock. The Home screen provides four additional screens to place widgets and shortcuts. Swipe the screen left or right to view the additional screens.



**NOTE:** By default, AOSP devices do not have the same icons on the Home screen as GMS devices. Icons are shown below for example only.

Home screen icons can be configured by the user and may look different than shown.

**Figure 3** Home Screen

1	Status bar	Displays the time, status icons (right side), and notification icons (left side).
2	Widgets	Launches stand-alone apps that run on the Home screen.
3	Shortcut icons	Opens apps installed on the device.
4	Folder	Contains apps.

## Setting Home Screen Rotation

By default, the Home screen rotation is disabled.

1. Touch and hold anywhere on the Home screen until the options appear.
2. Touch **Home settings**.
3. Touch the **Allow Home screen rotation switch**.
4. Press **Home**.
5. Rotate the device.

## Status Bar

The Status bar displays the time, notification icons (left side), and status icons (right side).

If there are more notifications than can fit in the Status bar, a dot displays indicating that more notifications exist. Swipe down from the Status bar to open the Notification panel and view all notifications and status.

**Figure 4** Notifications and Status Icons

1	Notification icons
2	Status icons







## Notification Icons

Notification icons indicate app events and messages.

**Table 3** Notification Icons

Icon	Description
	Main battery is low.
	More notifications are available for viewing.
	Data is syncing.
	Indicates an upcoming event. GMS devices only.
	Open Wi-Fi network is available.
	Audio is playing.
	Problem with sign-in or sync has occurred.
	Device is uploading data.
	Animated: the device is downloading data. Static: the download is complete.
	Device is connected to or disconnected from a virtual private network (VPN).
	Preparing internal storage by checking it for errors.
	USB debugging is enabled on the device.









**Table 3** Notification Icons (Continued)

Icon	Description
	Wired headset with a boom module is connected to the device.
	Wired headset without a boom module is connected to the device.
	PTT Express Voice client status. See the PTT Express PTT Notification Icons for a complete list.
	Indicates the RxLogger app is running.
	Indicates the Bluetooth scanner is connected to the device.
	Indicates the ring scanner is connected to the device in HID mode.






## Status Icons

Status icons display system information for the device.

**Table 4** Status Icons

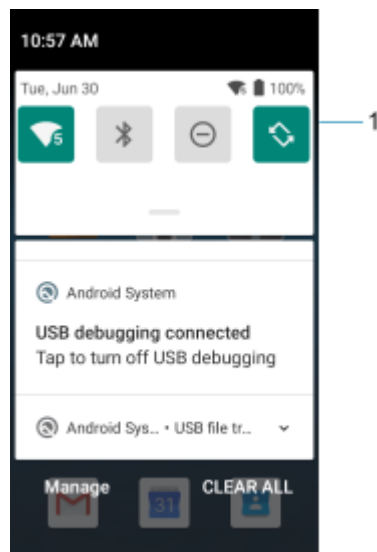
Icon	Description
	Alarm is active.
	Main battery is fully charged.
	Main battery is partially drained.
	Main battery charge is low.
	Main battery charge is very low.
	Main battery is charging.
	Indicates that all sounds except media and alarms are muted.
	Do Not Disturb mode active.

**Table 4** Status Icons (Continued)

Icon	Description
	Airplane Mode is active. All radios are turned off.
	Bluetooth is on.
	The device is connected to a Bluetooth device.
	Connected to a Wi-Fi network. Indicates the Wi-Fi version number.
	Not connected to a Wi-Fi network or no Wi-Fi signal.

## Managing Notifications

Notification icons report the arrival of new messages, calendar events, alarms, and ongoing events. When a notification occurs, an icon appears in the Status bar with a brief description.



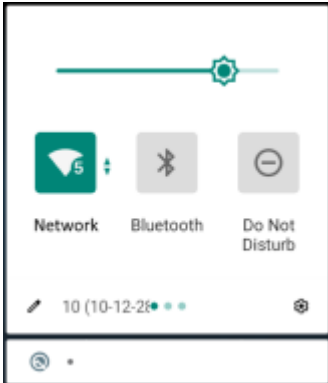
1	Quick settings bar
---	--------------------

- To view a list of all notifications, open the Notification panel by dragging the Status bar down from the top of the screen.
- To respond to a notification, open the Notification panel and then touch a notification. The Notification panel closes and the corresponding app opens.
- To manage recent or frequently used notifications, open the Notification panel and then touch Manage notifications. Touch the toggle switch next to an app to turn off all notifications, or touch an app for more notification options.

- To clear all notifications, open the Notification panel and then touch CLEAR ALL. All event-based notifications are removed. Ongoing notifications remain in the list.
- To close the Notification panel, swipe the Notification panel up.

## Opening the Quick Access Panel

Use the Quick Access panel to access frequently used settings (for example, Airplane mode).








**NOTE:** Not all icons are pictured. Icons may vary.

- If the device is locked, swipe down once.
- If the device is unlocked, swipe down once with two fingers, or twice with one finger.
- If the Notification panel is open, swipe down from the Quick Settings bar.









## Quick Access Panel Icons

Quick Access panel icons indicate frequently used settings (for example, Airplane mode).

**Table 5** Quick Access Panel Icons

Icon	Description
	Display brightness - Use the slider to decrease or increase the brightness of the screen.
	Wi-Fi network - Turn Wi-Fi on or off. To open Wi-Fi settings, touch the Wi-Fi network name.
	Bluetooth settings - Turn Bluetooth on or off. To open Bluetooth settings, touch Bluetooth.
	Battery saver - Turn Battery saver mode on or off. When Battery saver mode is on the performance of the device is reduced to preserve battery power (not applicable).
	Invert colors - Invert the display colors.

**Table 5** Quick Access Panel Icons (Continued)

Icon	Description
	Do not disturb - Control how and when to receive notifications.
	Airplane mode - Turn Airplane mode on or off. When Airplane mode is on the device does not connect to Wi-Fi or Bluetooth.
	Auto-rotate - Lock the device's orientation in portrait or landscape mode or set to automatically rotate.
	Night Light - Tint the screen amber to make it easier to look at the screen in dim light. Set Night Light to turn on automatically from sunset to sunrise, or at other times.
	Screen Cast - Share phone content on Chromecast or a television with Chromecast built-in. Touch cast screen to display a list of devices, then touch a device to begin casting.
	Dark Theme - Toggles dark theme on and off. Dark themes reduce the luminance emitted by the screen, while meeting minimum color contrast ratios. It helps improve visual ergonomics by reducing eye strain, adjusting brightness to current lighting conditions, and facilitating screen use in dark environments, while conserving battery power.
	Focus mode - Turn on to pause distracting apps. To open Focus mode settings, touch and hold.
	Bedtime mode - Turn grayscale on and off. Grayscale turns the screen black and white, reducing phone distractions and improving battery life.

## Editing Icons on the Quick Settings Bar

The first several setting tiles from the Quick Access panel become the Quick Settings bar.

- Open the Quick Access panel and touch  to edit, add, or remove settings tiles.

## Battery Management

Observe the recommended battery optimization tips for the device.


- Set the screen to turn off after a short period of non-use (recommended: 15 seconds).
- Reduce screen brightness (recommended: 30-50%).
- Turn off all wireless radios when not in use.
- Turn off automatic syncing for Email, Calendar, Contacts, and other apps.
- Minimize use of apps that keep the device from suspending, for example, music and video apps.



**NOTE:** Before checking the battery charge level, remove the device from any AC power source (cradle or cable).



### Checking Battery Status

- Open **Settings** and touch **About phone** > **Battery Information**. Or, swipe up from the bottom of the screen and touch  to open the **Battery Manager** app.

**Battery present status** indicates if the battery is present.

**Battery level** lists the battery charge (as a percentage of fully charged).

- Swipe down with two fingers from the status bar to open the quick access panel.

Battery percentage is displayed next to the battery icon.

### Monitoring Battery Usage

The Battery screen provides battery charge details and power management options to extend battery life. Different apps display different information. Some apps include buttons that open screens with settings to adjust power use. Use the **DISABLE** or **FORCE STOP** buttons to turn off apps that consume too much power.

- Go to **Settings**.
- Touch **Battery**.

To display battery information and power management options for a specific app:

- Go to **Settings**.
- Touch **Apps & notifications**.
- Touch an app.
- Touch **Advanced** > **Battery**.

### Low Battery Notification

When the battery charge level drops below 18%, the device displays a notice to connect the device to power. You should charge the battery using one of the charging accessories.

When the battery charge drops below 10%, the device displays a notice to connect the device to power. You must charge the battery using one of the charging accessories.

When the battery charge drops below 4%, the device turns off. You must charge the battery using one of the charging accessories.

- To enable Battery Saver mode, swipe down from the Status bar and then touch Battery saver.

### Waking the Device

The device goes into Suspend mode when you press the Power button or after a period of inactivity (set in the Display settings window).

1. To wake the device from Suspend mode, press the Power button.

The Lock screen displays.

### 2. Swipe the screen up to unlock.

- If the Pattern screen unlock feature is enabled, the Pattern screen appears instead of the Lock screen.
- If the PIN or Password screen unlock feature is enabled, enter the PIN or password after unlocking the screen.



**NOTE:** If you enter the PIN, password, or pattern incorrectly five times, you must wait 30 seconds before trying again.

- If you forget the PIN, password, or pattern, contact your system administrator.

## USB Communication

Connect the device to a host computer to transfer files between the device and the host computer.

When connecting the device to a host computer, follow the host computer's instructions for connecting and disconnecting USB devices, to avoid damaging or corrupting files.

### Transferring Files

Use Transfer files to copy files between the device and the host computer.

1. Connect the device to a host computer using a USB accessory.
2. On the device, pull down the Notification panel and touch **Charging this device via USB**.

By default, **No data transfer** is selected.

3. Touch **File Transfer**.



**NOTE:** After changing the setting to **File Transfer**, and then disconnecting the USB cable, the setting reverts back to **No data transfer**. If the USB cable is reconnected, select **File Transfer** again.

4. On the host computer, open **File Explorer**.
5. Locate the **device** as a portable device.
6. Open the **Internal storage** folder.
7. Copy files to and from the device or delete files as required.

### Transferring Photos

Use PTP to copy photos from the device to the host computer.

1. Connect the device to a host computer using a USB accessory.
2. On the device, pull down the Notification panel and touch **Charging this device via USB**.
3. Touch **PTP**.
4. On the host computer, open a file explorer application.
5. Open the **Internal storage** folder.
6. Copy or delete photos as required.

## Disconnect from the Host Computer



**CAUTION:** Carefully follow the host computer's instructions to disconnect USB devices correctly to avoid losing information.




1. On the host computer, unmount the device.
2. Remove the device from the USB accessory.

# Settings

This section describes the settings on the device.

## Accessing Settings

There are multiple ways to access settings on a device.

- Swipe down with two fingers from the top of the Home screen to open the Quick Access panel and touch .
- Double-swipe down from the top of the Home screen to open the Quick Access panel and touch .
- Swipe up from the bottom of the Home screen to open APPS and touch  **Settings**.

## Display Settings

Use Display settings to change the screen brightness, enable night light, change the background image, enable screen rotation, set sleep time, and change font size.

### Setting the Screen Brightness Manually

Manually set the screen brightness using the touchscreen.



**NOTE:** For optimal battery life, the recommended screen brightness is 30 percent.

1. Swipe down with two fingers from the Status bar to open the Quick Access panel.
2. Slide the icon to adjust the screen brightness level.



### Setting Night Light

The Night Light setting tints the screen amber, making the screen easier to look at in low light.

1. Go to **Settings**.
2. Touch **Display**.

3. Touch **Night Light**.
4. Touch **Schedule**.
5. Select one of the schedule values:
  - None (default)
  - Turns on at custom time
  - Turns on from sunset to sunrise.
6. By default, **Night Light** is disabled. Touch **TURN ON NOW** to enable.
7. Adjust the tint using the **Intensity** slider.

## Setting Screen Rotation

By default, screen rotation is enabled.



**NOTE:** To change the Home screen rotation, see [Setting Home Screen Rotation](#) on page 19.

1. Go to **Settings**.
2. Touch **Display > Advanced**.
3. Touch **Auto-rotate screen**.

## Setting Screen Timeout

Set the screen sleep time.

1. Go to **Settings**.
2. Touch **Display > Advanced > Sleep**.
3. Select one of the sleep values:



**NOTE:** For optimal battery life, the recommended screen timeout is 15 seconds.

- **15 seconds** (default)
- **30 seconds**
- **1 minute**
- **2 minutes**
- **5 minutes**
- **10 minutes**
- **30 minutes**

## Setting Lock Screen Notifications

The lock screen display setting wakes the screen when notifications are received.

1. Go to **Settings**.
2. Touch **Display > Advanced**.

3. Touch **Lock screen**.
4. In the **When to show** section, enable or disable an option using the switch.

## Setting Font Size

Set the size of the font in system apps.

1. Go to **Settings**.
2. Touch **Display > Advanced**.
3. Touch **Font size**.
4. Select an option to choose how long the touch key light stays on:
  - **Small**
  - **Default**
  - **Large**
  - **Largest**.

## Notification LED Brightness Level

1. Go to **Settings**.
2. Touch **Display > Advanced**.
3. Touch **Notification LED Brightness Level**.
4. Use the slider to set the brightness value (default: 15).

## Setting Touch Panel Mode

The device display is able to detect touches using a finger, a conductive-tip stylus, or gloved finger.

1. Go to **Settings**.
2. Touch **Display > Advanced**.
3. Touch **TouchPanelUI**.
4. Select:
  - **Finger Only** to use a finger on the screen.
  - **Finger and Glove** to use a finger or a gloved finger on the screen.

## Setting the Date and Time

You are only required to set the time zone or set the date and time if the wireless LAN does not support Network Time Protocol (NTP) or when not connected to a wireless network.

1. Go to **Settings**.
2. Touch **System > Date & time**.
3. Touch **Use network-provided time** to disable automatic date and time synchronization.
4. Touch **Date** to select the date in the calendar.

5. Touch **OK**.
6. Touch **Time**.
  - a) Touch the green circle, drag to the current hour, and then release.
  - b) Touch the green circle, drag to the current minute, and then release.
  - c) Touch **AM** or **PM**.
7. Touch **OK**.
8. Touch **Time zone** to select the current time zone from the list.
9. Touch **Update Interval** to select an interval to synchronize the system time from the network.
10. In **TIME FORMAT**, choose either **Use local default** or **Use 24-hour format**.

## General Sound Setting

Press the volume buttons on the device to display on-screen volume controls.

Use the Sound settings to configure media and alarm volumes.

1. Go to **Settings**.
2. Touch **Sound**.
3. Touch an option to set sounds.

## Sound Options

- **Media volume** - Controls the music, games, and media volume.
- **Alarm volume** - Controls the alarm clock volume.
- **Notifications volume** - Controls the notification volume.
- **Do Not Disturb** - Mutes some or all sounds and vibrations.
- **Media** - Shows the media player in Quick Settings while sound is playing, allowing quick access.
- **Shortcut to prevent ringing** - Turn on the switch to make the device vibrate when a call is received (default – disabled).
- **Default notification sound** - Select a sound to play for all system notifications.
- **Default alarm sound** - Select a sound to play for alarms.
- **Other sounds and vibrations**
  - **Screen locking sounds** - Play a sound when locking and unlocking the screen (default – enabled).
  - **Charging sounds** - Plays a sound and vibrates when power is applied to the device (default - enabled).
  - **Touch sounds** - Play a sound when making screen selections (default – enabled).

## Zebra Volume Controls

In addition to the default sound settings, Zebra Volume Controls display when the volume buttons are pressed.

Zebra Volume Controls are configured using Audio Volume UI Manager (AudioVolUIMgr). Administrators can use AudioVolUIMgr to add, delete and replace Audio Profiles, select an Audio Profile to use the device, and modify the default Audio Profile. For information on how to configure Zebra Volume Controls using AudioVolUIMgr, refer to [techdocs.zebra.com](https://techdocs.zebra.com).

## Setting Wake-Up Sources

By default, the device wakes from suspend mode when the user presses the Power button. The device can be configured to wake when the user presses the PTT or Scan buttons on the left side of the device handle.

1. Go to **Settings**.
2. Touch **Wake-Up Sources**.
  - HOME - Home button.
  - LEFT\_TRIGGER\_2 - PTT button.
  - SCAN - Left scan button.
3. Touch a checkbox. A check appears in the checkbox.

## Remapping a Button

Buttons on the device can be programmed to perform different functions or as shortcuts to installed apps. For a list of key names and descriptions, refer to: [techdocs.zebra.com](https://techdocs.zebra.com).



**NOTE:** It is not recommended to remap the scan button.

1. Go to **Settings**.
2. Touch **Key Programmer**. A list of programmable buttons displays.
3. Select the button to remap.
4. Touch the **SHORTCUT**, the **KEYS and BUTTONS**, or the **TRIGGERS** tabs that lists the available functions, applications, and triggers.
5. Touch a function or application shortcut to map to the button.

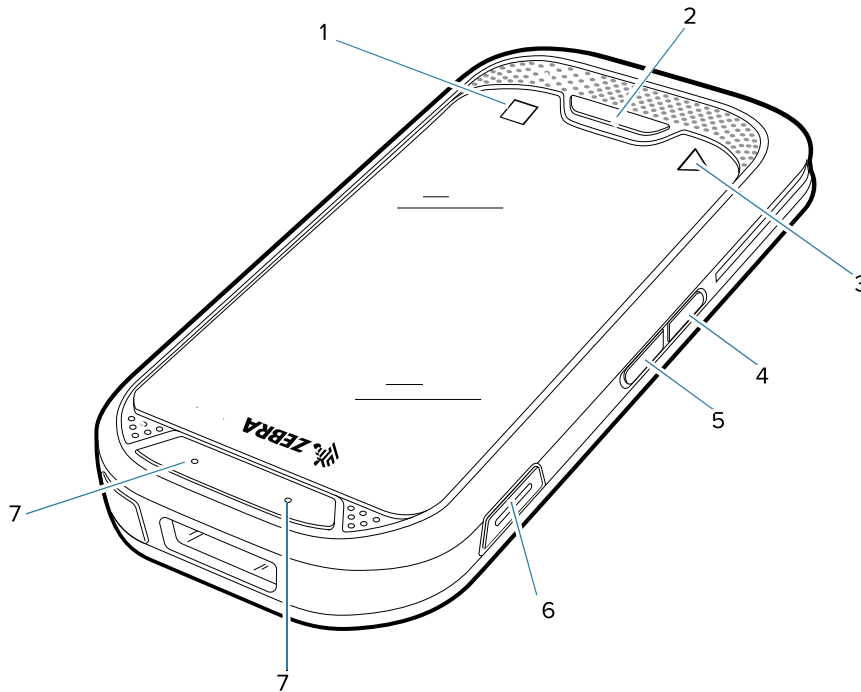


**NOTE:** If you select an application shortcut, the application icon appears next to the button on the Key Programmer screen.



## Remappable Keys

Figure 5



Number	Button	Description
1	APP_SWITCH	Recent button
2	HOME	Home button
3	BACK	Back button
4	VOLUME_DOWN	Volume down button
5	VOLUME_UP	Volume up button
6	BUTTON_L2	PTT button
7	SCAN	Scan button

## Keyboards

The device provides multiple keyboard options.

- Android Keyboard - AOSP devices only
- Gboard - GMS devices only
- Enterprise Keyboard - Not pre-installed on the device. Contact Zebra Support for more information.



**NOTE:** By default the Enterprise and Virtual Keyboards are disabled. The Enterprise Keyboard is available for download from the [Zebra Support Site](#).

## Enabling Keyboards




1. Go to **Settings**.
2. Touch **System** > **Languages & input** > **Virtual keyboard** > **Manage keyboards**.
3. Touch a keyboard to enable.

## Switching Between Keyboards

To switch between keyboards, touch in a text box to display the current keyboard.



**NOTE:** By default, the Gboard is enabled. All other virtual keyboards are disabled.

- On the Gboard keyboard, touch and hold  (GMS devices only).
- On the Android keyboard, touch, and hold  (AOSP devices only).
- On the Enterprise keyboard, touch . Only available with Mobility DNA Enterprise License. Not pre-installed on the device. Contact Zebra Support for more information.

## Using the Android and Gboard Keyboards

Use the Android or Gboard keyboards to enter text in a text field.

- To configure the keyboard settings, touch and hold "," (comma) and then select **Android keyboard settings**.

### Edit Text

Edit entered text and use menu commands to cut, copy, and paste text within or across apps. Some apps do not support editing some or all of the text they display; others may offer their own way to select text.


## Entering Numbers, Symbols, and Special Characters

1. Enter numbers and symbols.
  - Touch and hold one of the top-row keys until a menu appears then select a number or special character.
  - Touch the Shift key once for a single capital letter. Touch the Shift key twice to lock in uppercase. Touch the Shift key a third time to unlock Capslock.
  - Touch **?123** to switch to the numbers and symbols keyboard.
  - Touch the **=\<** key on the numbers and symbols keyboard to view additional symbols.
2. Enter special characters.
  - Touch and hold a number or symbol key to open a menu of additional symbols. A larger version of the key displays briefly over the keyboard.

## Language Usage

Use the **Language & input** settings to change the device's language, including words added to the dictionary.

### Changing the Language Setting

1. Go to **Settings**.
2. Touch **System > Languages & input**.
3. Touch **Languages**. A list of available languages displays.
4. If the desired language is not listed, touch **Add a language** and select a language from the list.
5. Touch and hold  to the right of the desired language, then drag it to the top of the list.
6. The operating system text changes to the selected language.

### Adding Words to the Dictionary

1. Go to **Settings**.
2. Touch **System > Languages & input > Advanced > Personal dictionary**.
3. If prompted, select the language where this word or phrase is stored.
4. Touch + to add a new word or phrase to the dictionary.
5. Enter the word or phrase.
6. In the Shortcut text box, enter a shortcut for the word or phrase.

## Notifications

This section describes setting, viewing, and controlling notifications on the device.

### Setting App Notifications

Configure the notifications settings for a specific app.

1. Go to **Settings**.
2. Touch **Apps & notifications > App info**.  
The App info screen displays.
3. Select an app.
4. Touch **Notifications**.  
Options vary depending on the app selected.

### 5. Select an available option:

**Show notifications** - Select to turn all notifications from this app on (default) or off. Touch a notification category to display additional options.

- **Alerting** - Allow notifications from this app to make a sound.
  - **Pop on screen** - Allow notifications from this app to pop notifications on the screen.
- **Silent** - Do not allow notifications from this app to make a sound.
  - **Minimize** - In the Notification panel, collapse notifications to one line.
- **Advanced** - Touch for additional options.
  - **Sound** - Select a sound to play for notifications from this app.
  - **Blink light** - Allow notifications from this app the light the Notification LED blue.
  - **Show notification dot** - Allow notifications from this app to add a notification dot to the app icon.
  - **Override Do Not Disturb** - Allow these notifications to interrupt when Do Not Disturb is enabled.

#### Advanced

- **Allow notification dot** - Do not allow this app to add a notification dot to the app icon.
- **Additional settings in the app** - Open the app settings.

## Viewing Notifications

1. Go to **Settings**.
2. Touch **Apps & Notifications**.
3. Scroll down to **Notifications** to view how many apps have notifications turned off.

## Controlling Lock Screen Notifications

Control whether notifications can be seen when the device is locked

1. Go to **Settings**.
2. Touch **Apps & notifications > Notifications**.
3. Touch **Notifications on lockscreen** and select one of the following:
  - **Show alerting and silent notifications (default)**
  - **Show alerting notifications only**
  - **Don't show notifications**.

## Enabling Blink Light

The Notification LED lights blue when an app, such as email and VoIP, generates a programmable notification or to indicate when the device is connected to a Bluetooth device. By default, LED notifications are enabled.

1. Go to **Settings**.
2. Touch **Apps & notifications > Notifications > Advanced**.
3. Touch **Blink light** to toggle the notification on or off.








# Applications

Apart from the standard pre-installed Android applications, the following table lists Zebra-specific applications installed on the device.



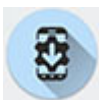




## Installed Applications

Apart from the standard pre-installed Android applications, the following table lists Zebra-specific applications installed on the device.

**Table 6** Apps

Icon	Description
	<b>Battery Manager</b> - Displays battery information, including charge level, status, health and wear level, and use to place device in Battery Swap mode when replacing the battery.
	<b>Bluetooth Pairing Utility</b> - Use to pair peripherals with the device by scanning a barcode.
	<b>DataWedge</b> - Enables data capture using the imager.
	<b>Diagnostic Tool</b> - Use to diagnose the device.
	<b>DWDemo</b> - Provides a way to demonstrate the data capture features using the imager.
	<b>License Manager</b> - Use to manage software licenses on the device.
	<b>PTT Express</b> - Use to launch PTT Express client for VoIP communication.

**Table 6** Apps (Continued)

Icon	Description
	<b>RxLogger</b> - Use to diagnose device and app issues.
	<b>Settings</b> - Use to configure the device.
	<b>StageNow</b> - Allows the device to stage a device for initial use by initiating the deployment of settings, firmware, and software.
	<b>VoD</b> - The Video on Device basic app provides a how-to video for proper device cleaning. For Video on Device licensing information, go to <a href="http://learning.zebra.com">learning.zebra.com</a> .
	<b>Worry Free Wifi Analyzer</b> - A diagnostic intelligent app. Use to diagnose surrounding area and display network stats, such as coverage hole detection, or AP in the vicinity. Refer to the Worry Free Wi-Fi Analyzer Administrator Guide for Android.
	<b>Zebra Bluetooth Settings</b> - Use to configure Bluetooth logging.
	<b>Zebra Data Services</b> - Use to enable or disable Zebra Data Services. Some options are set by the system administrator.

## Accessing Apps

Access all apps installed on the device using the APPS window.

1. On the Home screen, swipe up from the bottom of the screen.
2. Slide the **APPS** window up or down to view more app icons.
3. Touch an icon to open the app.


## Switching Between Recent Apps

1. Touch **Recent**.  
A window appears on the screen with icons of recently used apps.
2. Slide the apps displayed up and down to view all recently used apps.
3. Swipe left or right to remove the app from the list and force close the app.
4. Touch an icon to open an app or touch Back to return to the current screen.

## Battery Manager

The Battery Manager provides detailed information about the battery.




### Opening Battery Manager


- To open the Battery Manager app, swipe up from the bottom of the Home screen, and then touch .

### Battery Manager Information

The Battery Manager displays detailed information about battery charging, health, and status.

**Table 7** Battery Icons

Battery Icon	Description
	Battery charge level is between 85% and 100%.
	Battery charge level is between 19% and 84%.
	Battery charge level is between 0% and 18%.

- Level** - The current battery charge level as a percentage. Displays -% when the level is unknown.
- Wear** - The health of the battery in graphical form. When the wear level exceeds 80%, the bar color changes to red.
- Health** - The health of the battery. If a critical error occurs,  appears. Touch to view the error description.
  - Decommission** - The battery is past its useful life and should be replaced. See system administrator.
  - Good** - The battery is good.
  - Charge error** - An error occurred while charging. See system administrator.
  - Over Current** - An over-current condition occurred. See system administrator.
  - Dead** - The battery has no charge. Replace the battery.
  - Over Voltage** - An over-voltage condition occurred. See system administrator.
  - Below Temperature** - The battery temperature is below the operating temperature. See system administrator.
  - Failure Detected** - A failure has been detected in the battery. See system administrator.
  - Unknown** - See system administrator.

- **Charge Status**
  - **Not charging** - The device is not charging.
  - **Charging-USB** - The device is connected to a host computer with a USB cable and charging.
  - **Discharging** - The battery is discharging.
  - **Full** - The battery is fully charged.
  - **Unknown** - The battery status is unknown.
- **Time until Full** - The amount of time until the battery is fully charged.
- **Time since charging** - The amount of time since the device began charging.
- **Time until empty** - The amount of time until the battery is empty.
- **Advanced info** - Touch to view additional battery information.
  - **Battery present status** - Indicates that the battery is present.
  - **Battery level** - The battery charge level as a percentage of scale.
  - **Battery scale** - The battery scale level used to determine battery level (100).
  - **Battery voltage** - The current battery voltage in millivolts.
  - **Battery temperature** - The current battery temperature in degrees Centigrade.
  - **Battery technology** - The type of battery.
  - **Battery current** - The average current into or out of the battery over the last second in mAh.
  - **Battery manufacture date** - The date of manufacture.
  - **Battery serial number** - The battery serial number. The number matches the serial number printed on the battery label.
  - **Battery part number** - The battery part number.
  - **Battery decommission status** - Indicates if the battery is past its life span.
    - **Battery Good** - The battery is in good health.
    - **Decommissioned Battery** - The battery is past its useful life and should be replaced.
  - **Base cumulative charge** - Cumulative charge using Zebra charging equipment only.
  - **Battery present capacity** - Maximum amount of charge that could be pulled from the battery under the present discharge conditions if the battery were fully charged.
  - **Battery health percentage** - With a range from 0 to 100, this is the ratio of “present\_capacity” to “design\_capacity” at a discharge rate of “design\_capacity”.
  - **% decommission threshold** - The default % decommission threshold for a gifted battery as 80%.
  - **Battery present charge** - Amount of usable charge remaining in the battery at present under the current discharge conditions.
  - **Battery total cumulative charge** - The total accumulated charge in all chargers.
  - **Battery time since first use** - The time passed since the battery was placed in a Zebra terminal for the first time.
  - **Battery error status** - The error status of the battery.
  - **App version** - The application version number.



## DWDemo









Use DataWedge Demonstration (DWDemo) to demonstrate data capture functionality. To configure DataWedge, refer to [techdocs.zebra.com/datawedge/](https://techdocs.zebra.com/datawedge/).



**NOTE:** DataWedge is disabled on the Home screen. To enable DataWedge on the Home screen, go to the DataWedge **Launcher** profile and enable **Barcode input** option.


## DataWedge Demonstration Icons

**Table 8** DataWedge Demonstration Icons

Category	Icon	Description
Illumination		Imager illumination is on. Touch to turn illumination off.
Illumination		Imager illumination is off. Touch to turn illumination on.
Data Capture		The data capture function is through the internal imager.
Data Capture		A Bluetooth scanner is connected.
Data Capture		A Bluetooth scanner is not connected.
Scan Mode		Imager is in picklist mode. Touch to change to normal scan mode.
Scan Mode		Imager is in normal scan mode. Touch to change to picklist mode.
Menu		Opens a menu to view the application information or to set the application DataWedge profile.

## Selecting a Scanner

See the Data Capture section for more information.

- To select a scanner, touch  > **Settings** > **Scanner Selection**.
- Press the scanner trigger button or touch the on-screen yellow scan button to capture data. The data appears in the text field below the yellow button.

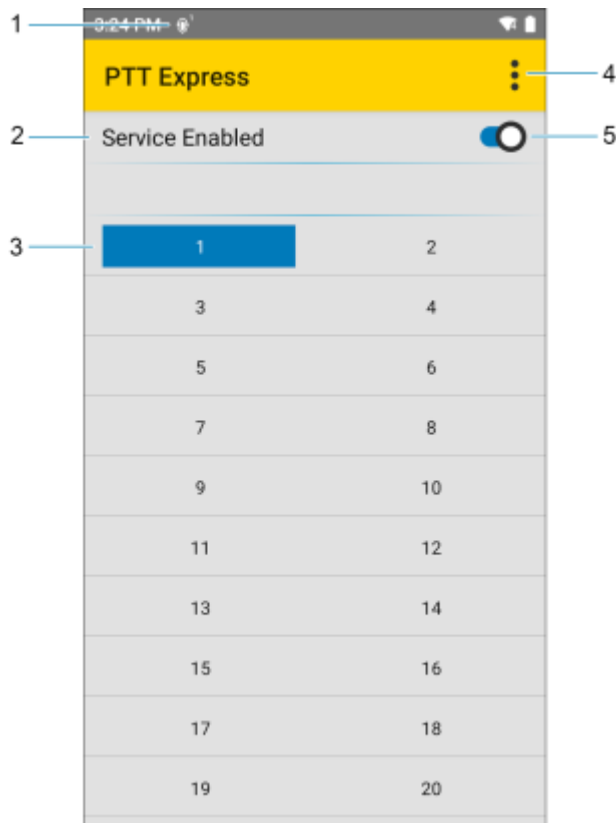
## PTT Express Voice Client

PTT Express Voice Client enables Push-To-Talk (PTT) communication between disparate enterprise devices. Leveraging existing Wireless Local Area Network (WLAN) infrastructure, PTT Express delivers simple PTT communication without requiring a voice communication server.

- **Group Call** - Press and hold the PTT (Talk) button to start communicating with other voice client users.
- **Private Response** - Double-press the PTT button to respond to the originator of the last broadcast or to make a Private Response.

### PTT Express User Interface

Use the PTT Express interface for Push-To-Talk communication.



Number	Item	Description
1	Notification icon	Indicates the current state of the PTT Express client.
2	Service indication	Indicates the status of the PTT Express client. Options are: Service Enabled, Service Disabled or Service Unavailable.
3	Talk group	Lists all 32 Talk Groups available for PTT communication.
4	Settings	Opens the PTT Express Settings screen.
5	Enable/disable switch	Turns the PTT service on and off.

## PTT Audible Indicators








The following tones provide helpful cues when using the voice client.

- **Talk Tone:** Double chirp. Plays when the Talk button is depressed. This is a prompt for you to start talking.
- **Access Tone:** Single beep. Plays when another user just finished a broadcast or response. You can now initiate a Group Broadcast or Private Response.
- **Busy Tone:** Continuous tone. Plays when the Talk button is depressed and another user is already communicating on the same talkgroup. Plays after the maximum allowed talk time is reached (60 seconds).
- **Network Tone:**
  - Three increasing pitch beeps. Plays when PTT Express acquires the WLAN connection and the service is enabled.
  - Three decreasing pitch beeps. Plays when PTT Express loses the WLAN connection or the service is disabled.


## PTT Notification Icons

Notification icons indicate the current state of the PTT Express Voice client.

**Table 9** PTT Express Icons

Status Icon	Description
	The PTT Express Voice client is disabled.
	The PTT Express Voice client is enabled but not connected to a WLAN.
	The PTT Express Voice client is enabled, connected to a WLAN, and listening on the Talk Group indicated by the number next to the icon.
	The PTT Express Voice client is enabled, connected to a WLAN, and communicating on the Talk Group indicated by the number next to the icon.
	The PTT Express Voice client is enabled, connected to a WLAN, and in a private response.
	The PTT Express Voice client is enabled and muted.
	The PTT Express Voice client is enabled but it is not able to communicate due to a VoIP telephony call in progress.

## Enabling PTT Communication

1. Swipe up from the bottom of the Home screen and touch .
2. Slide the Enable/Disable Switch to the **ON** position. The button changes to **ON**.

## Selecting a Talk Group

There are 32 Talk Groups that can be selected by PTT Express users. However, only one talk group can be enabled at a time on the device.

- Touch one of the 32 Talk Groups. The selected Talk Group is highlighted.

## PTT Communication

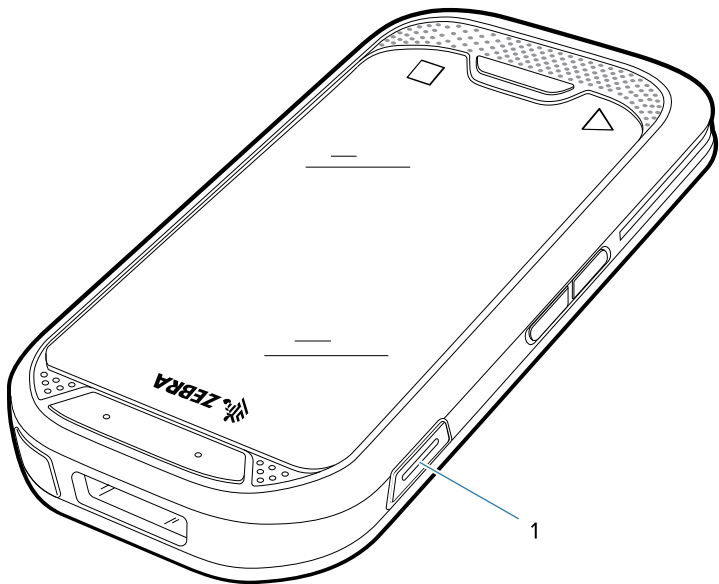
This section describes the default PTT Express client configuration. Refer to the PTT Express V1.2 User Guide for detailed information on using the client.

PTT communication may be established as a Group Call. When PTT Express is enabled, the PTT button on the left side of the device is assigned for PTT communication. When the Wired Headset is used, Group Calls can also be initiated using the headset Talk button.

When not using a headset, optimal placement of EC30 microphone is two and six inches from your mouth.



**NOTE:** When using a wired headset, use only Zebra wired headsets with a PTT button.



1	PTT button
---	------------

## Creating a Group Call

1. Press and hold the PTT button (or the Talk button on the headset) and listen for the talk tone.

If you hear a busy tone, release the button and wait a moment before making another attempt. Ensure that PTT Express and the WLAN are enabled.



**NOTE:** Holding the button for more than 60 seconds (default) drops the call, allowing others to make Group calls. Release the button when finished talking to allow others to make calls.


2. Start talking after hearing the talk tone.
3. Release the button when finished talking.

### Responding with a Private Response

The Private Response can only be initiated once a Group Call has been established. The initial Private Response is made to the originator of the Group Call.

1. Wait for an access tone.
2. Within 10 seconds, double-press the PTT button, and listen for the talk tone.
3. If you hear a busy tone, release the button and wait a moment before making another attempt. Ensure that PTT Express and the WLAN are enabled.
4. Start talking after the talk tone plays.
5. Release the button when finished talking.

### Disabling PTT Communication

1. Swipe up from the bottom of the Home screen and touch .
2. Slide the **Enable/Disable Switch** to the **OFF** position. The button changes to **OFF**.

## RxLogger

RxLogger is a comprehensive diagnostic tool that provides application and system metrics, and diagnoses device and application issues.

RxLogger logs the following information: CPU load, memory load, memory snapshots, battery consumption, power states, wireless logging, cellular logging, TCP dumps, Bluetooth logging, GPS logging, logcat, FTP push/pull, ANR dumps, etc. All generated logs and files are saved onto flash storage on the device (internal or external).

### RxLogger Configuration

RxLogger is built with an extensible plug-in architecture and comes packaged with a number of plug-ins already built-in. For information on configuring RxLogger, refer to [techdocs.zebra.com/rxlogger/](http://techdocs.zebra.com/rxlogger/).


To open the configuration screen, from the RxLogger home screen touch **Settings**.

### Configuration File


RxLogger configuration can be set using an XML file.

The config.xml configuration file is located in the RxLogger\config folder. Copy the file from the device to a host computer using a USB connection. Edit the configuration file and then replace the XML file on the device. There is no need to stop and restart the RxLogger service since the file change is automatically detected.

### Enabling Logging

1. Swipe the screen up and select .
2. Touch **Start**.

## Disabling Logging

1. Swipe the screen up and select .
2. Touch **Stop**.

## Extracting Log Files

1. Connect the device to a host computer using an USB connection.
2. Using a file explorer, navigate to the RxLogger folder.
3. Copy the file from the device to the host computer.
4. Disconnect the device from the host computer.

## Backing Up Data


RxLogger Utility allows the user to make a zip file of the RxLogger folder in the device, which by default contains all the RxLogger logs stored in the device.

- To save the backup data, touch  > **BackupNow**.

## RxLogger Utility

RxLogger Utility is a data monitoring application for viewing logs in the device while RxLogger is running. Logs and RxLogger Utility features are accessed using Main Chat Head.

### Initiating the Main Chat Head

1. Open **RxLogger**.
2. Touch  > **Toggle Chat Head**.  
The Main Chat Head icon appears on the screen.
3. Touch and drag the Main Chat head icon to move it around the screen.

### Removing the Main Chat Head

1. Touch and drag the icon.  
A circle with an X appears.
2. Move the icon over the circle and then release.

### Viewing Logs

1. Touch the Main Chat Head icon.  
The RxLogger Utility screen appears.
2. Touch a log to open it.  
The user can open many logs with each displaying a new sub Chat Head.
3. If necessary, scroll left or right to view additional Sub Chat Head icons.

4. Touch a Sub Chat Head to display the log contents.

### Removing a Sub Chat Head Icon

- To remove a sub chat Head icon, press and hold the icon until it disappears.

### Backing Up In Overlay View

RxLogger Utility allows the user to make a zip file of the RxLogger folder in the device, which by default contains all the RxLogger logs stored in the device.

The Backup icon is always available in Overlay View.

1. Touch .

The Backup dialog box appears.

2. Touch **Yes** to create the backup.

# Data Capture

This section provides information for capturing barcode data using various scanning options.

The device supports data capture using:

- Integrated Imager
- RS507/RS507X Hands-free Imager
- RS6000 Hands-free Imager

## Imaging

The device with an integrated 2D imager has the following features:

- Omnidirectional reading of a variety of barcode symbologies, including the most popular linear, postal, PDF417, Digimarc, and 2D matrix code types.
- Advanced intuitive laser aiming cross-hair and dot aiming for easy point-and-shoot operation.

The imager uses imaging technology to take a picture of a barcode, stores the resulting image in memory, and executes state-of-the-art software decoding algorithms to extract the barcode data from the image.

## Operational Modes

The device with an integrated imager supports three modes of operation.

Activate each mode by pressing the Scan button.

- Decode mode — The device attempts to locate and decode enabled barcodes within its field of view. The imager remains in this mode as long as you hold the scan button, or until it decodes a barcode.



**NOTE:** To enable Pick List Mode, configure in DataWedge or set in an application using a API command.

- Pick List mode — Selectively decode a barcode when more than one barcode is in the device's field of view by moving the aiming crosshair or dot over the required barcode. Use this feature for pick lists containing multiple barcodes and manufacturing or transport labels containing more than one barcode type (either 1D or 2D).



## Scanning Considerations

Typically, scanning is a simple matter of aim, scan, and decode, with a few quick trial efforts to master it.

However, consider the following to optimize scanning performance:

- **Range** — Scanners decode best over a particular working range — minimum and maximum distances from the barcode. This range varies according to barcode density and scanning device optics. Scan within range for quick and constant decodes; scanning too close or too far away prevents decodes. Move the scanner closer and further away to find the right working range for the barcodes being scanned.
- **Angle** — Scanning angle is important for quick decodes. When the illumination/flash reflects directly back into the imager, the specular reflection can blind/saturate the imager. To avoid this, scan the barcode so that the beam does not bounce directly back. Do not scan at too sharp an angle; the scanner needs to collect scattered reflections from the scan to make a successful decode. Practice quickly shows what tolerances to work within.
- Hold the device farther away for larger symbols.
- Move the device closer for symbols with bars that are close together.



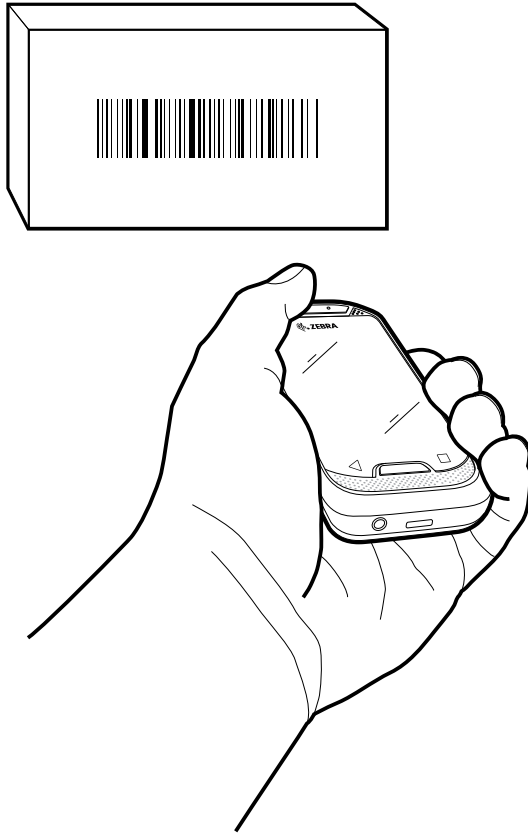
**NOTE:** Scanning procedures depend on the app and device configuration. An app may use different scanning procedures from the one listed above.

## Scanning with the Internal Imager

Use the internal imager to capture barcode data.

1. Ensure that an application is open on the device and a text field is in focus (text cursor in text field).

2. Point the exit window of the device at a barcode.



3. Press and hold the Scan button or trigger.  
The red laser aiming pattern turns on to assist in aiming.
4. Ensure the barcode is within the area formed by aiming pattern.

**Figure 6** Aiming Pattern



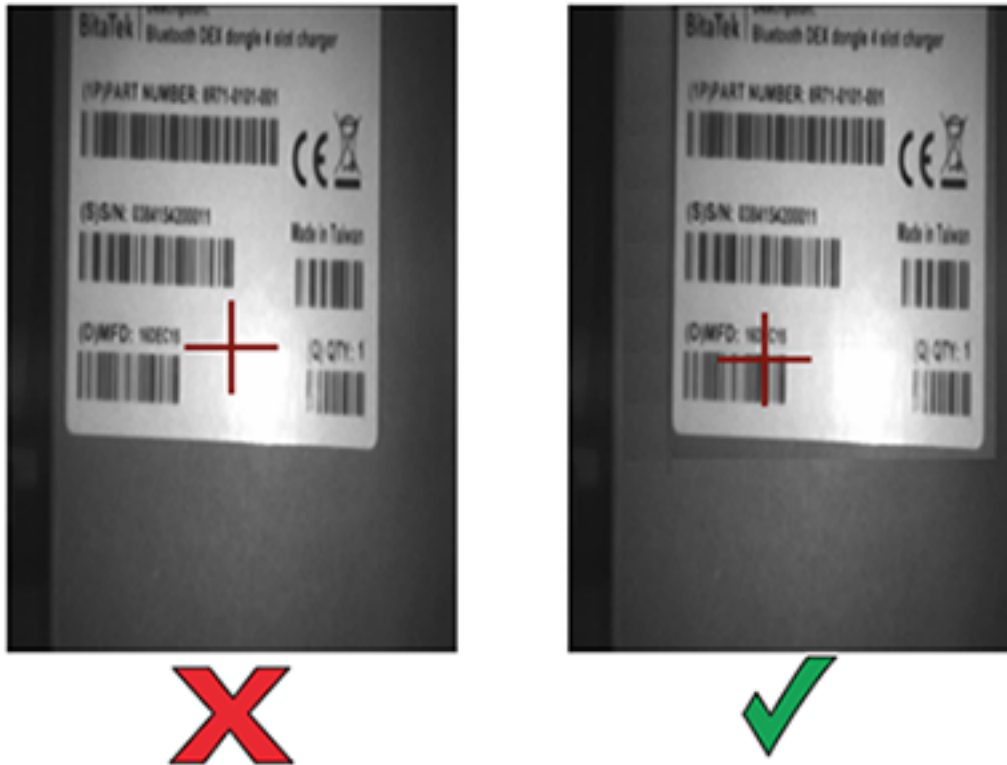
The Data Capture LED light green and a beep sounds, by default, to indicate the barcode was decoded successfully.

5. Release the Scan button or trigger.  
The barcode content data appears in the text field.

## Picklist Mode

When Picklist Mode is enabled, the screen displays an image of the barcode and a red cross-hair. The imager does not decode the barcode until the cross-hair touches the barcode.

**Figure 7** Pick List Mode with Multiple Barcodes in Aiming Pattern



To read multiple barcodes, a scan-enabled application is required. The device contains the DataWedge application that allows the user to enable the imager, decode the barcode data and display the barcode content.

1. Ensure that an application is open on the device and a text field is in focus (text cursor in text field).
2. Point the exit window on the top of the device at the barcodes.
3. Press and hold the scan button. The white aiming pattern turns on to assist in aiming.
4. Ensure the barcodes are within the area formed by the aiming pattern.



5. The Data Capture LED lights green and a beep sounds, by default, to indicate the barcode was decoded successfully. Captured data from all barcodes is delivered as a single string.

6. Release the scan button

## Scanning with the RS507/RS507X Hands-Free Imager

Use the RS507/RS507X Hands-Free Imager to capture barcode data.

**Figure 8** RS507/RS507X Hands-Free Imager



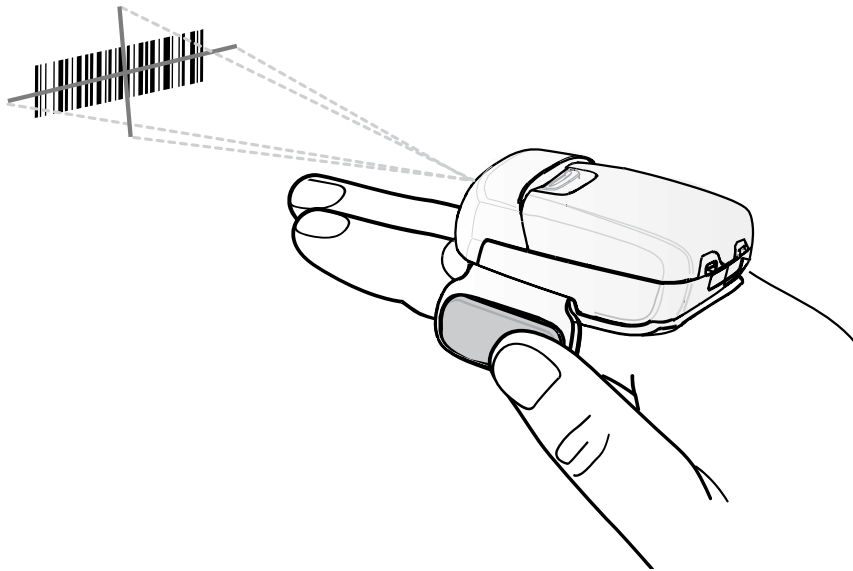
Refer to the RS507/RS507X Hands-free Imager Product Reference Guide for more information.



**NOTE:** To read a barcode, a scan-enabled app is required. The device contains the DataWedge app that allows the user to enable the scanner to decode barcode data and display the barcode content.

To scan with the RS507/RS507x:

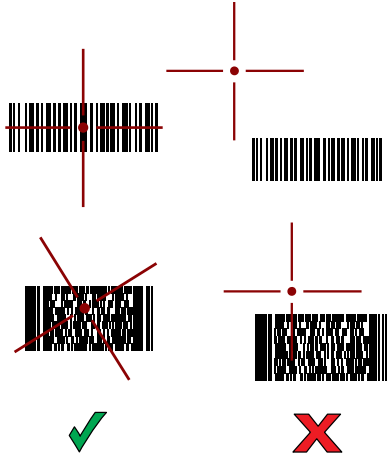
1. Pair the RS507/RS507X with the device.
2. Ensure that an app is open on the device and a text field is in focus (text cursor in text field).
3. Point the RS507/RS507X at a barcode.



4. Press and hold the trigger.

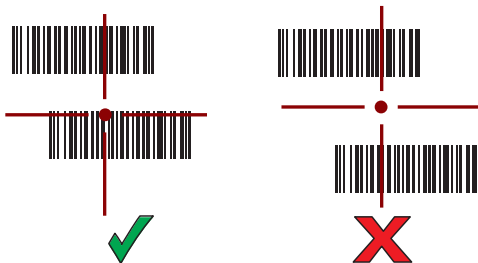
The red laser aiming pattern turns on to assist in aiming. Ensure the barcode is within the area formed by the cross-hairs in the aiming pattern. The aiming dot increases visibility in bright lighting conditions.

**Figure 9** RS507/RS507X Aiming Pattern



When the RS507/RS507X is in Pick List mode, the RS507/RS507X does not decode the barcode until the center of the crosshair touches the barcode.

**Figure 10** RS507/RS507X Pick List Mode with Multiple Barcodes in Aiming Pattern



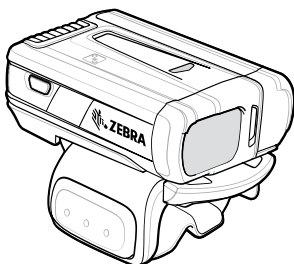
The RS507/RS507X LEDs light green and a beep sounds to indicate the barcode was decoded successfully.

The captured data appears in the text field.

## Scanning with the RS6000 Bluetooth Ring Scanner

Use the RS6000 Bluetooth Ring Scanner to capture barcode data.

**Figure 11** RS6000 Bluetooth Ring Scanner



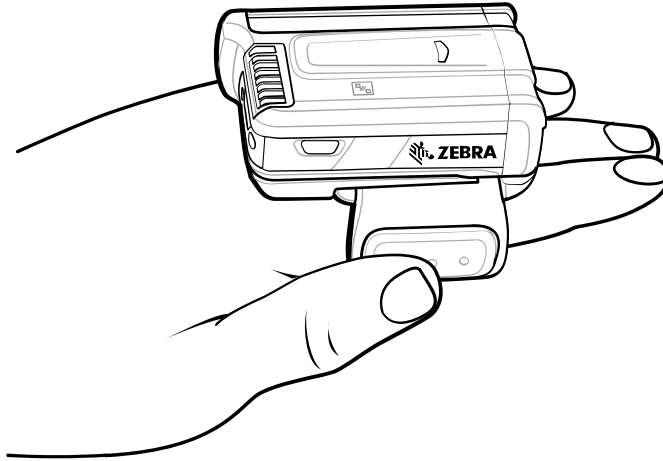
Refer to the RS6000 Bluetooth Ring Scanner Product Reference Guide for more information.



**NOTE:** To read a barcode, a scan-enabled app is required. The device contains the DataWedge app that allows the user to enable the scanner to decode barcode data and display the barcode content.

To scan with the RS6000:

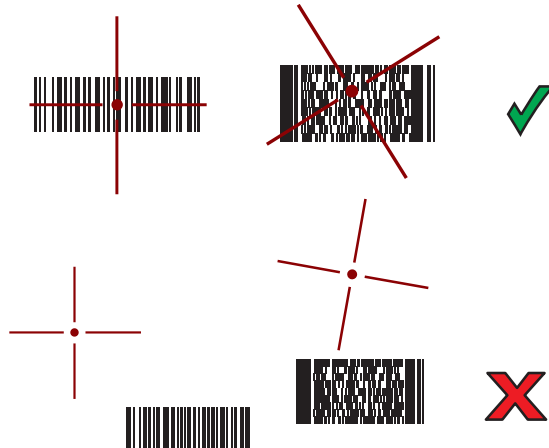
1. Pair the RS6000 with the device.
2. Ensure that an app is open on the device and a text field is in focus (text cursor in text field).
3. Point the RS6000 at a barcode.



#### 4. Press and hold the trigger.

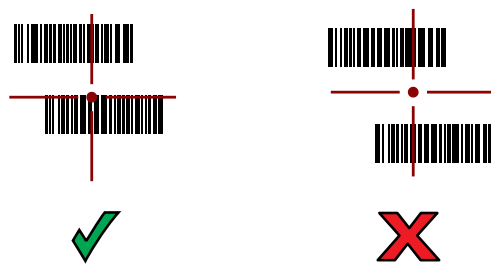
The red laser aiming pattern turns on to assist in aiming. Ensure the barcode is within the area formed by the cross-hairs in the aiming pattern. The aiming dot increases visibility in bright lighting conditions.

**Figure 12** RS6000 Aiming Pattern



When the RS6000 is in Pick List mode, the RS6000 does not decode the barcode until the center of the crosshair touches the barcode.

**Figure 13** RS6000 Pick List Mode with Multiple Barcodes in Aiming Pattern



The RS6000 LEDs light green and a beep sounds to indicate the barcode was decoded successfully. The captured data appears in the text field.

## Pairing a Bluetooth Scanner


Before using a Bluetooth scanner with the device, connect the device to the Bluetooth scanner.

Connect the scanner to the device using one of the following methods:

- Simple Serial Interface (SSI) mode
- Bluetooth Human Interface Device (HID) mode.

### Pairing Using Simple Serial Interface

Pair the Ring Scanner to the device using Simple Serial Interface.

1. Swipe up from the bottom of the Home screen and touch .

2. Using the Ring Scanner, scan the barcode on the screen.

The Ring Scanner emits a string of high/low/high/low beeps. The Scan LED flashes green indicating that the Ring Scanner is attempting to establish a connection with the device. When a connection is established, the Scan LED turns off and the Ring Scanner emits one string of low/high beeps.

A notification appears on the Notification panel and the  icon appears in the Status bar.

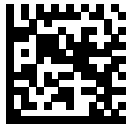
## Pairing Using Bluetooth Human Interface Device


Pair the Bluetooth scanner to the device using HID.

To pair the scanner with the device using HID:

1. Remove the battery from the scanner.
2. Replace the battery.
3. After the scanner reboots, scan the barcode below to place the scanner in HID mode.

**Figure 14** Bluetooth HID Classic Barcode



4. On the device, swipe down from the Status bar to open the Quick Access panel and then touch .
5. Touch **Bluetooth**.
6. Touch **Pair new device**. The device begins searching for discoverable Bluetooth devices in the area and displays them under **Available devices**.
7. Scroll through the list and select XXXXX xxxxxx, where XXXXX is the scanner and xxxxxx is the serial number.

The device connects to the scanner, the scanner beeps once and **Connected** appears below the device name. The Bluetooth device is added to the **Paired devices** list and a trusted (“paired”) connection is established.

## DataWedge

DataWedge is a utility that adds advanced barcode scanning capability to any application without writing code. It runs in the background and handles the interface to built-in barcode scanners. The captured barcode data is converted to keystrokes and sent to the target application as if it was typed on the keypad.

DataWedge allows any app on the device to get data from input sources such as a barcode scanner, MSR, RFID, voice, or serial port and manipulate the data based on options or rules.

Configure DataWedge to:



- Provide data capture services from any app.
- Use a particular scanner, reader, or other peripheral devices.
- Properly format and transmit data to a specific app.

To configure DataWedge, refer to [techdocs.zebra.com/datawedge/](https://techdocs.zebra.com/datawedge/).



## Enabling DataWedge



This procedure provides information on how to enable DataWedge on the device.

1. Swipe up from the bottom of the Home screen and touch .
2. Touch  > **Settings**.
3. Touch the **DataWedge enabled** checkbox.

A blue checkmark appears in the checkbox indicating that DataWedge is enabled.

## Disabling DataWedge

This procedure provides information on how to disable DataWedge on the device.

1. Swipe up from the bottom of the Home screen and touch .
2. Touch .
3. Touch **Settings**.
4. Touch **DataWedge enabled**.

## Supported Devices

This sections provides the supported decoders for each data capture option.

### SE2100 Internal Imager Supported Decoders

Lists the supported decoders for the SE2100 internal imager.

**Table 10** SE2100 Supported Decoders

Decoder	Default State	Decoder	Default State	Decoder	Default State
Australian Postal	O	EAN8	X	MSI	O
Aztec	X	Grid Matrix	O	PDF417	X
Canadian Postal	O	GS1 DataBar	X	QR Code	X
Chinese 2 of 5	O	GS1 DataBar Expanded	X	Decoder Signature	O
Codabar	X	GS1 DataBar Limited	O	TLC 39	O
Code 11	O	GS1 Datamatrix	-O	Trioptic 39	O
Code 128	X	GS1 QRCode	O	UK Postal	O
Code 39	X	HAN XIN	—	UPCA	X
Code 93	O	Interleaved 2 of 5	O	UPCE0	X
Composite AB	O	Japanese Postal	O	UPCE1	O

**Table 10** SE2100 Supported Decoders (Continued)

Decoder	Default State	Decoder	Default State	Decoder	Default State
Composite C	O	Korean 3 of 5	O	US4state	O
Discrete 2 of 5	O	MAIL MARK	X	US4state FICS	O
Datamatrix	X	Matrix 2 of 5	O	US Planet	O
Dutch Postal	O	Maxicode	X	US Postnet	O
DotCode	O	MicroPDF	O		
EAN13	X	MicroQR	O		

Key: X = Enabled, O = Disabled, — = Not Supported

## RS507/RS507x Supported Decoders

Lists the supported decoders for the RS507/RS507x Ring Scanner.

**Table 11** RS507/RS507x Supported Decoders

Decoder	Default State	Decoder	Default State	Decoder	Default State
Australian Postal	O	EAN8	X	MSI	O
Aztec	X	Grid Matrix	O	PDF417	X
Canadian Postal	-	GS1 DataBar	X	QR Code	X
Chinese 2 of 5	O	GS1 DataBar Expanded	X	Decoder Signature	O
Codabar	X	GS1 DataBar Limited	O	TLC 39	O
Code 11	O	GS1 Datamatrix	-	Trioptic 39	O
Code 128	X	GS1 QRCode	-	UK Postal	O
Code 39	O	HAN XIN	-	UPCA	X
Code 93	O	Interleaved 2 of 5	O	UPCE0	X
Composite AB	O	Japanese Postal	O	UPCE1	O
Composite C	O	Korean 3 of 5	O	US4state	O
Discrete 2 of 5	O	MAIL MARK	-	US4state FICS	O
Datamatrix	X	Matrix 2 of 5	O	US Planet	O
Dutch Postal	O	Maxicode	X	US Postnet	O
DotCode	O	MicroPDF	O		
EAN13	X	MicroQR	O		

Key: X = Enabled, O = Disabled, - = Not Supported

## RS6000 Supported Decoders

Lists the supported decoders for the RS6000 Ring Scanner.

**Table 12** RS6000 Supported Decoders

Decoder	Default State	Decoder	Default State	Decoder	Default State
Australian Postal	O	EAN8	X	MSI	O
Aztec	X	Grid Matrix	O	PDF417	X
Canadian Postal	O	GS1 DataBar	X	QR Code	X
Chinese 2 of 5	O	GS1 DataBar Expanded	X	Decoder Signature	O
Codabar	X	GS1 DataBar Limited	O	TLC 39	O
Code 11	O	GS1 Datamatrix	O	Trioptic 39	O
Code 128	X	GS1 QRCode	O	UK Postal	O
Code 39	X	HAN XIN	O	UPCA	X
Code 93	O	Interleaved 2 of 5	O	UPCE0	X
Composite AB	O	Japanese Postal	O	UPCE1	O
Composite C	O	Korean 3 of 5	O	US4state	O
Discrete 2 of 5	O	MAIL MARK	X	US4state FICS	O
Datamatrix	X	Matrix 2 of 5	O	US Planet	O
Dutch Postal	O	Maxicode	X	US Postnet	O
DotCode	O	MicroPDF	O		
EAN13	X	MicroQR	O		

Key: X = Enabled, O = Disabled, - = Not Supported

# Wireless

This section provides information on the wireless features of the device.

The following wireless features are available on the device:

- Wireless Local Area Network (WLAN)
- Bluetooth
- Cast

## Wireless Local Area Networks

Wireless local area networks (WLANs) allow the device to communicate wirelessly inside a building. Before using the device on a WLAN, the facility must be set up with the required hardware to run the WLAN (sometimes known as infrastructure). The infrastructure and the device must both be properly configured to enable this communication.

Refer to the documentation provided with the infrastructure (access points (APs), access ports, switches, Radius servers, etc.) for instructions on how to set up the infrastructure.

Once the infrastructure is set up to enforce the chosen WLAN security scheme, use the **Wireless & networks** settings configure the device to match the security scheme.

The device supports the following WLAN security options:

- None
- Enhanced Open
- Wireless Equivalent Privacy (WEP)
- Wi-Fi Protected Access (WPA)/WPA2 Personal (PSK)
- WPA3-Personal
- WPA/WPA2/WPA3 Enterprise (EAP)
  - Protected Extensible Authentication Protocol (PEAP) - with MSCHAPV2 and GTC authentication.
  - Transport Layer Security (TLS)
  - Tunneled Transport Layer Security (TTLS) - with Password Authentication Protocol (PAP), MSCHAP and MSCHAPv2 authentication.
  - Password (PWD).
  - Lightweight Extensible Authentication Protocol (LEAP).
- WPA3-Enterprise 192-bit

The **Status** bar displays icons that indicate Wi-Fi network availability and Wi-Fi status.



**NOTE:** To extend the life of the battery, turn off Wi-Fi when not in use.

## Connecting to a Wi-Fi Network

1. Go to **Settings**.
2. Touch **Network & internet**.
3. Touch **Wi-Fi** to open the **Wi-Fi** screen. The device searches for WLANs in the area and lists them.
4. Scroll through the list and select the desired WLAN network.
5. For open networks, touch profile once or press and hold and then select **Connect** or for secure networks enter the required password or other credentials then touch **Connect**. See the system administrator for more information.

The device obtains a network address and other required information from the network using the dynamic host configuration protocol (DHCP) protocol. To configure the device with a fixed internet protocol (IP) address, see [Configuring the Device to Use a Static IP Address](#) on page 64.

6. In the Wi-Fi setting field, **Connected** appears indicating that the device is connected to the WLAN.

## Wi-Fi Version

When the device is connected to a Wi-Fi network, the Wi-Fi icon on the Status bar indicates the Wi-Fi network version.

**Table 13** Wi-Fi Version Icons

Icon	Description
	Connected to Wi-Fi 5, the 802.11ac standard.
	Connected to Wi-Fi 4, the 802.11n standard.

## Removing a Wi-Fi Network

Remove a remembered or connected Wi-Fi network.

1. Go to **Settings**.
2. Touch **Network & Internet > Wi-Fi**.
3. Scroll down to the bottom of the list and touch **Saved networks**.
4. Touch the name of the network.
5. Touch **FORGET**.

## WLAN Configuration

This section provides information on configuring Wi-Fi settings.

## Configuring a Secure Wi-Fi Network

1. Go to **Settings**.
2. Touch **Network & Internet > Wi-Fi**.
3. Slide the switch to the **ON** position.
4. The device searches for WLANs in the area and lists them on the screen.
5. Scroll through the list and select the desired WLAN network.
6. Touch the desired network. If network security is **Open**, the device automatically connects to the network. For all other network security, a dialog box appears.
7. If network security is **WPA/WPA2-Personal**, **WPA3-Personal**, or **WEP**, enter the required password and then touch **Connect**.
8. If network security is **WPA/WPA2/WPA3 Enterprise**:
  - a) Touch the **EAP method** drop-down list and select one of the following:
    - **PEAP**
    - **TLS**
    - **TTLS**
    - **PWD**
    - **LEAP**.
  - b) Fill in the appropriate information. Options vary depending on the **EAP method** chosen.
    - Touch **CA certificate** and select a Certification Authority (CA) certificate. Note: Certificates are installed using the Security settings.
    - Touch **User certificate** and select a user certificate. Note: User certificates are installed using the Security settings.
    - In the **Identity** text box, enter the username credentials.
9. If the network security is **WPA3-Enterprise 192-bit**:
  - Touch **CA certificate** and select a Certification Authority (CA) certificate. Note: Certificates are installed using the Security settings.
  - Touch **User certificate** and select a user certificate. Note: User certificates are installed using the Security settings.
  - In the **Identity** text box, enter the username credentials.



**NOTE:** By default, the network Proxy is set to None and the IP settings is set to DHCP. See [Configuring for a Proxy Server](#) on page 64 for setting the connection to a proxy server and see [Configuring the Device to Use a Static IP Address](#) on page 64 for setting the device to use a static IP address.

10. Touch **Connect**.

## Manually Adding a Wi-Fi Network

1. Go to **Settings**.
2. Touch **Network & Internet > Wi-Fi**.

3. Slide the Wi-Fi switch to the **On** position.
4. Scroll to the bottom of the list and select **Add network**.
5. In the **Network name** text box, enter the name of the Wi-Fi network.
6. In the **Security** drop-down list, set the type of security to:
  - **None**
  - **Enhanced Open**
  - **WEP**
  - **WPA/WPA2-Personal**
  - **WPA3-Personal**
  - **WPA/WPA2/WPA3-Enterprise**
  - **WPA3-Enterprise 192-bit**
7. If the network security is **None** or **Enhanced Open**, touch **Save**.
8. If the network security is **WEP**, **WPA3-Personal**, or **WPA/WPA2-Personal**, enter the required password and then touch **Save**.




**NOTE:** By default, the network Proxy is set to None and the IP settings is set to DHCP. See [Configuring for a Proxy Server](#) on page 64 for setting the connection to a proxy server and see [Configuring the Device to Use a Static IP Address](#) on page 64 for setting the device to use a static IP address.

9. If network security is **WPA/WPA2/WPA3 Enterprise**:
  - a) Touch the **EAP method** drop-down list and select one of the following:
    - **PEAP**
    - **TLS**
    - **TTLS**
    - **PWD**
    - **LEAP**.
  - b) Fill in the appropriate information. Options vary depending on the **EAP method** chosen.
    - When selecting **CA certificate**, Certification Authority (CA) certificates are installed using the **Security** settings.
    - When using the EAP methods PEAP, TLS, or TTLS, specify a domain.
    - Touch **Advanced options** to display additional network options.
10. If the network security is WPA3-Enterprise 192-bit:
  - Touch **CA certificate** and select a Certification Authority (CA) certificate. Note: Certificates are installed using the Security settings.
  - Touch **User certificate** and select a user certificate. Note: User certificates are installed using the Security settings.
  - In the **Identity** text box, enter the username credentials.
11. Touch **Save**. To connect to the saved network, touch and hold on the saved network and select **Connect to network**.

## Configuring for a Proxy Server


A proxy server is a server that acts as an intermediary for requests from clients seeking resources from other servers. A client connects to the proxy server and requests some service, such as a file, connection, web page, or other resource, available from a different server. The proxy server evaluates the request according to its filtering rules. For example, it may filter traffic by IP address or protocol. If the request is validated by the filter, the proxy provides the resource by connecting to the relevant server and requesting the service on behalf of the client.

It is important for enterprise customers to be able to set up secure computing environments within their companies, making proxy configuration essential. Proxy configuration acts as a security barrier ensuring that the proxy server monitors all traffic between the Internet and the intranet. This is normally an integral part of security enforcement in corporate firewalls within intranets.

1. Go to **Settings**.
2. Touch **Network & Internet > Wi-Fi**.
3. Slide the Wi-Fi switch to the **On** position.
4. In the network dialog box, select and touch a network.
5. If configuring the connected network, touch  to edit the network details and then touch the down arrow to hide the keyboard.
6. Touch **Advanced options**.
7. Touch **Proxy** and select **Manual**.
8. In the **Proxy hostname** text box, enter the address of the proxy server.
9. In the **Proxy port** text box, enter the port number for the proxy server.
10. In the **Bypass proxy for** text box, enter addresses for web sites that are not required to go through the proxy server. Use a comma “,” between addresses. Do not use spaces or carriage returns between addresses.
11. If configuring the connected network, touch **Save** otherwise, touch **Connect**.
12. Touch **Connect**.

## Configuring the Device to Use a Static IP Address

By default, the device is configured to use Dynamic Host Configuration Protocol (DHCP) to assign an Internet protocol (IP) address when connecting to a wireless network.

1. Go to **Settings**.
2. Touch **Network & Internet > Wi-Fi**.
3. Slide the Wi-Fi switch to the **On** position.
4. In the network dialog box, select and touch a network.
5. If configuring the connected network, touch  to edit the network details and then touch the down arrow to hide the keyboard.
6. Touch **Advanced options**.
7. Touch **IP settings** and select **Static**.
8. In the **IP address** text box, enter an IP address for the device.
9. If required, in the **Gateway** text box, enter a gateway address for the device.



10. If required, in the **Network prefix length** text box, enter the prefix length.
11. If required, in the **DNS 1** text box, enter a Domain Name System (DNS) address.
12. If required, in the **DNS 2** text box, enter a DNS address.
13. If configuring the connected network, touch **Save** otherwise, touch **Connect**.

## Wi-Fi Preferences

Use the Wi-Fi preferences to configure advanced Wi-Fi settings. From the Wi-Fi screen scroll down to the bottom of the screen and touch Wi-Fi preferences.

- **Turn on Wi-Fi automatically** - When enabled, Wi-Fi automatically turns back on when near high quality saved networks.
- **Open network notification** - When enabled, notifies the user when an open network is available.
- **Advanced** - Touch to expand options.
  - **Additional settings** - Touch to view additional Wi-Fi settings.
  - **Install Certificates** – Touch to install certificates.
  - **Network rating provider** - Disabled (AOSP devices). To help determine what constitutes a good Wi-Fi network, Android supports external Network rating providers that provide information about the quality of open Wi-Fi networks. Select one of the providers listed or **None**. If none are available or selected, the Connect to open networks feature is disabled.
  - **Wi-Fi Direct** - Displays a list of devices available for a direct Wi-Fi connection.

## Additional Wi-Fi Settings

Use the Additional Settings to configure additional Wi-Fi settings. To view the additional Wi-Fi settings, scroll to the bottom of the Wi-Fi screen and touch **Wi-Fi Preferences > Advanced > Additional settings**.



**NOTE:** Additional Wi-Fi settings are for the device, not for a specific wireless network.

- **Regulatory**
  - **Country Selection** - Displays the acquired country code if 802.11d is enabled, else it displays the currently selected country code.
  - **Region code** - Displays the current region code.
- **Band and Channel Selection**
  - **Wi-Fi frequency band** - Set the frequency band to: **Auto** (default), **5 GHz only** or **2.4 GHz only**.
  - **Available channels (2.4 GHz)** - Touch to display the **Available channels** menu. Select specific channels and touch **OK**.
  - **Available channels (5 GHz)** - Touch to display the **Available channels** menu. Select specific channels and touch **OK**.

- **Logging**
  - **Advanced Logging** – Touch to enable advanced logging or change the log directory.
  - **Wireless logs** - Use to capture Wi-Fi log files.
    - **Fusion Logger** - Touch to open the **Fusion Logger** application. This application maintains a history of high level WLAN events which helps to understand the status of connectivity.
    - **Fusion Status** - Touch to display live status of WLAN state. Also provides information about the device and connected profile.
- **About**
  - **Version** - Displays the current Fusion information.

## Wi-Fi Direct

Wi-Fi Direct devices can connect to each other without having to go through an access point. Wi-Fi Direct devices establish their own ad-hoc network when required, letting you see which devices are available and choose which one you want to connect to.

1. Go to **Settings**.
2. Touch **Wi-Fi > Wi-Fi preferences > Advanced > Wi-Fi Direct**. The device begins searching for another Wi-Fi Direct device.
3. Under **Peer devices**, touch the other device name.
4. On the other device, select **Accept**.

**Connected** appears on the device. On both devices, in their respective Wi-Fi Direct screens, the other device name appears in the list.

## Bluetooth

Bluetooth devices can communicate without wires, using frequency-hopping spread spectrum (FHSS) radio frequency (RF) to transmit and receive data in the 2.4 GHz Industry Scientific and Medical (ISM) band (802.15.1). Bluetooth wireless technology is specifically designed for short-range (10 m (32.8 ft)) communication and low power consumption.

Devices with Bluetooth capabilities can exchange information (for example, files, appointments, and tasks) with other Bluetooth enabled devices such as printers, access points, and other mobile devices.

The device supports Bluetooth Low Energy. Bluetooth Low Energy is targeted at applications in the healthcare, fitness, security, and home entertainment industries. It provides reduced power consumption and cost while maintaining standard Bluetooth range.

## Adaptive Frequency Hopping

Adaptive Frequency Hopping (AFH) is a method of avoiding fixed frequency interferers, and can be used with Bluetooth voice. All devices in the piconet (Bluetooth network) must be AFH-capable in order for AFH to work. There is no AFH when connecting and discovering devices. Avoid making Bluetooth connections and discoveries during critical 802.11b communications.

AFH for Bluetooth consists of four main sections:

- **Channel Classification** - A method of detecting an interference on a channel-by-channel basis, or pre-defined channel mask.

- Link Management - Coordinates and distributes the AFH information to the rest of the Bluetooth network.
- Hop Sequence Modification - Avoids interference by selectively reducing the number of hopping channels.
- Channel Maintenance - A method for periodically re-evaluating the channels.

When AFH is enabled, the Bluetooth radio “hops around” (instead of through) the 802.11b high-rate channels. AFH coexistence allows enterprise devices to operate in any infrastructure.

The Bluetooth radio in this device operates as a Class 2 device power class. The maximum output power is 2.5 mW and the expected range is 10 m (32.8 ft). A definition of ranges based on power class is difficult to obtain due to power and device differences, and whether in open space or closed office space.



**NOTE:** It is not recommended to perform Bluetooth wireless technology inquiry when high rate 802.11b operation is required.

## Security

The current Bluetooth specification defines security at the link level. Application-level security is not specified. This allows application developers to define security mechanisms tailored to their specific need. Link-level security occurs between devices, not users, while application-level security can be implemented on a per-user basis. The Bluetooth specification defines security algorithms and procedures required to authenticate devices, and if needed, encrypt the data flowing on the link between the devices. Device authentication is a mandatory feature of Bluetooth while link encryption is optional.

Pairing of Bluetooth devices is accomplished by creating an initialization key used to authenticate the devices and create a link key for them. Entering a common personal identification number (PIN) in the devices being paired generates the initialization key. The PIN is never sent over the air. By default, the Bluetooth stack responds with no key when a key is requested (it is up to user to respond to the key request event). Authentication of Bluetooth devices is based-upon a challenge-response transaction. Bluetooth allows for a PIN or passkey used to create other 128-bit keys used for security and encryption. The encryption key is derived from the link key used to authenticate the pairing devices. Also worthy of note is the limited range and fast frequency hopping of the Bluetooth radios that makes long-distance eavesdropping difficult.

Recommendations are:

- Perform pairing in a secure environment
- Keep PIN codes private and do not store the PIN codes in the device
- Implement application-level security.

## Bluetooth Profiles

The device supports the Bluetooth services listed.

**Table 14** Bluetooth Profiles

Profile	Description
Service Discovery Protocol (SDP)	Handles the search for known and specific services as well as general services.
Serial Port Profile (SPP)	Allows use of RFCOMM protocol to emulate serial cable connection between two Bluetooth peer devices. For example, connecting the device to a printer.

**Table 14** Bluetooth Profiles (Continued)

Profile	Description
Object Push Profile (OPP)	Allows the device to push and pull objects to and from a push server.
Advanced Audio Distribution Profile (A2DP)	Allows the device to stream stereo-quality audio to a wireless headset or wireless stereo speakers.
Audio/Video Remote Control Profile (AVRCP)	Allows the device to control A/V equipment to which a user has access. It may be used in concert with A2DP.
Personal Area Network (PAN)	Allows the use of Bluetooth Network Encapsulation Protocol to provide L3 networking capabilities over a Bluetooth link. Only PANU role is supported.
Human Interface Device Profile (HID)	Allows Bluetooth keyboards, pointing devices, gaming devices and remote monitoring devices to connect to the device.
Headset Profile (HSP)	Allows a hands-free device, such as a Bluetooth headset, to place and receive calls on the device.
Hands-Free Profile (HFP)	Allows car hands-free kits to communicate with the device in the car.
Phone Book Access Profile (PBAP)	Allows exchange of Phone Book Objects between a car kit and a mobile device to allow the car kit to display the name of the incoming caller; allow the car kit to download the phone book so you can initiate a call from the car display.
Out of Band (OOB)	Allows exchange of information used in the pairing process. Pairing is completed using the Bluetooth radio, but requires information from the OOB mechanism.
Symbol Serial Interface (SSI)	Allows for communication with Bluetooth Imager.
Generic Attribute Profile (GATT)	Provides profile discovery and description services for Bluetooth Low Energy protocol. It defines how attributes are grouped together into sets to form services.
Dial Up Networking (DUN)	Provides a standard to access the Internet and other dial-up services over Bluetooth.
Generic Access Profile (GAP)	Use for device discovery and authentication.
Object EXchange (OBEX)	Facilitates the exchange of binary objects between devices.

## Bluetooth Power States

The Bluetooth radio is off by default.

- **Suspend** - When the device goes into suspend mode, the Bluetooth radio stays on.
- **Airplane Mode** - When the device is placed in Airplane Mode, the Bluetooth radio turns off. When Airplane mode is disabled, the Bluetooth radio returns to the prior state. When in Airplane Mode, the Bluetooth radio can be turned back on if desired.


## Bluetooth Radio Power

Turn off the Bluetooth radio to save power or if entering an area with radio restrictions (for example, an airplane). When the radio is off, other Bluetooth devices cannot see or connect to the device. Turn on the Bluetooth radio to exchange information with other Bluetooth devices (within range). Communicate only with Bluetooth radios in close proximity.




**NOTE:** To achieve the best battery life, turn off radios when not in use.

### Enabling Bluetooth

1. Swipe down from the Status bar to open the Notification panel.
2. Touch  to turn Bluetooth on.

### Disabling Bluetooth

1. Swipe down from the Status bar to open the Notification panel.
2. Touch  to turn Bluetooth off.

## Discovering Bluetooth Device(s)

The device can receive information from discovered devices without pairing. However, once paired, the device and a paired device exchange information automatically when the Bluetooth radio is on.

1. Ensure that Bluetooth is enabled on both devices.
2. Ensure that the Bluetooth device to discover is in discoverable mode.
3. Ensure that the two devices are within 10 meters (32.8 feet) of one another.
4. Swipe down from the Status bar to open the Quick Access panel.
5. Touch and hold **Bluetooth**.
6. Touch **Pair new device**. The device begins searching for discoverable Bluetooth devices in the area and displays them under **Available devices**.
7. Scroll through the list and select a device. The Bluetooth pairing request dialog box appears.
8. Touch **Pair** on both devices.
9. The Bluetooth device is added to the **Paired devices** list and a trusted (“paired”) connection is established.

## Changing the Bluetooth Name

By default, the device has a generic Bluetooth name that is visible to other devices when connected.

1. Go to **Settings**.
2. Touch **Connected devices > Connection preferences > Bluetooth**.
3. If Bluetooth is not on, move the switch to turn Bluetooth on.
4. Touch **Device name**.

5. Enter a name and touch **RENAME**.

## Connecting to a Bluetooth Device

Once paired, connect to a Bluetooth device.

1. Go to **Settings**.
2. Touch **Connected devices** > **Connection preferences** > **Bluetooth**.
3. In the list, touch the unconnected Bluetooth device.

When connected, **Connected** appears below the device name.

## Selecting Profiles on the Bluetooth Device

Some Bluetooth devices have multiple profiles.

1. Go to **Settings**.
2. Touch **Connected devices** > **Connection preferences** > **Bluetooth**.
3. In the **Paired Devices** list, touch  next to the device name.
4. Turn on or off a profile to allow the device to use that profile.

## Unpairing a Bluetooth Device

Unpairing a Bluetooth device erases all pairing information.

1. Go to **Settings**.
2. Touch **Connected devices** > **Connection preferences** > **Bluetooth**.
3. In the **Paired Devices** list, touch  next to the device name.
4. Touch **FORGET**.

## Cast

Use **Cast** to mirror the device screen on a Miracast enabled wireless display.

1. Go to **Settings**.
2. Touch **Connected devices** > **Connection preferences** > **Cast**.
3. Touch  > **Enable wireless display**.

The device searches for nearby Miracast devices and lists them.

4. Touch a device to begin casting.

# Accessories

This table lists the accessories available for the device.

**Table 15** Accessories

Accessory	Part Number	Description
<b>Cradles</b>		
2-Slot Charge Only Cradle	CRD-EC30-2SCHG1-01	Provides device charging. Use with power supply, p/n PWR-BGA12V50W0WW.
10-Slot Charge Only Cradle	CRD-EC30-10SC1-01	Charges up to 10 devices. Use with power supply, p/n PWR-BGA12V108W0WW and DC line cord, p/n CBL-DC-381A1-01.
10-Slot Charge Only Locking Cradle	CRD-EC30-10SLC1-01	Charges up to 10 devices. Use with power supply, p/n PWR-BGA12V108W0WW and DC line cord, p/n CBL-DC-381A1-01.
Cradle Mount	BRKT-SCRD-SMRK-01	Mounts the 10-Slot Charge Only Cradle and 10-Slot Charge Only Locking Cradle to a rack.
Cradle Mount Plate	BRKT-EC30-10SC1-01	Mounts the 10-Slot Charge Only Cradle and 10-Slot Charge Only Locking Cradle to a rack with the displays facing up.
Locking Cradle Release Tool	KT-MC18-CKEY-20	Manually unlocks the EC30 from the 10-Slot Charge Only Locking Cradle (20-pack)
<b>Charge and Communication Cables</b>		
USB-C Charging Cable	CBL-TC2X-USBC-01	Provides device charging and USB communication with a host computer.
USB-C Charging Cable	CBL-TC5X-USBC2A-01	Provides device charging and USB communication with a host computer.
<b>Audio Accessories</b>		
Bluetooth Headset	HS3100-OTH	Rugged Bluetooth Headset. Includes HS3100 Boom Module and HSX100 OTH Headband Module.
3.5 mm Headset	HDST-35MM-PTT1-01	Use for PTT and VoIP calls.
3.5 mm Headset 3.5 mm Quick Disconnect Adapter Cable	HDST-35MM-PTVP-01 CBL-TC51-HDST35-01	Use headset for PTT and VoIP calls. Adapter provides connection to the 3.5 mm Headset.

**Table 15** Accessories (Continued)

Accessory	Part Number	Description
<b>Carrying Solutions</b>		
Basic Lanyard	SG-EC30-BLYD1-01	EC30 basic lanyard with adjustable neck strap and adapter (1-pack).
Basic Lanyard	SG-EC30-BLYD1-10	EC30 basic lanyard with adjustable neck strap and adapter (10-pack).
Retractable Lanyard	SG-EC30-RLYD1-01	EC30 retractable lanyard with magnetic recoil, adjustable neck strap, and adapter (1-pack).
Retractable Lanyard	SG-EC30-RLYD1-10	EC30 retractable lanyard with magnetic recoil, adjustable neck strap, and adapter (10-pack).
Soft Holster	SG-EC30-HLSTR1-01	EC30 soft holster.
Rigid Holster	SG-EC30-RHLSTR1-01	EC30 rigid holster with rotating belt clip.
Garment Clip	SG-EC30-CLIP1-01	EC30 vest/garment clip with coiled tether and adapter.
Belt Clip	SG-EC30-RCB1-01	EC30 retractor with magnetic recoil, carabiner, and adapter.
Arm Mount	SG-EC30-ARM1-01	EC30 arm mount adapter (standard strap size).
Arm Mount	SG-EC30-ARML1-01	EC30 arm mount adapter (long strap size).
Screen Protector	SG-EC30-SCRNP1-05	Provides additional protection for the screen (5-pack).
<b>Power Supplies</b>		
Power Supply	PWR-BGA12V50W0WW	Provides power to the 2-Slot cradle. Requires DC Line Cord, p/n CBL-DC-388A1-01 and country specific three wire grounded AC line cord sold separately.
Power Supply	PWR-BGA12V108W0WW	Provides power to the 10-Slot Charge Only cradle and the 10-Slot Locking Cradle. Requires DC Line Cord, p/n CBL-DC-381A1-01 and country specific three wire grounded AC line cord sold separately.
Power Supply	PWR-WUA5V12W0US	Provides power to the EC30. Requires USB-C Charging Cable. Power Supply-100-240 VAC, 5 V, 2.5 A with US plug.
Power Supply	PWR-WUA5V12W0GB	Provides power to the EC30. Requires USB-C Charging Cable. Power Supply-100-240 VAC, 5 V, 2.5 A with Great Britain plug.
Power Supply	PWR-WUA5V12W0EU	Provides power to the EC30. Requires USB-C Charging Cable. Power Supply-100-240 VAC, 5 V, 2.5 A with Europe plug.
Power Supply	PWR-WUA5V12W0AU	Provides power to the EC30. Requires USB-C Charging Cable. Power Supply-100-240 VAC, 5 V, 2.5 A with Australia plug.



**Table 15** Accessories (Continued)

Accessory	Part Number	Description
Power Supply	PWR-WUA5V12W0CN	Provides power to the EC30. Requires USB-C Charging Cable. Power Supply-100-240 VAC, 5 V, 2.5 A with China plug.
Power Supply	PWR-WUA5V12W0BR	Provides power to the EC30. Requires USB-C Charging Cable. Power Supply-100-240 VAC, 5 V, 2.5 A with Brazil plug.
Power Supply	PWR-WUA5V12W0KR	Provides power to the EC30. Requires USB-C Charging Cable. Power Supply-100-240 VAC, 5 V, 2.5 A with Korea plug.
Power Supply	PWR-WUA5V12W0IN	Provides power to the EC30. Requires USB-C Charging Cable. Power Supply-100-240 VAC, 5 V, 2.5 A with India plug.
DC Line Cord	CBL-DC-388A1-01	Provides power from the power supply to the 2-Slot cradle.
DC Line Cord	CBL-DC-381A1-01	Provides power from the power supply to the 10-Slot Charge Only Cradle and 10-Slot Locking Cradle.

## Battery Charging

The device's Charging/Notification LED indicates the status of the battery charging in the device. The 1,200 mAh (typical) / 1,100 mAh (minimum) battery charges from fully depleted to 90% in approximately 2.5 hours and from fully depleted to 100% in approximately three hours.



**NOTE:** In most use cases the 90% charge provides plenty of charge for daily use. A full 100% charge can last for approximately 10 hours of use depending on device settings. To achieve the best fast charging results use only Zebra charging accessories. Charge device at room temperature with the device in sleep mode.

## Charging Status

The device's Charging/Notification LED indicates the status of the battery charging in the device.

The 1,200 mAh (typical) / 1,100 mAh (minimum) battery charges from fully depleted to 90% in approximately 2.5 hours, and from fully depleted to 100% in approximately three hours.

## Charging Temperature

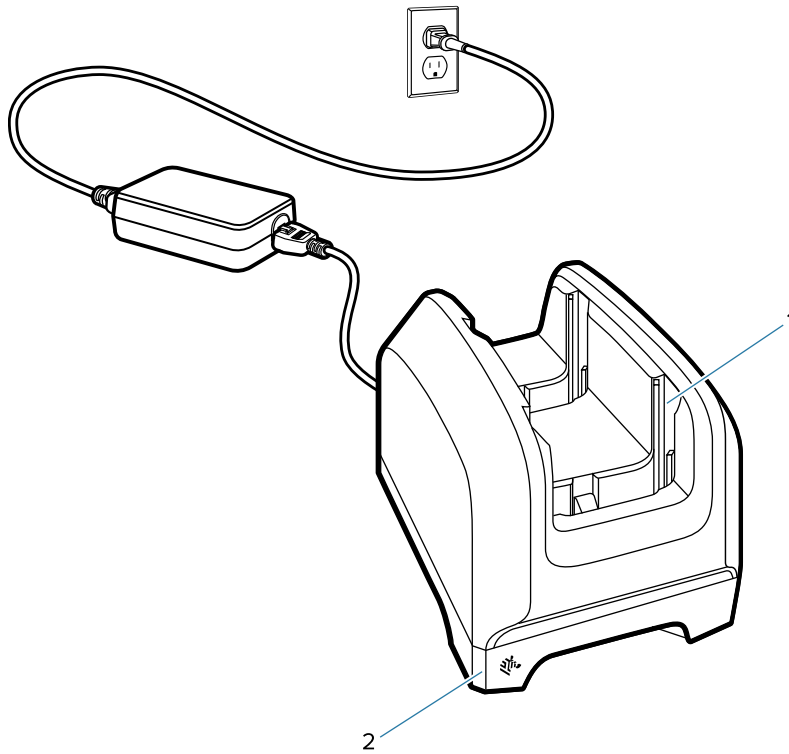
Charge batteries in temperatures from 0 °C to 40 °C (32 °F to 104 °F). The device or cradle always performs battery charging in a safe and intelligent manner. At higher temperatures (for example, approximately +37 °C (+98 °F)) the device or cradle may for small periods of time alternately enable and disable battery charging to keep the battery at acceptable temperatures. The device and cradle indicates when charging is disabled due to abnormal temperatures via its LED.

## 2-Slot Charge Only Cradle

The 2-Slot Charge Only Cradle provides the following features:

- Provides 5 VDC power for operating the cradle.
- Simultaneously charges up to two devices.

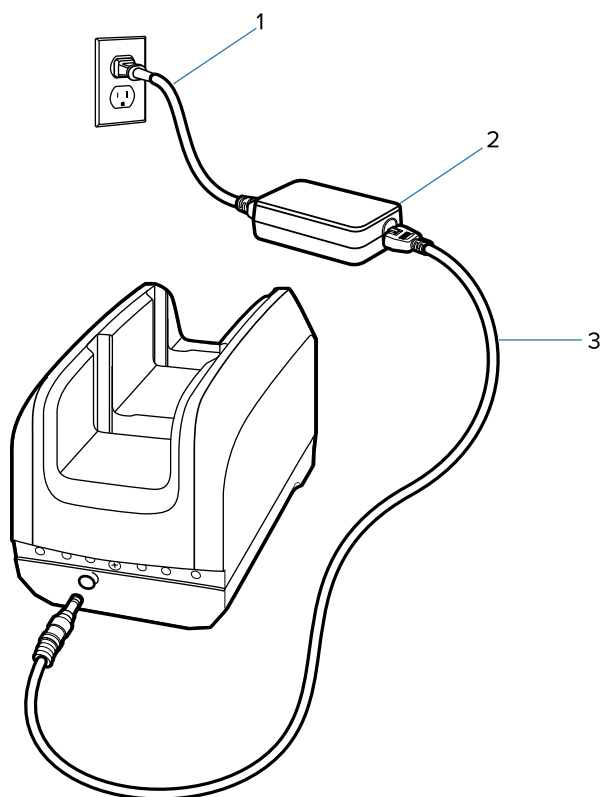
**Figure 15** 2-Slot Charge Only Cradle



1	Charging Slot
2	Power LED

## 2-Slot Charge Only Cradle Setup

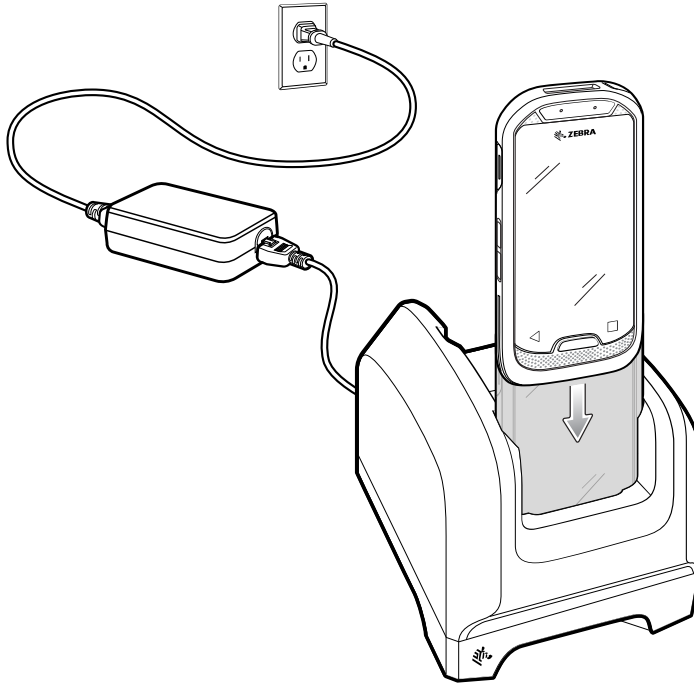
**Figure 16** 2-Slot Charge Only Cradle



1	AC line cord
2	Power supply
3	DC line cord

## Charging with the 2-Slot Charge Only Cradle

1. Insert the device into the slot to begin charging.



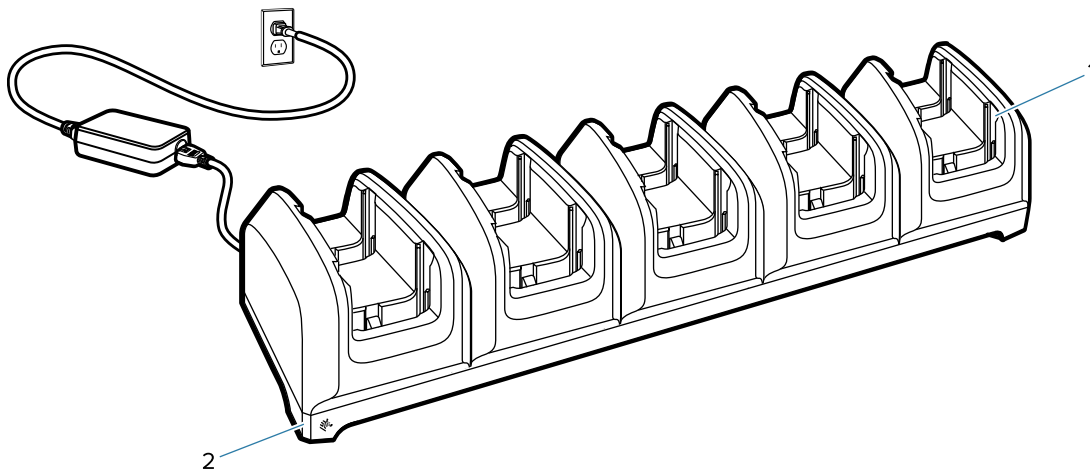
2. Ensure the device is seated properly.

## 10-Slot Charge Only Cradle

The 10-Slot Charge Only Cradle provides the following features:

- Provides 5 VDC power for operating the cradle.
- Simultaneously charges up to ten devices.

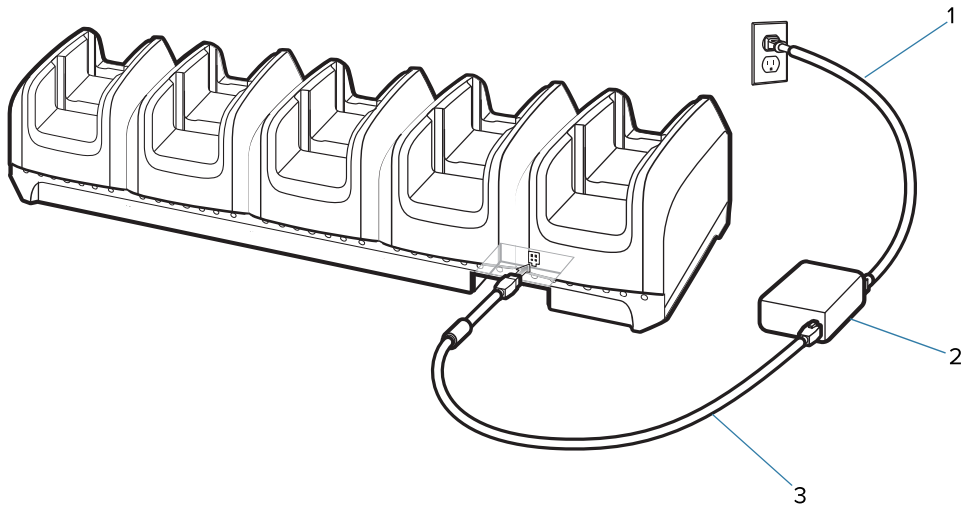
**Figure 17** 10-Slot Charge Only Cradle



1	Charging Slot
2	Power LED

## 10-Slot Charge Only Cradle Setup

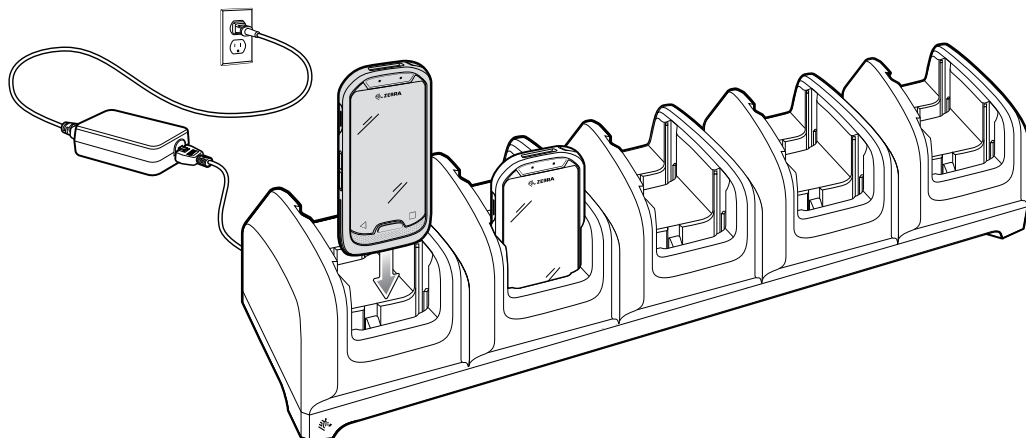
**Figure 18** 10-Slot Charge Only Cradle



1	AC line cord
2	Power supply
3	DC line cord

## Charging with the 10-Slot Charge Only Cradle

1. Insert the device into a slot to begin charging.



2. Ensure the device is seated properly.

## 10-Slot Locking Charge Only Cradle

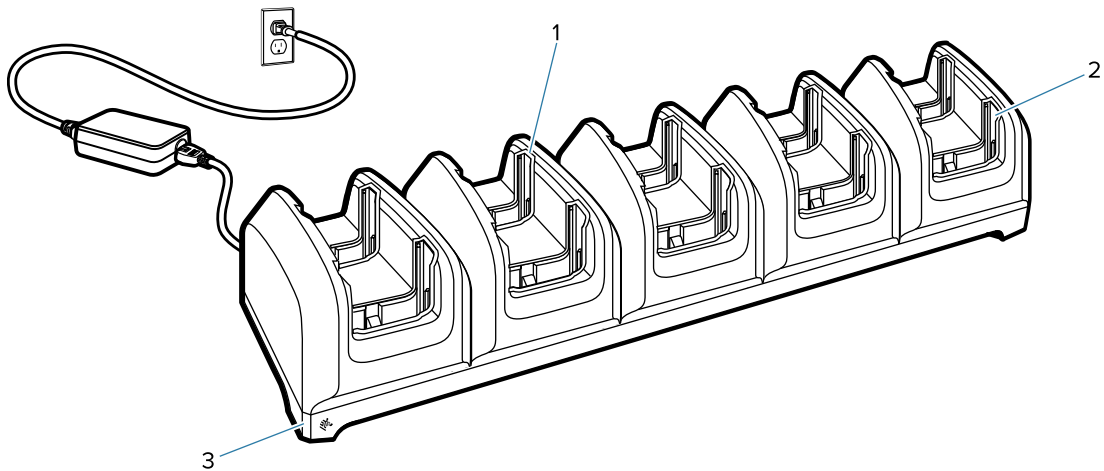


**NOTE:** Controlling the locking cradle is done through a software API. For more information, go to [techdocs.zebra.com](https://techdocs.zebra.com).

The 10-Slot Locking Charge Only Cradle:

- Provides 5 VDC for operating the cradle.
- Simultaneously charges up to ten devices.
- Each slot contains an Indicator LED Insert with RGB LEDs.

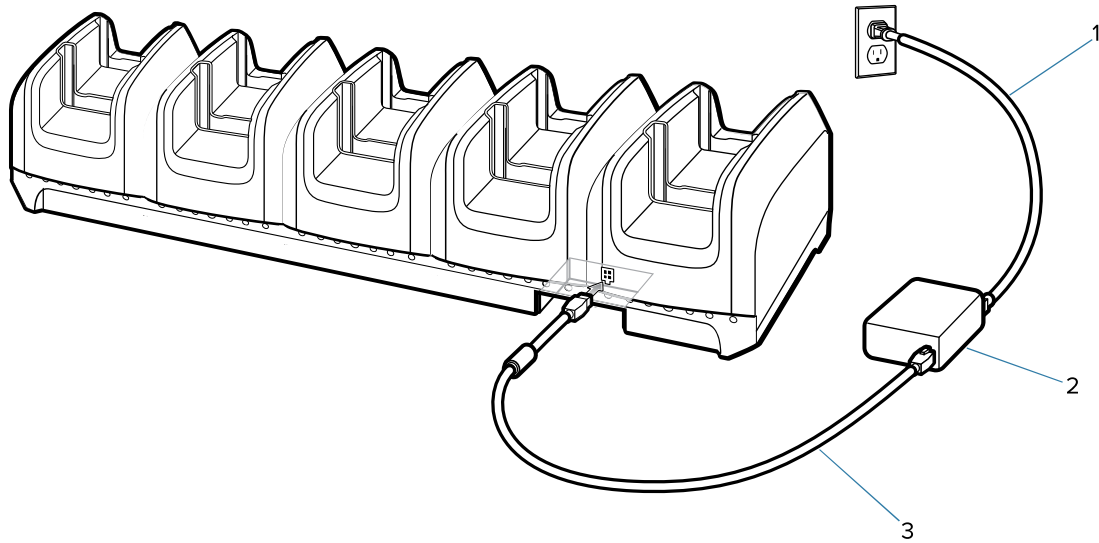
**Figure 19** 10-Slot Locking Charge Only Cradle



1	Indicator LED Insert
2	Charging Slot
3	Power LED

## 10-Slot Locking Charge Only Cradle Setup

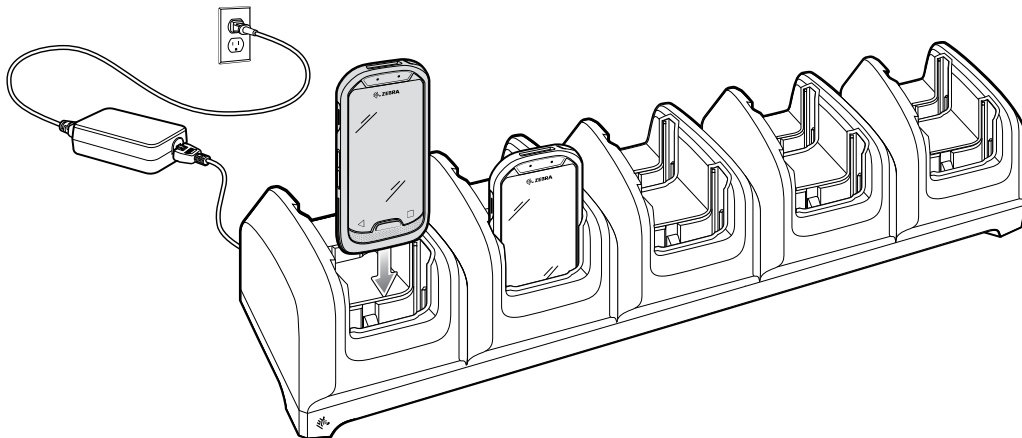
**Figure 20** 10-Slot Locking Charge Only Cradle



1	AC line cord
2	Power supply
3	DC line cord

## Charging the Device

1. Insert the device into a slot to begin charging.



2. Ensure the device is seated properly.

# Using a Release Key

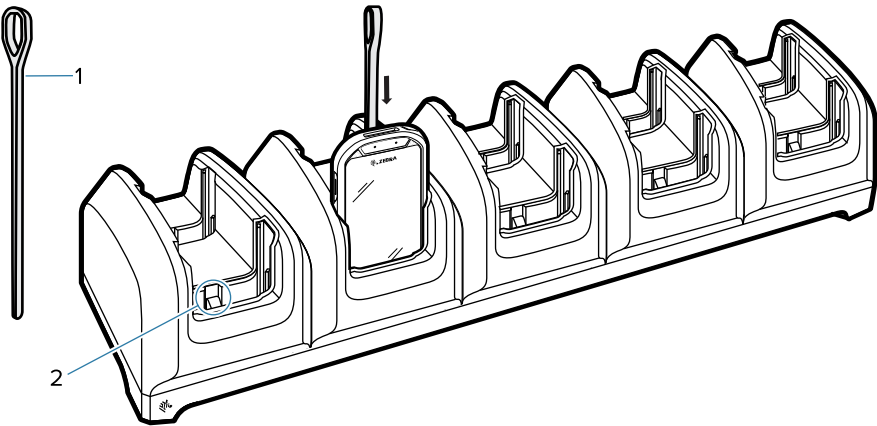
The EC30 10-Slot Locking Charge Only Cradle contains a locking mechanism that locks the EC30 inside the cradle when docked. If the EC30 fails to unlock during normal operation, use a release key (KT-MC18-CKEY-20) to unlock the EC30.



**CAUTION:** Do not use any device to unlock the cradle other than the tools described below. Failure to comply could result in damage to the cradle and void the warranty.

1. Insert the release key straight into the slot as shown below.
2. While pressing the release key all the way into the slot, remove the EC30 from the cradle.

**Figure 21** Releasing the EC30 Using a Release Key



1	Release Key
2	Release Key Slot

# Basic Lanyard

Use the basic lanyard to hold the EC30 around the neck for easy access.

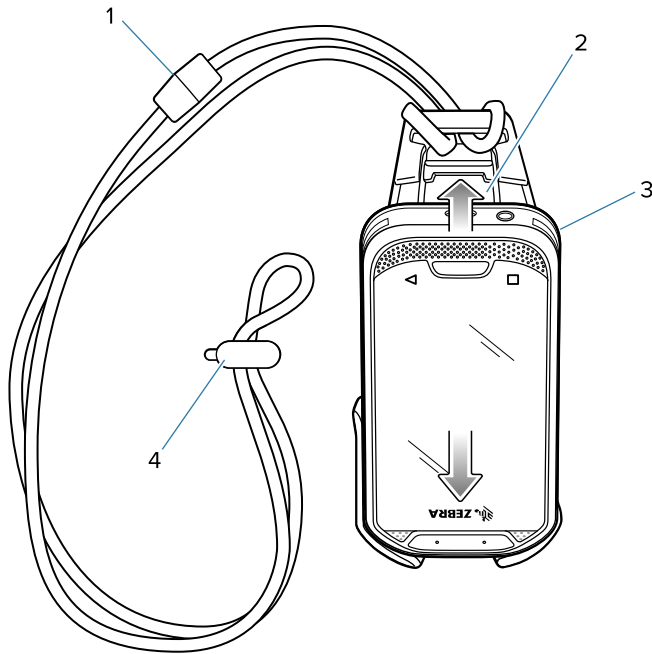
## Installing the EC30 into the Basic Lanyard

1. Insert the top of the EC30 into the bottom of the adapter with the USB-C connector facing the release latch.
2. Push the EC30 into the adapter until it securely snaps in place.



3. To adjust the length of the lanyard, press and hold the adjustment button and slide the button up or down the string.

**Figure 22** Basic Lanyard

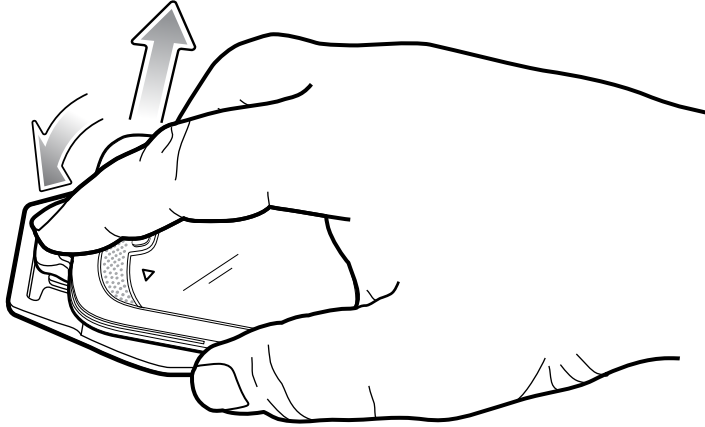


1	Breakaway snap
2	Release latch
3	Adapter
4	Adjustment button

## Removing the EC30 from the Basic Lanyard

- To remove the EC30 from the adapter, push the release tab and pull the bottom of the EC30 away from the adapter.

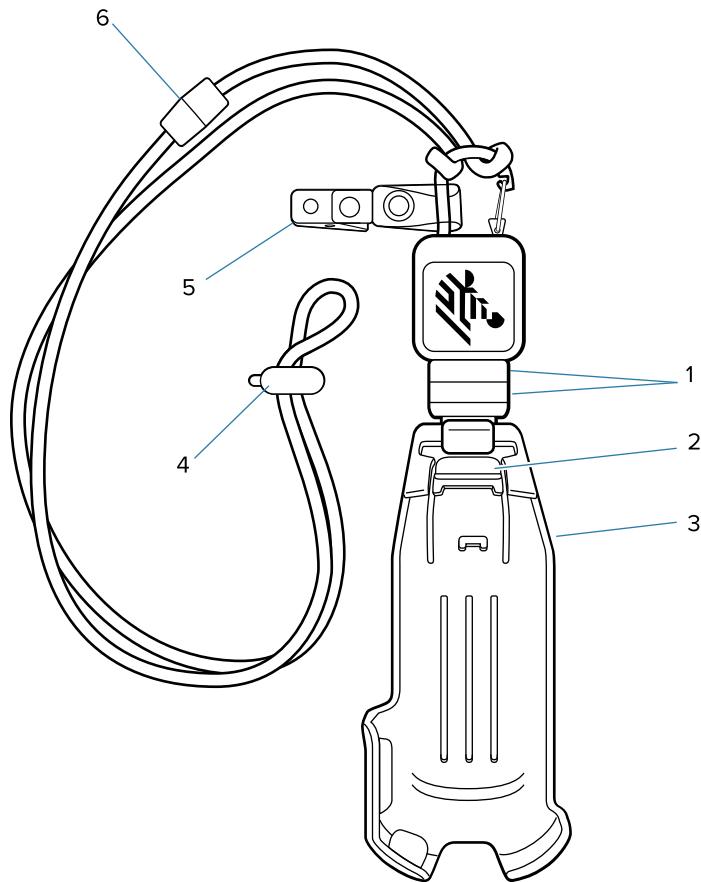
**Figure 23** Remove EC30 from Basic Lanyard



## Retractable Lanyard

The retractable lanyard holds the EC30 around the neck and provides a retractable cord for easy access. Magnetic fasteners hold the EC30 securely when not in use.

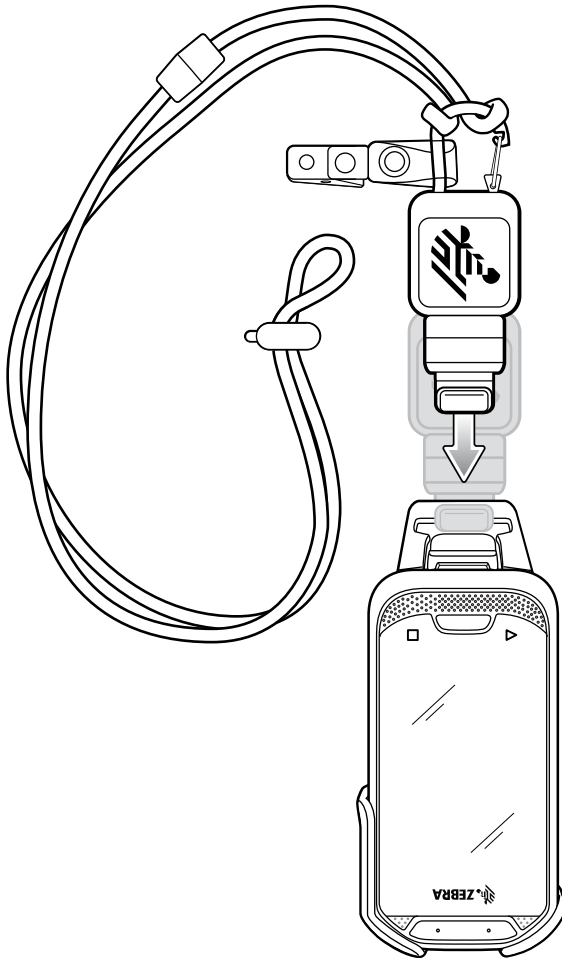
**Figure 24** Retractable Lanyard



1	Magnetic fasteners
2	Release latch
3	Adapter
4	Adjustment button
5	Clip
6	Breakaway snap

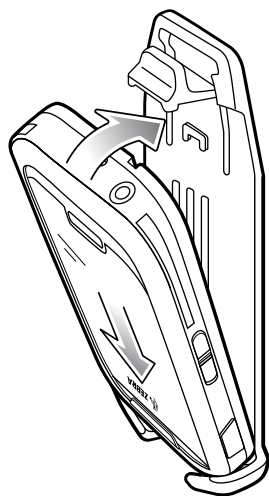
## Installing the EC30 into the Retractable Lanyard

1. Snap the end of the lanyard onto the adapter.

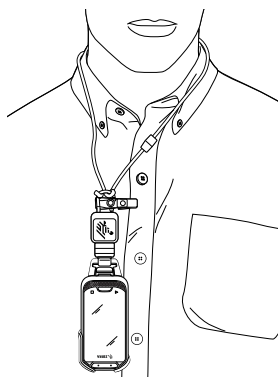


2. Insert the top of the EC30 into the bottom of the adapter with the USB-C connector facing the release latch.

3. Push the EC30 into the adapter until it securely snaps in place.



4. Use the clip to secure the retractable lanyard to clothing.

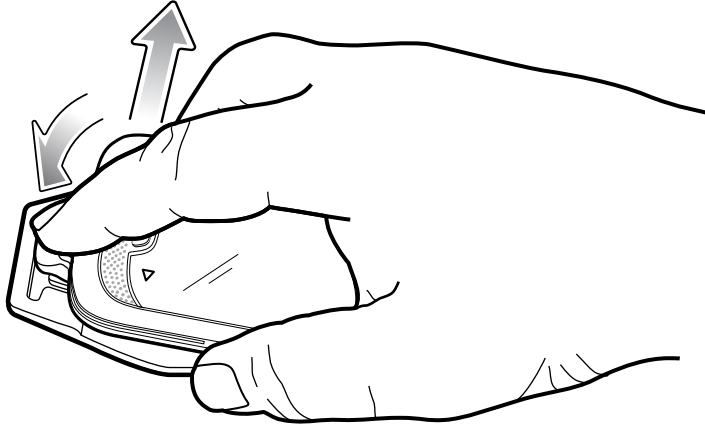


To adjust the length of the lanyard, press and hold the adjustment button and slide the button up or down the string.

## Removing the EC30 from the Retractable Lanyard

- To remove the EC30 from the adapter, push the release tab and pull the bottom of the EC30 away from the adapter.

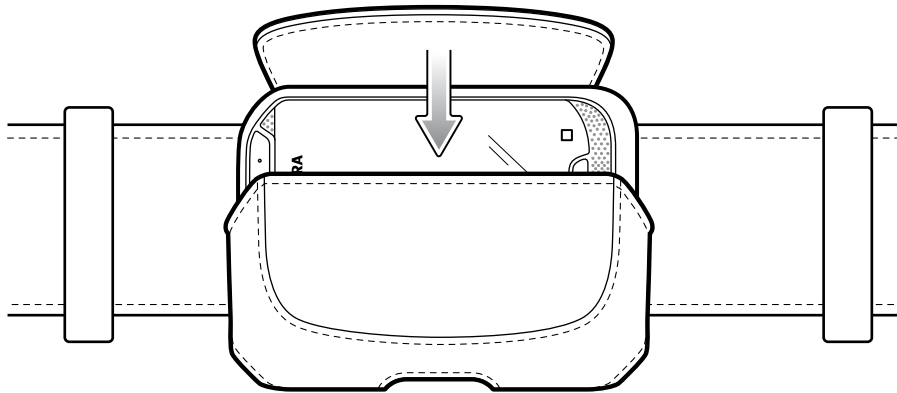
**Figure 25** Remove EC30 from Retractable Lanyard



## Soft Holster

Use the soft holster to securely hold the device on a belt for easy access.

**Figure 26** Soft Holster



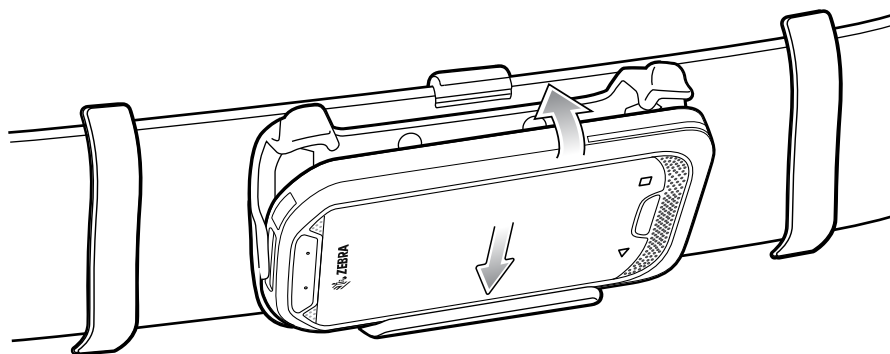
## Rigid Holster

Use the rigid holster to securely hold the device on a belt for easy access.

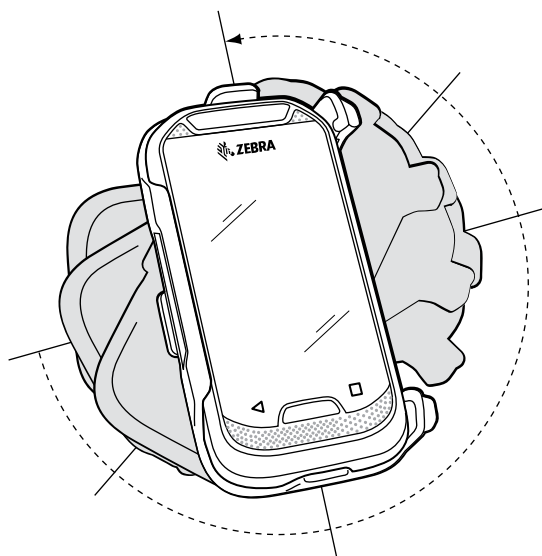
### Installing the EC30 into the Rigid Holster

1. Insert of bottom of the EC30 into the bottom of the rigid holster.

2. Push the EC30 into the rigid holster until it securely snaps in place.



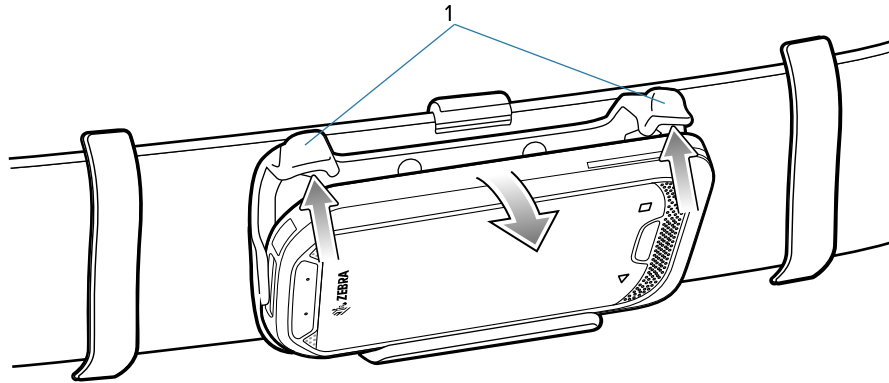
3. Rotate the device for the best viewing angle.



## Removing the EC30 from the Rigid Holster

- To remove the EC30 from the rigid holster push the release latches up and pull the bottom of the EC30 away from the adapter.

**Figure 27** Remove EC30 from Rigid Holster



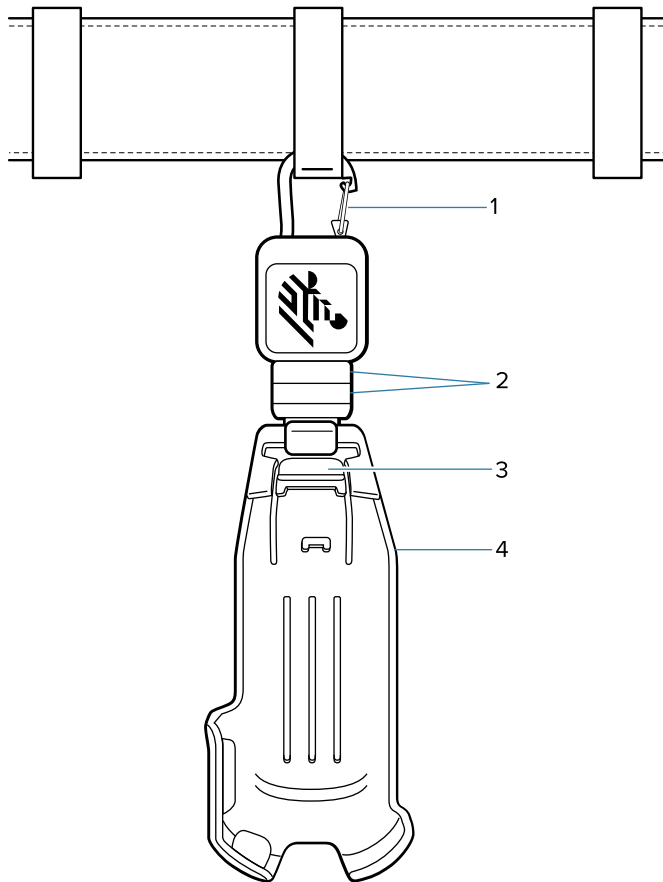
1	Release latches
---	-----------------



## Belt Clip

The belt clip holds the EC30 on a belt and provides a retractable cord for easy access. Magnetic fasteners hold the EC30 securely when not in use.

**Figure 28** Belt Clip

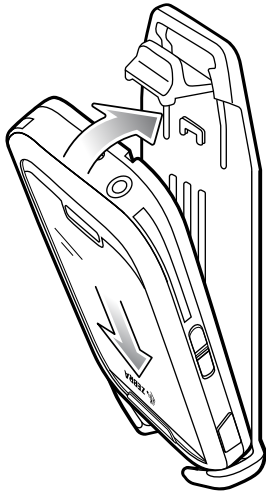


1	Carabiner
2	Magnetic fasteners
3	Release latch
4	Adapter

### Installing the EC30 onto the Belt Clip

1. Insert the top of the EC30 into the bottom of the adapter with the USB-C connector facing the release latch.

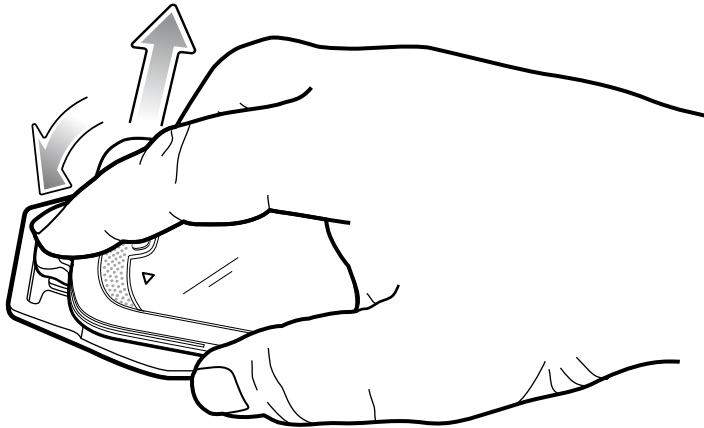
2. Push the EC30 into the adapter until it securely snaps in place.



### Removing the EC30 from the Belt Clip

- To remove the EC30 from the adapter, push the release tab and pull the bottom of the EC30 away from the adapter.

**Figure 29** Remove EC30 from Belt Clip

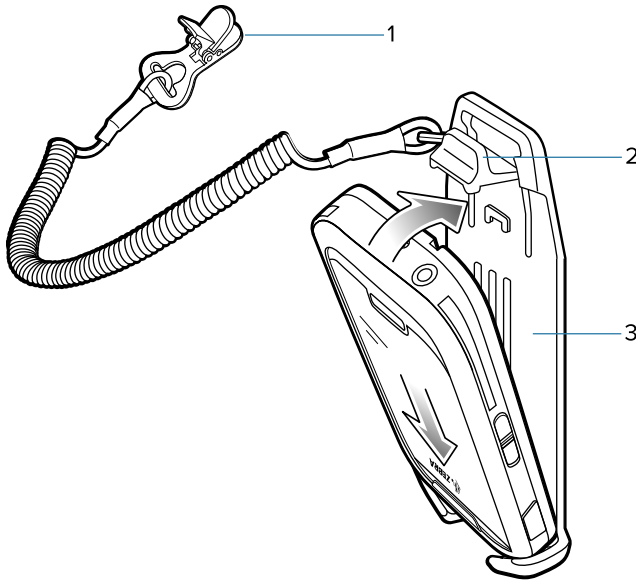


## Garment Clip

Use the garment clip to tether the EC30 to a vest or other garment.

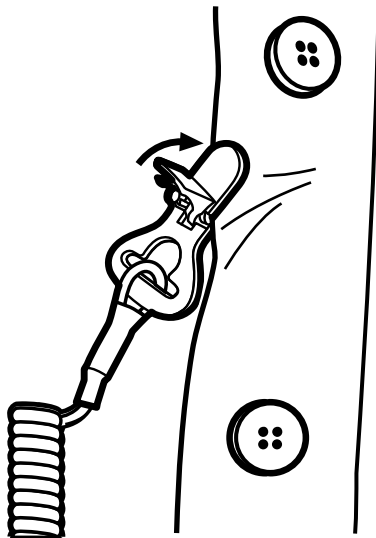
### Installing the EC30 into the Garment Clip

1. Insert the top of the EC30 into the bottom of the adapter with the USB-C connector facing the release latch.



1	Clip
2	Release latch
3	Adapter

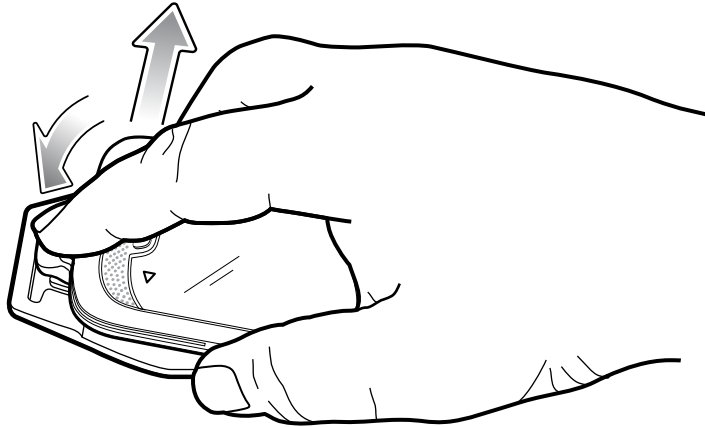
2. Push the EC30 into the adapter until it snaps into place.
3. Attach the clip to a vest or other garment.



## Removing the EC30 from the Garment Clip

- To remove the EC30 from the adapter, push the release tab and pull the bottom of the EC30 away from the adapter.

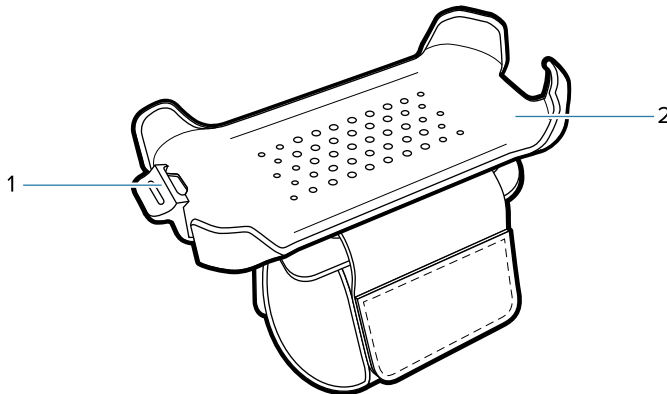
**Figure 30** Remove EC30 from Garment Clip



## Arm Mount

The Arm Mount allows the user to mount the EC30 onto the forearm for hands-free applications. Install the mount on either arm with the release latch closer to the elbow.

**Figure 31** Arm Mount

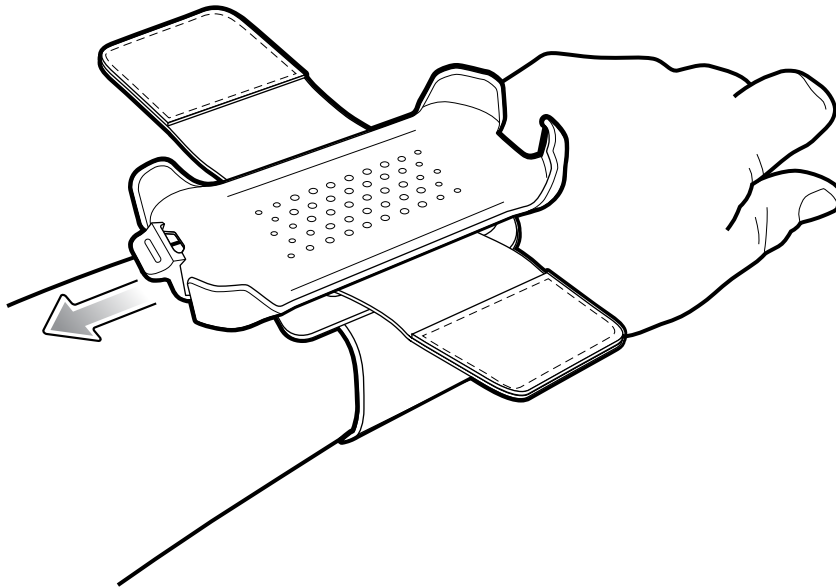


1	Release latch
2	Device mount

## Setting Up the Arm Mount

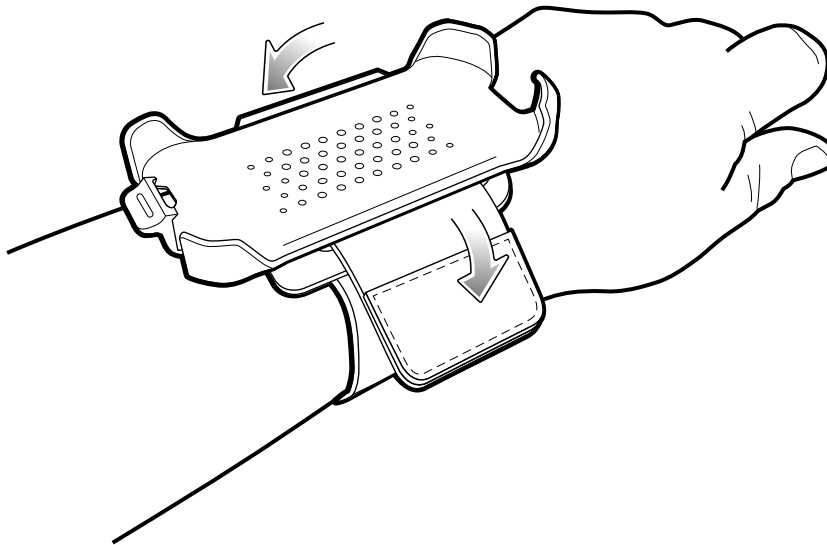
- Loosen the strap.

2. Slide the Arm Mount onto arm with the release latch closer to the elbow.



3. Tighten the strap and press the hook and loop material together.

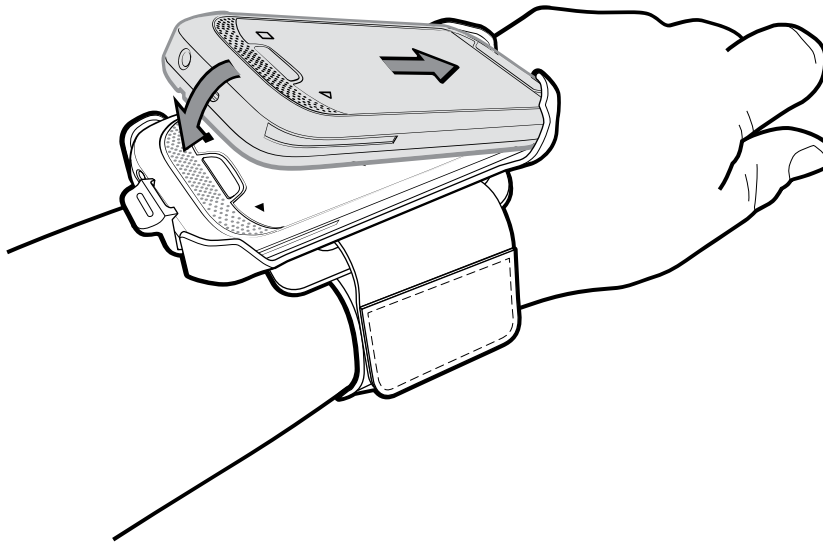
**Figure 32** Tighten Strap



### Installing the Arm Mount

1. Insert the top of the EC30 into the bottom of the adapter with the USB-C connector facing the release latch.

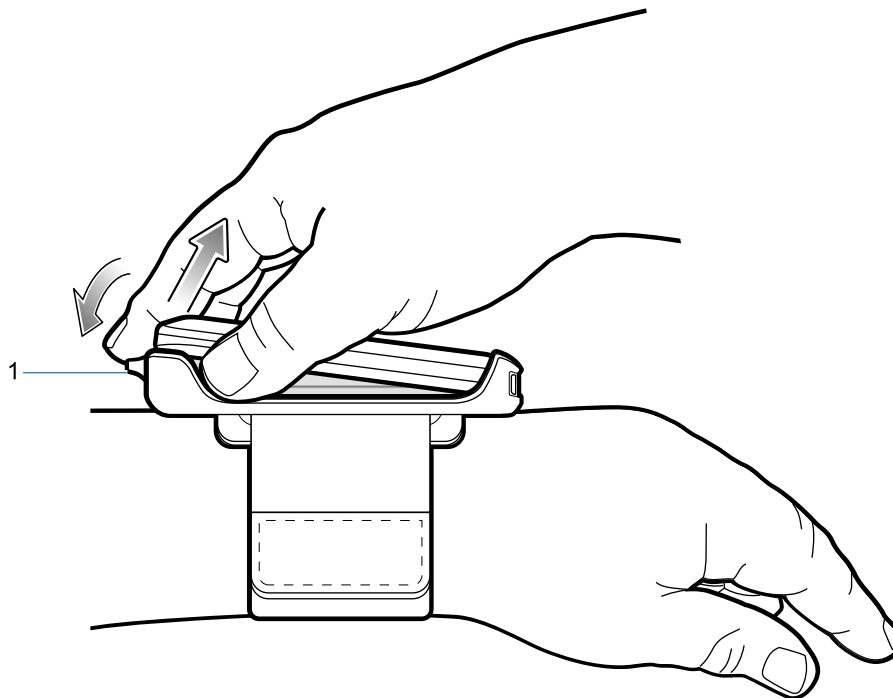
2. Push the EC30 into the adapter until it securely snaps in place.



## Removing the EC30 from the Arm Mount

- To remove the EC30 from the adapter, push the release tab and pull the bottom of the EC30 away from the adapter.

**Figure 33** EC30 Removal

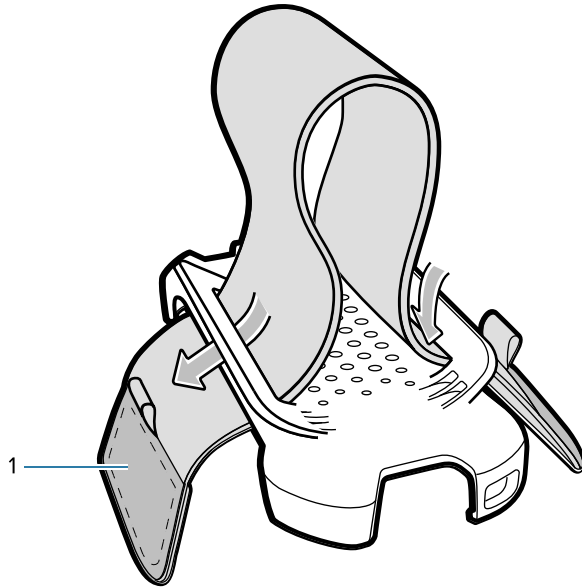


1	Release lever
---	---------------

## Installing the Arm Mount Strap

The user can remove the strap for replacement or cleaning and then re-install a new strap.

1. Remove existing strap.
2. Feed the ends of the strap through the slots with hook material positioned as shown below.



1	Hook material
---	---------------

3. Fold end over and press hook and loop material together.

## 10-Slot Cradle Rack

Use the Rack/Wall Mount Bracket to mount a 10-slot cradle on a rack. When installing on a rack, first assemble the bracket and cradles/chargers and then install the assembly on the rack.

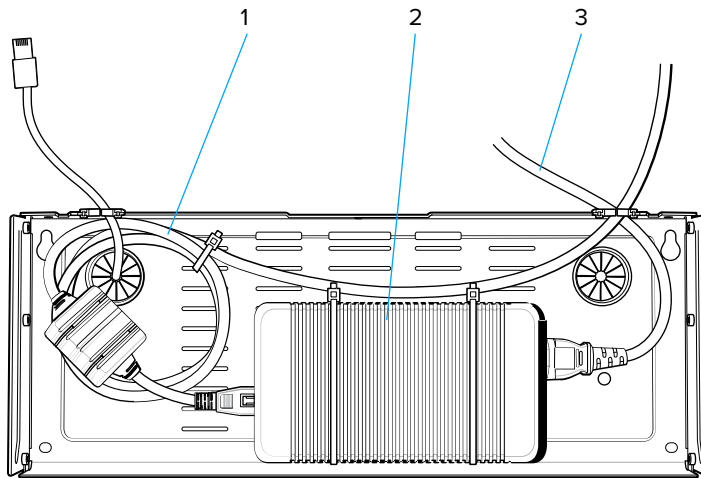
### Installing the 10-Slot Cradle Rack

1. Place the power supply in bottom tray.
2. Connect AC line cord to power supply.
3. Connect DC line cord to power supply.
4. Secure power supply and cables to bottom tray with tie wraps.



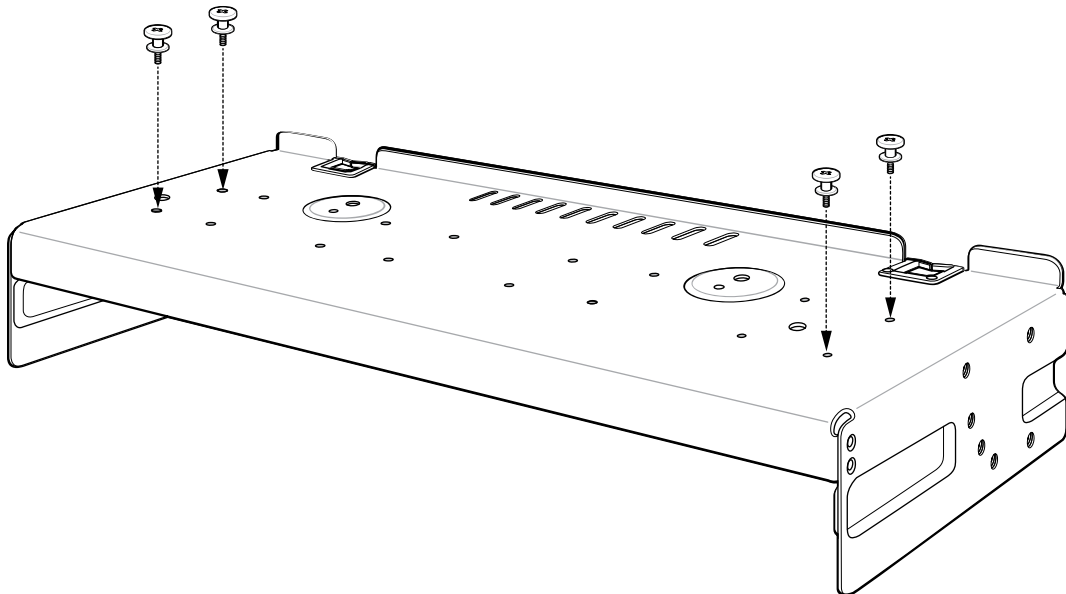
**NOTE:** Ensure tie wrap buckle is on side of power supply. Tie wrap buckle on top of power supply interferes with the top tray.

5. Route cables through cable slots.



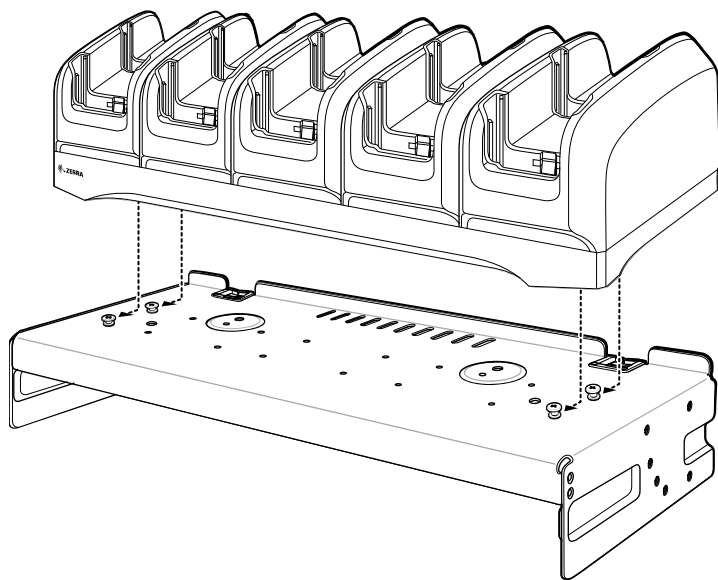
1	DC line cord
2	Power supply
3	AC line cord

6. Secure four M2.5 studs to top tray as shown.

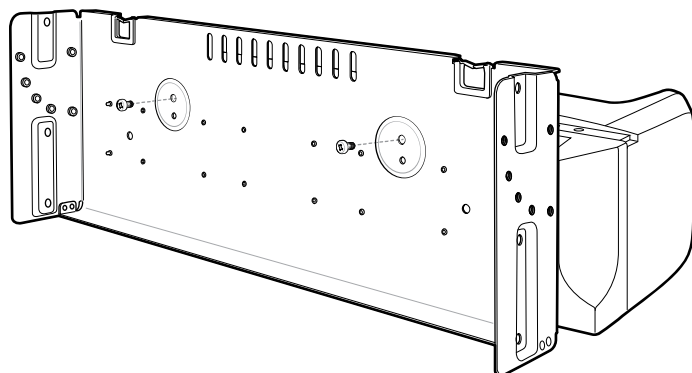




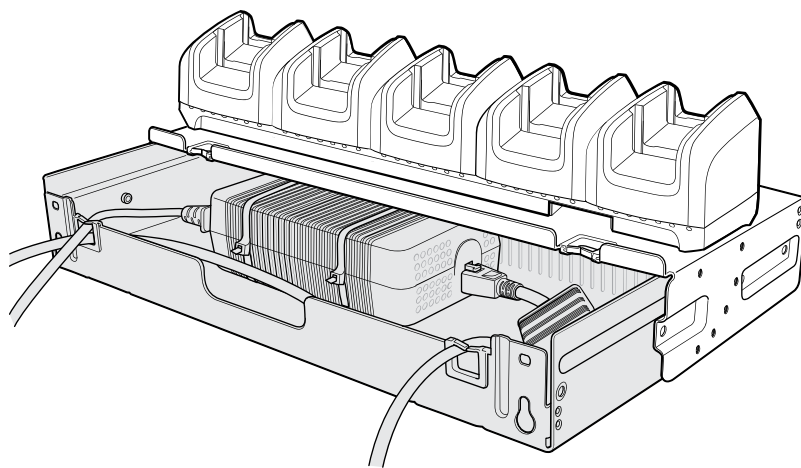
7. Align and install 10-Slot cradle onto studs of the top tray.



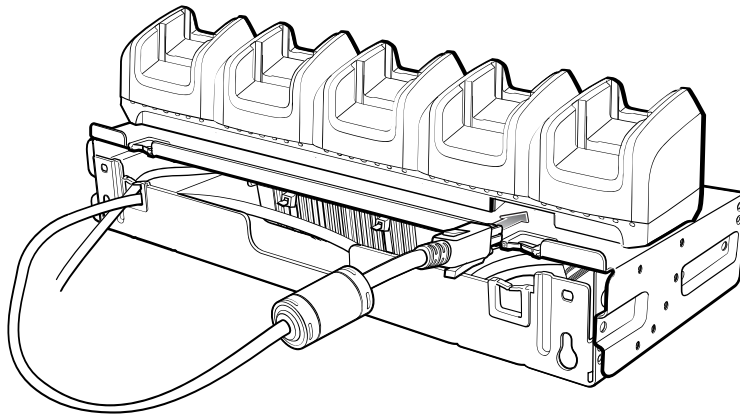
8. Secure cradle to the top tray with two M2.5 safety screws.



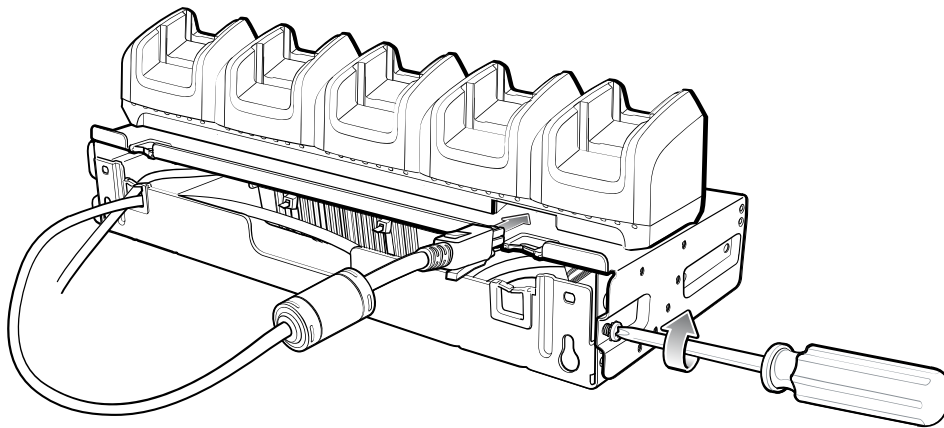
9. Slide the top tray onto the bottom tray.



10. Connect cables to the cradle.



11. Secure top tray to the bottom tray with 4 M5 screws (two on each side).



See [Rack Mount](#) for installing the bracket assembly onto a rack.

## Rack Mount

After installing cradles onto a mount bracket, you can attach the bracket to a rack.

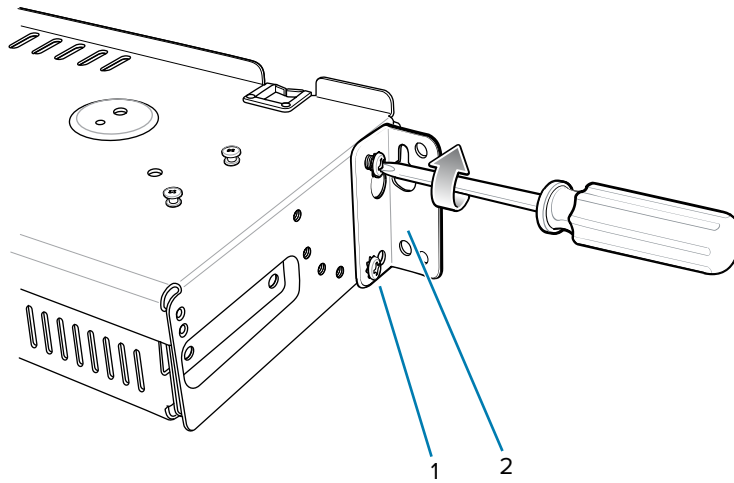
### Installing Brackets onto a Rack Mount



**NOTE:** Use screws provided with rack system. Refer to rack user documentation for instructions.

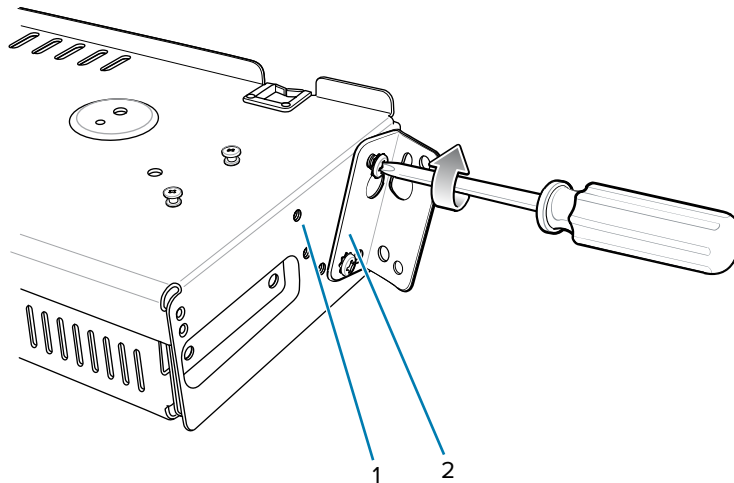
1. Secure mounting brackets to both sides of the top tray with four M5 screws (two on each side).

**Figure 34** Flange Horizontal Position (5-Slot Cradles)



1	Fifth screw hole
2	Flange

**Figure 35** Flange 25° Position (4-Slot Battery Chargers)



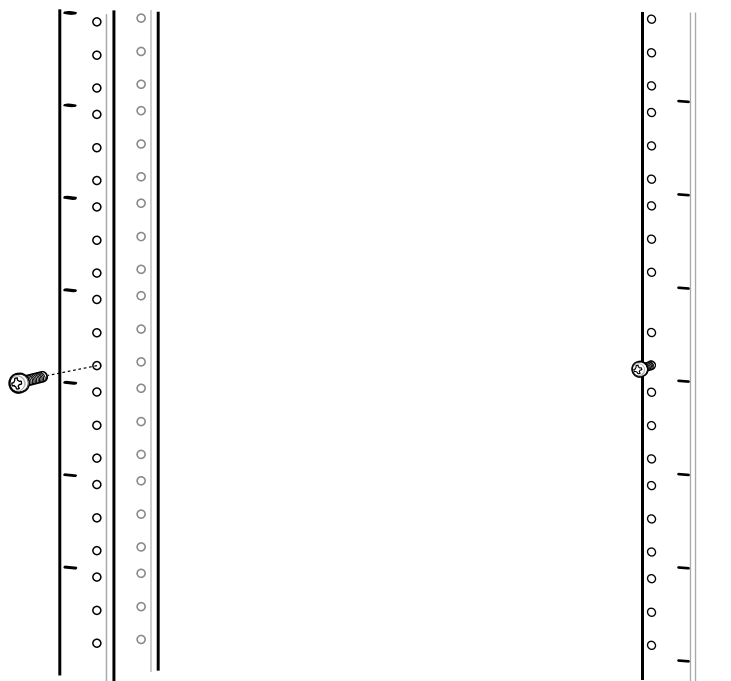
1	Top screw hole
2	Flange

**CAUTION:** Install mounting bracket with 10-Slot cradle at a maximum height of four feet from the ground.

**NOTE:** Distance between two horizontal mounted brackets should be at least 14.5" apart (from top of one flange to the top of the next flange).

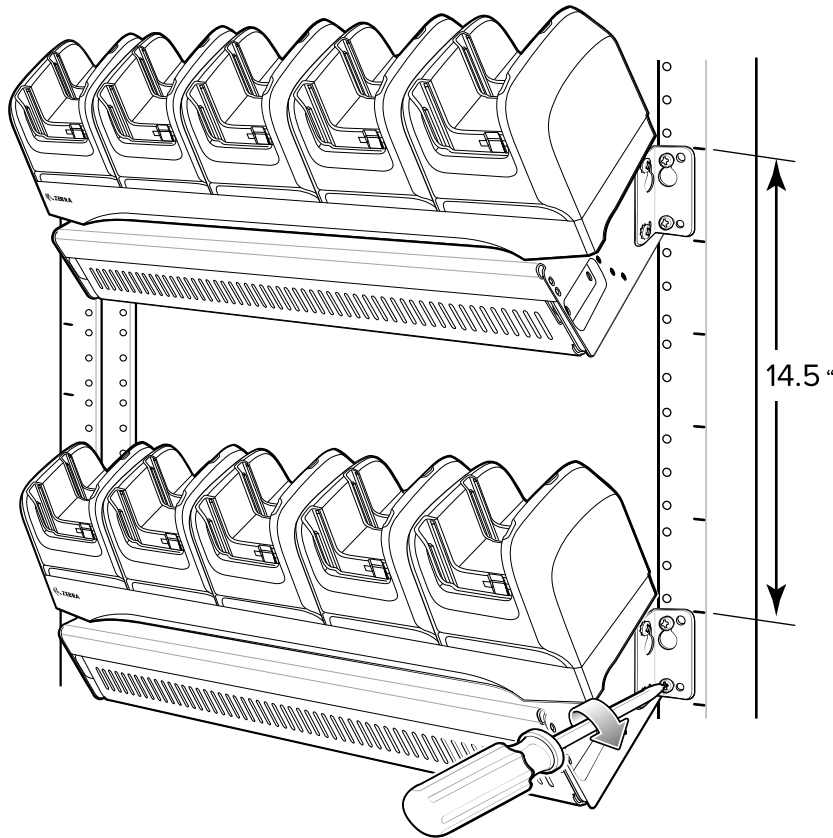
**NOTE:** Distance between two 25° mounted brackets should be at least 12" apart (from top of one flange to the top of the next flange).

2. Install two rack system screws for top of mounting brackets. The screw heads should protrude half way from the rail.



3. Align the mounting bracket's top mounting key holes with the screws.

4. Place the brackets on the screws.



5. Secure the top screws.
6. Install bottom screws and tighten screws.
7. Route cables and connect to power source.



**CAUTION:** Installer should ensure that all building codes are followed when connecting the power supplies to an AC power source.

8. While installing the brackets, power supplies and cables:
  - Use tie wraps to secure cables to the bracket and rails.
  - Coil cables wherever possible.
  - Route power cables along the rails.
  - Route inter-cradle cables to the side rails and then from the rails to the bracket.

## Wall Installation

Use the Rack/Wall Mount Bracket to mount a cradle on a wall. When installing on a wall, first assemble the bottom tray, install the bottom tray on the wall, and then assemble the top tray.

Use mounting hardware (screws and/or anchors) appropriate for the type of wall mounting the bracket onto. The Mount Bracket mounting slots dimensions are 5 mm (0.2 in.). Fasteners must be able to hold a minimum of 20 Kgs (44 lbs.)

For proper installation consult a professional installer. Failure to install the bracket properly may result in damage to the hardware.



**CAUTION:** Install mounting bracket with 10-Slot cradle at a maximum height of four feet from the ground.

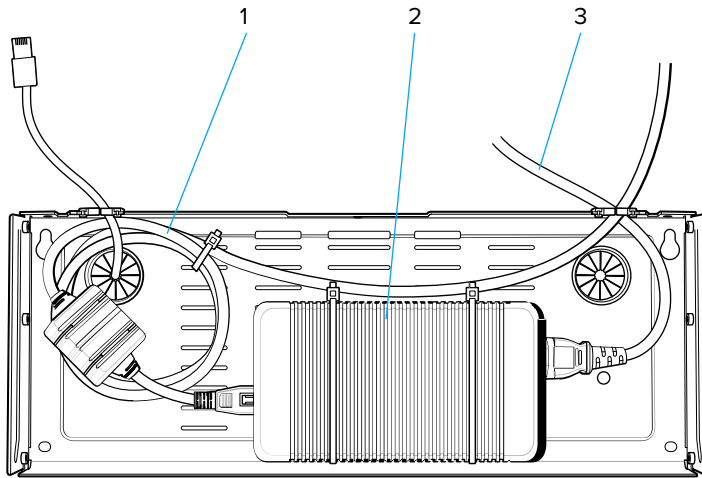
## Assembling the Bottom Tray

1. Place the power supply in bottom tray.
2. Connect AC line cord to power supply.
3. Connect DC line cord to power supply.
4. Secure power supply and cables to bottom tray with tie wraps.



**NOTE:** Ensure tie wrap buckle is on side of power supply. Tie wrap buckle on top of power supply interferes with the top tray.

5. Route cables through cable slots.

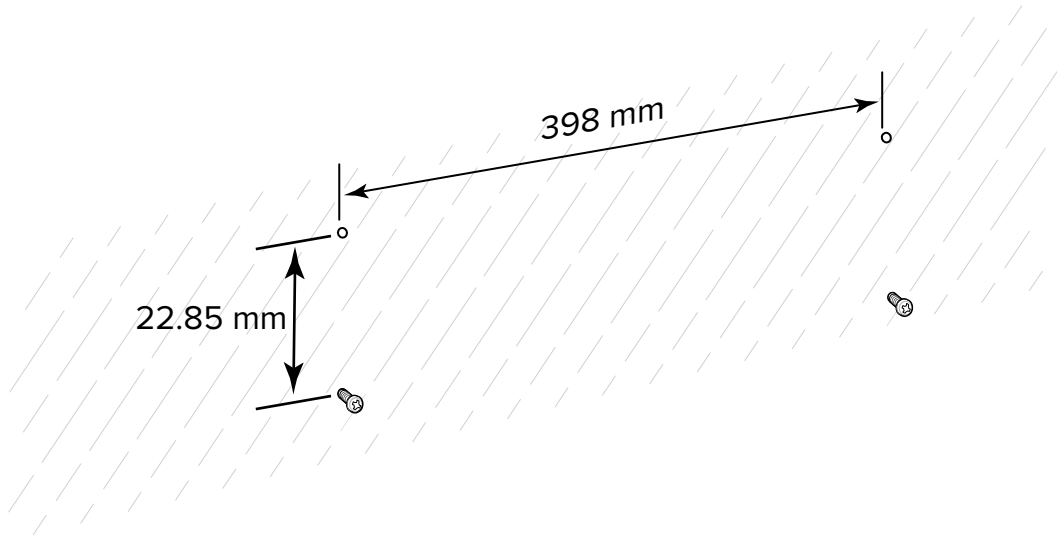


1	DC line cord
2	Power supply
3	AC line cord

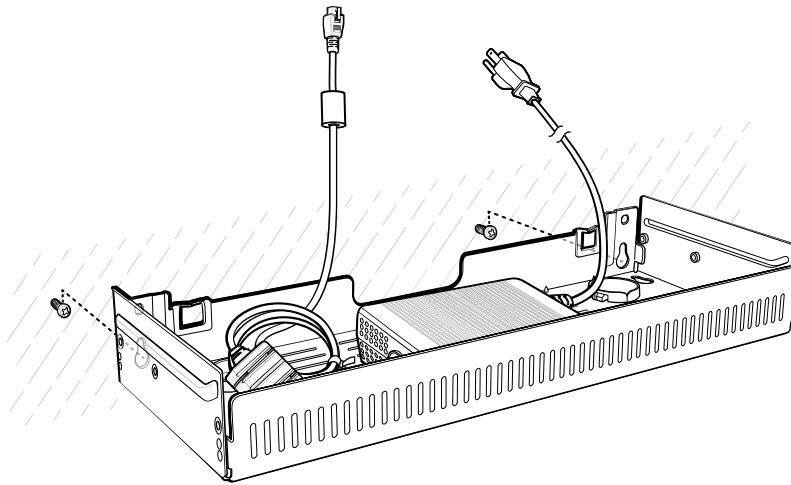
## Mounting the Wall Bracket

1. Drill holes and install anchors according to the template supplied with the bracket.

2. Install two screws to the bottom of the bracket. The screw heads should protrude 2.5 mm (0.01") from the wall.

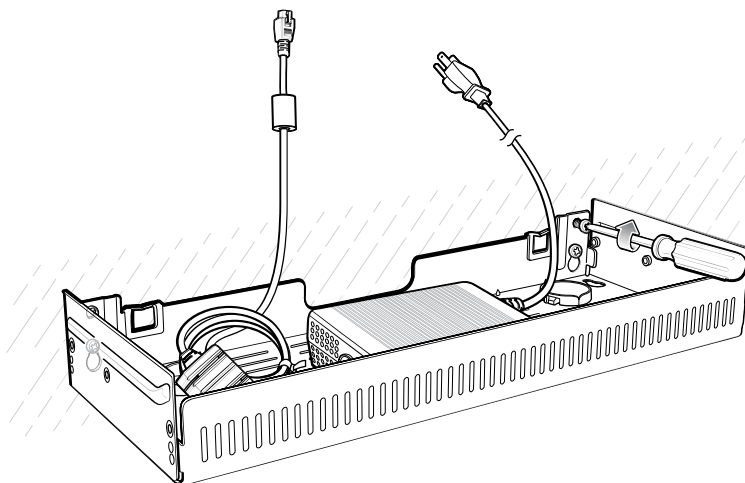


3. Align the mounting bracket's bottom mounting key holes with the screws.
4. Hang the bracket on the screws.



5. Install two top screws.

6. Tighten all screws.



7. Assemble the cradle onto the bracket. See steps 7 through 11 on [Installing the 10-Slot Cradle Rack](#).
8. Route cables and connect to power source.



**CAUTION:** Installer should ensure that all building codes are followed when connecting the power supplies to an AC power source.

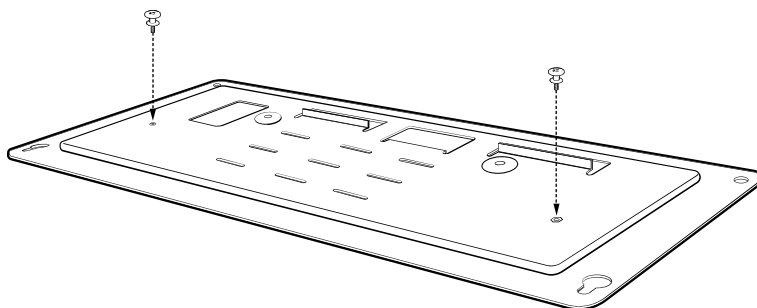
9. While installing the brackets, power supplies and cables:
  - Use tie wraps to secure cables to the bracket and rails.
  - Coil cables wherever possible.
  - Route power cables along the rails.
  - Route inter-cradle cables to the side rails and then from the rails to the bracket.

## Rack or Wall Mount Plate

Use the Rack/Wall Mount Plate to mount a 10-slot cradle on a rack. When installing on a rack, first assemble the plate and cradle, and then install the assembly on the rack.

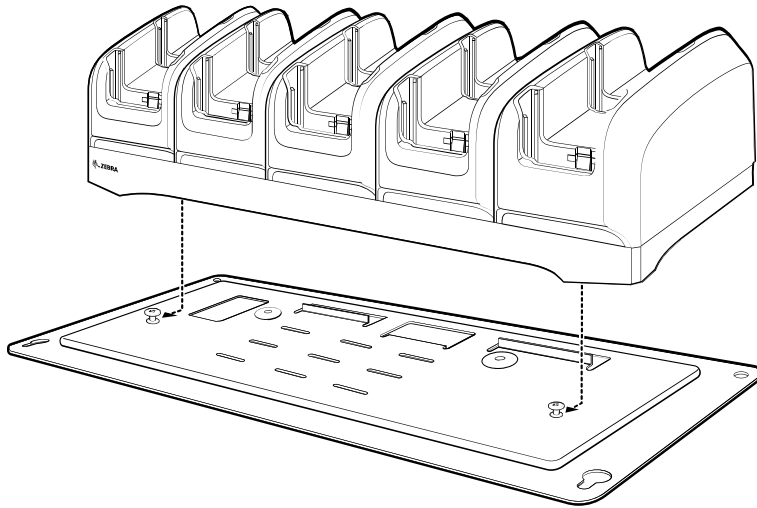
### Installing the Rack or Wall Mount Plate

1. Secure two M2.5 studs to the top tray as shown.

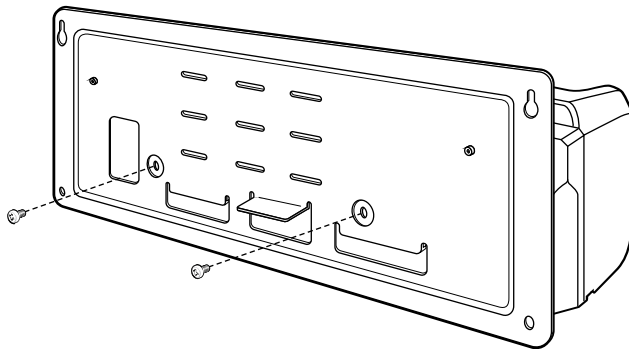




2. Align and install 10-Slot cradle onto studs of plate.

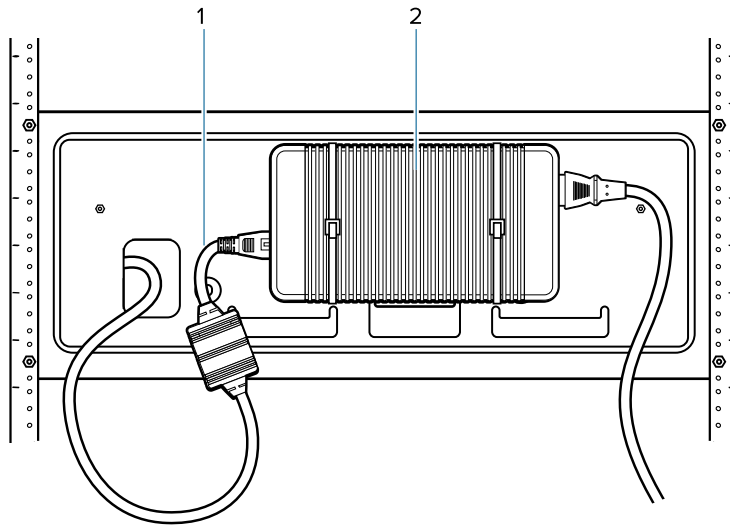


3. Secure cradle to the top tray with two M2.5 safety screws.



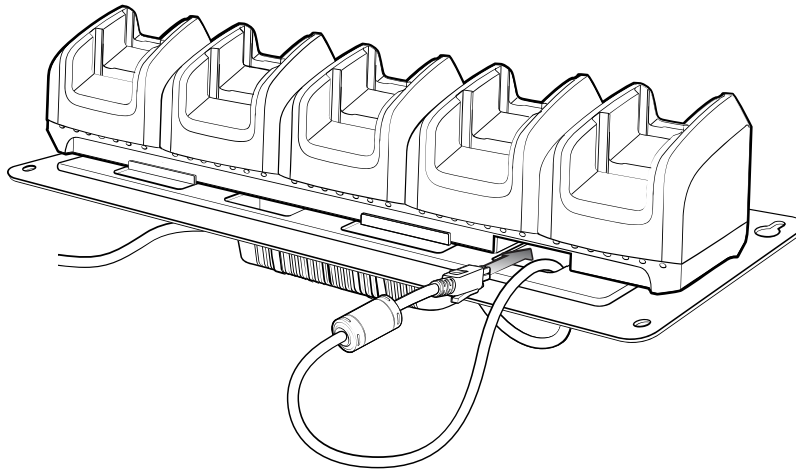
4. Place the power supply on the tray shelf.
5. Connect AC line cord to power supply.
6. Connect DC line cord to power supply.
7. Secure power supply and cables to tray with tie wraps.

8. Route DC line cord through cable slot.



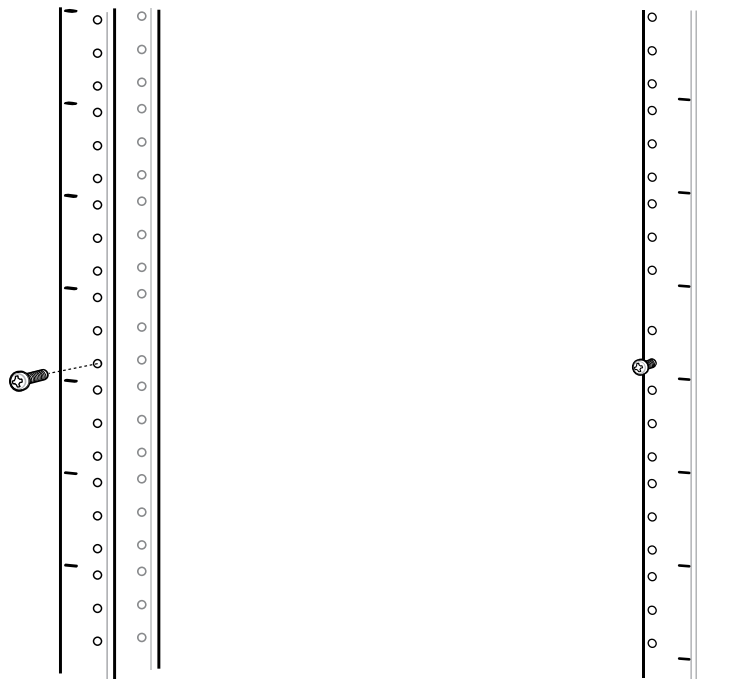
1	DC line cord
2	Power supply

9. Connect cable to cradle.

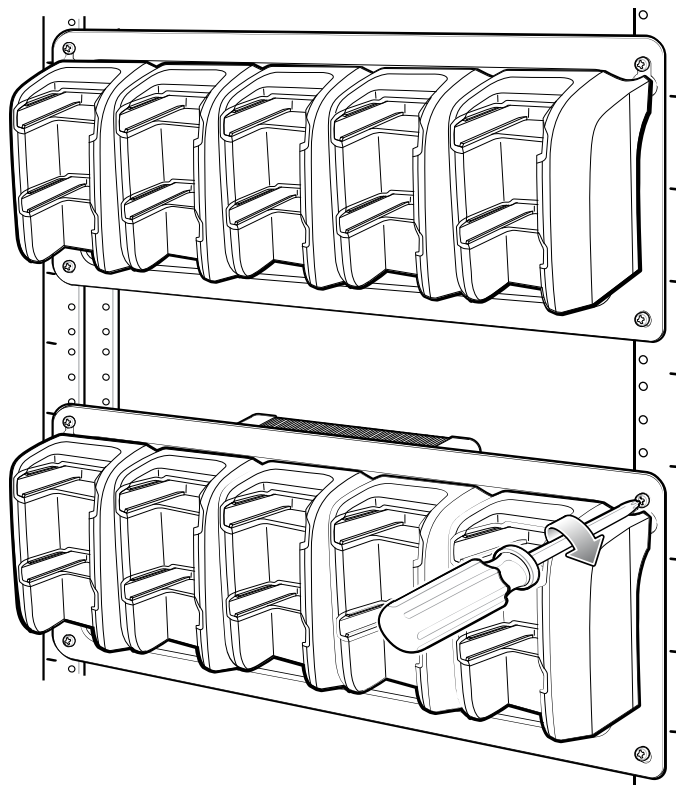


**NOTE:** Use screws provided with rack system. Refer to the rack user documentation for instructions.

10. Install two screws for top of the mounting plate. The screw heads should protrude half way from the rail.



11. Align the mounting plate's top mounting key holes with the screws.
12. Hang the bracket on the screws.



13. Install two bottom screws.
14. Tighten all screws.
15. Route cables and connect to power source.



**NOTE:** Installer should ensure that all building codes are followed when connecting the power supplies to an AC power source.

While installing the brackets, power supplies and cables:

- Use tie wraps to secure cables to the bracket and rails.
- Coil cables wherever possible.
- Route power cables along the rails.
- Route inter-cradle cables to the side rails and then from the rails to the bracket.

# Application Deployment

This section provides an overview of device security, app development, and app management. It also provides instructions for installing apps and updating the device software.

## Secure Certificates

If the VPN or Wi-Fi networks rely on secure certificates, obtain the certificates and store them in the device's secure credential storage, before configuring access to the VPN or Wi-Fi networks.

If downloading the certificates from a web site, set a password for the credential storage. The device supports X.509 certificates saved in PKCS#12 key store files with a .p12 extension (if key store has a .pfx or other extension, change to .p12).

The device also installs any accompanying private key or certificate authority certificates contained in the key store.

## Installing a Secure Certificate

If required by the VPN or Wi-Fi network, install a secure certificate on the device.

1. Copy the certificate from the host computer to the root of the device's internal memory. See [USB Communication](#) on page 26 for information about connecting the device to a host computer and copying files.
2. Go to **Settings**.
3. Touch **Security > Encryption & credentials**.
4. Touch **Install a certificate**.
5. Navigate to the location of the certificate file.
6. Touch the filename of the certificate to install.
7. If prompted, enter the password for credential storage. If a password has not been set for the credential storage, enter a password for it twice, and then touch **OK**.
8. If prompted, enter the certificate's password and touch **OK**.
9. Enter a name for the certificate and in the Credential use drop-down, select **VPN and apps** or **Wi-Fi**.
10. Touch **OK**.

The certificate can now be used when connecting to a secure network. For security, the certificate is deleted from the internal memory.

## Configuring Credential Storage Settings

Configure credential storage from the device settings.

1. Go to **Settings**.
2. Touch **Security > Encryption & credentials**.
3. Select an option.
  - Touch **Trusted credentials** to display the trusted system credentials.
  - Touch **User credentials** to display user credentials.
  - Touch **Install from storage** to install a secure certificate from the internal storage.
  - Touch **Clear credentials** to delete all secure certificates and related credentials.

## Android Development Tools

Development tools for Android include Android Studio, EMDK for Android, and StageNow.

### Android Development Workstation

Android development tools are available at [developer.android.com](http://developer.android.com).

To start developing applications for the device, download Android Studio. Development can take place on a Microsoft® Windows®, Mac® OS X®, or Linux® operating system.

Applications are written in Java or Kotlin, but compiled and executed in the Dalvik virtual machine. Once the Java code is compiled cleanly, the developer tools make sure the application is packaged properly, including the AndroidManifest.xml file.

Android Studio contains a full featured IDE as well as SDK components required to develop Android applications.

### Enabling Developer Options

The **Developer options** screen sets development-related settings. By default, the Developer Options are hidden.

1. Go to **Settings**.
2. Touch **About phone**.
3. Scroll down to **Build number**.
4. Tap **Build number** seven times.
 

The message **You are now a developer!** appears.
5. Touch **Back**.
6. Touch **System > Advanced > Developer options**.
7. Slide the **USB debugging** switch to the **ON** position.

### EMDK for Android

EMDK for Android provides developers with tools to create business applications for enterprise mobile devices. It is designed for use with Google's Android Studio and includes Android class libraries such as Barcode, sample applications with source code, and the associated documentation.

EMDK for Android allows applications to take full advantage of the capabilities that Zebra devices have to offer. It embeds Profile Manager technology within Android Studio IDE, providing a GUI-based development tool designed specifically for Zebra devices. This allows fewer lines of code, resulting in reduced development time, effort, and errors.

#### See Also

[For more information go to techdocs.zebra.com.](https://techdocs.zebra.com)

### StageNow for Android

StageNow is Zebra's next-generation Android Staging Solution built on the MX platform. It allows quick and easy creation of device profiles, and can deploy to devices simply by scanning a barcode, reading a tag, or playing an audio file.

The StageNow Staging Solution includes the following components:

- The StageNow Workstation tool installs on the staging workstation (host computer) and lets the administrator easily create staging profiles for configuring device components, and perform other staging actions such as checking the condition of a target device to determine suitability for software upgrades or other activities. The StageNow Workstation stores profiles and other created content for later use.
- The StageNow Client resides on the device and provides a user interface for the staging operator to initiate staging. The operator uses one or more of the desired staging methods (print and scan a barcode, read an NFC tag or play an audio file) to deliver staging material to the device.

#### See Also

[For more information go to techdocs.zebra.com.](https://techdocs.zebra.com)

### GMS Restricted

GMS Restricted mode deactivates Google Mobile Services (GMS). All GMS apps are disabled on the device and communication with Google (analytics data collection and location services) is disabled.

Use StageNow to disable or enable GMS Restricted mode. After a device is in GMS Restricted mode, enable and disable individual GMS apps and services using StageNow. To ensure GMS Restricted mode persists after an Enterprise Reset, use the Persist Manager option in StageNow.

#### See Also

[For more information on StageNow, refer to techdocs.zebra.com.](https://techdocs.zebra.com)

### ADB USB Setup

To use the ADB, install the development SDK on the host computer then install the ADB and USB drivers.

Before installing the USB driver, make sure that the development SDK is installed on the host computer. Go to [developer.android.com/sdk/index.html](https://developer.android.com/sdk/index.html) for details on setting up the development SDK.

The ADB and USB drivers for Windows and Linux are available on the Zebra Support Central web site at [zebra.com/support](http://zebra.com/support). Download the ADB and USB Driver Setup package. Follow the instructions with the package to install the ADB and USB drivers for Windows and Linux.

## Enabling USB Debugging

By default, USB debugging is disabled.

1. Go to **Settings**.
2. Touch **About phone**.
3. Scroll down to **Build number**.
4. Tap **Build number** seven times.  
The message **You are now a developer!** appears.
5. Touch Back.
6. Touch **System > Advanced > Developer options**.
7. Slide the **USB debugging** switch to the **ON** position.
8. Touch **OK**.
9. Connect the device to the host computer using the Rugged Charge/USB Cable.

The **Allow USB debugging?** dialog box appears on the device.

If the device and host computer are connected for the first time, the **Allow USB debugging?** dialog box with the **Always allow from this computer** check box displays. Select the check box, if required.

10. Touch **OK**.
11. On the host computer, navigate to the **platform-tools** folder and open a command prompt window.
12. Type `adb devices`.

The following displays:

```
List of devices attached      XXXXXXXXXXXXXXXXXX device
```

Where XXXXXXXXXXXXXXXXXX is the device number.



**NOTE:** If device number does not appear, ensure that ADB drivers are installed properly.

13. Press Home.

## Entering Android Recovery Manually

Many of the update methods discussed in this section require putting the device into Android Recovery mode. If you are unable to enter Android Recovery mode through `adb` commands, use the following steps to manually enter Android Recovery mode.

1. Press and hold the Power button until the menu appears.
2. Touch **Restart**.
3. Press and hold the PTT button until the device vibrates

The System Recovery screen appears.




## Application Installation Methods

After an application is developed, install the application onto the device using one of the supported methods.

- USB connection
- Android Debug Bridge
- Mobile device management (MDM) platforms that have application provisioning. Refer to the MDM software documentation for details.

### Installing Applications Using the USB Connection

Use the USB connection to install applications onto the device.

1. Connect the device to a host computer using the USB-C cable.
2. On the device, pull down the Notification panel and touch **Charging this device via USB**.  
By default, **No data transfer** is selected.
3. Touch **File Transfer**.
4. On the host computer, open a file explorer application.
5. On the host computer, copy the application APK file from the host computer to the device.
6. Disconnect the device from the host computer.
7. Swipe the screen up and select  to view files on the Internal Storage.
8. Locate the application APK file.
9. Touch the application file.
10. Touch **Continue** to install the app or **Cancel** to stop the installation.
11. To confirm installation and accept what the application affects, touch **Install** otherwise touch **Cancel**.
12. Touch **Open** to open the application or **Done** to exit the installation process.

The application appears in the App list.

### Installing Applications Using the Android Debug Bridge

Use ADB commands to install applications onto the device.

1. Ensure that the ADB drivers are installed on the host computer.
2. Connect the device to a host computer using a USB cable.
3. Go to **Settings**.
4. Touch **System > Advanced > Developer options**.
5. Slide the **USB debugging** switch to the **ON** position.
6. If the device and host computer are connected for the first time, the **Allow USB debugging?** dialog box with the **Always allow from this computer** check box displays. Select the check box, if required.
7. Touch **OK** or **Allow**.
8. On the host computer, navigate to the **platform-tools** folder and open a command prompt window.

9. Type `adb install <application>`.  
where: <application> = the path and filename of the apk file.
10. Disconnect the device from the host computer.

### Installing Applications Using Wireless ADB

Use ADB commands to install an application onto the device.

Go to the Zebra Support & Downloads web site at [zebra.com/support](https://zebra.com/support) and download the appropriate Factory Reset file to a host computer.



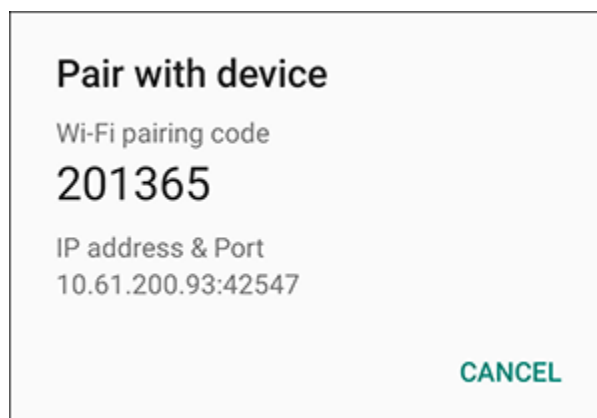
**IMPORTANT:** Ensure the latest adb files are installed on the host computer.



**IMPORTANT:** The device and host computer must be on the same wireless network.

1. Go to **Settings**.
2. Touch **System** > **Advanced** > **Developer options**.
3. Slide the **USB debugging** switch to the **ON** position.
4. Slide the **Wireless debugging** switch to the **ON** position.
5. If the device and host computer are connected for the first time, the **Allow wireless debugging on this network?** dialog box with the **Always allow from this network** check box displays. Select the check box, if required.
6. Touch **ALLOW**.
7. Touch **Wireless debugging**.
8. Touch **Pair with pairing code**.

The **Pair with device** dialog box displays.



9. On the host computer, navigate to the **platform-tools** folder and open a command prompt window.
10. Type `adb pair XX.XX.XX.XX.XXXXX`.  
where XX.XX.XX.XX.XXXXX is the IP address and port number from the **Pair with device** dialog box.
11. Type: `adb connect XX.XX.XX.XX.XXXXX`
12. Press Enter.

13. Type the pairing code from the **Pair with device** dialog box

14. Press Enter.

15. Type `adb connect`.

The device is now connected to the host computer.

16. Type `adb devices`.

The following displays:

```
List of devices attached      XXXXXXXXXXXXXXXXXX device
```

Where XXXXXXXXXXXXXXXXXX is the device number.



**NOTE:** If device number does not appear, ensure that ADB drivers are installed properly.

17. On the host computer command prompt window type:

```
adb install <application>
```

where: <file> = the path and filename of the apk file.

18. On the host computer, type:

```
adb disconnect.
```

## Uninstalling an Application

Free up device memory by removing unused apps.

1. Go to **Settings**.
2. Touch **Apps & notifications**.
3. Touch **See all apps** to view all apps in the list.
4. Scroll through the list to the app.
5. Touch the app. The **App info** screen appears.
6. Touch **Uninstall**.
7. Touch **OK** to confirm.

## Android System Update

System Update packages can contain either partial or complete updates for the operating system. Zebra distributes the System Update packages on the Zebra Support & Downloads web site. Perform a system update using ADB.

### Performing a System Update Using ADB

Use ADB to perform a system update.

Go to the Zebra Support & Downloads web site at [zebra.com/support](http://zebra.com/support) and download the appropriate System Update package to a host computer.

1. Connect the device to a host computer using a USB cable.
2. Go to **Settings**.
3. Touch **System** > **Advanced** > **Developer options**.
4. Slide the **USB debugging** switch to the **ON** position.
5. Touch **OK**.
6. If the device and host computer are connected for the first time, the **Allow USB debugging?** dialog box with the **Always allow from this computer** check box displays. Select the check box, if required.
7. Touch **OK** or **Allow**.
8. On the host computer, navigate to the **platform-tools** folder and open a command prompt window.
9. Type `adb devices`.

The following displays:

```
List of devices attached      XXXXXXXXXXXXXXXX device
```

Where XXXXXXXXXXXXXXXX is the device number.



**NOTE:** If device number does not appear, ensure that ADB drivers are installed properly.

10. Type:
 

```
adb reboot recovery
```
11. Press Enter.
 

The System Recovery screen appears on the device.
12. Press the Volume Up and Volume Down buttons to navigate to **Apply upgrade from ADB**.
13. Press the Power button.
14. On the host computer command prompt window type:

```
adb sideload <file>
```

where: <file> = the path and filename of the zip file.

15. Press Enter.
 

The System Update installs (progress appears as percentage in the Command Prompt window) and then the System Recovery screen appears on the device.
16. Press the Power button to reboot the device.
17. Disconnect the USB cable from the device.

If you are not able to enter Android Recovery mode through the adb command, see [Entering Android Recovery Manually](#) on page 112.

## Verifying System Update Installation

Verify that the system update was successful.

1. Go to **Settings**.

2. Touch **About phone**.
3. Scroll down to **Build number**.
4. Ensure that the build number matches the new system update package file number.

## Android Enterprise Reset

An Enterprise Reset erases all user data in the /data partition, including data in the primary storage locations (emulated storage).

Before performing an Enterprise Reset, provision all necessary configuration files and restore after the reset.

### Performing an Enterprise Reset From Device Settings

Perform an Enterprise Reset from the device settings.

1. Go to **Settings**.
2. Touch **System > Reset options > Erase all data (enterprise reset)**.
3. Touch **Erase all data** twice to confirm the Enterprise Reset.

### Performing an Enterprise Reset Using ADB

Perform an Enterprise Reset Using ADB.

1. Connect the device to a host computer using a USB-C cable.
2. Go to **Settings**.
3. Touch **System > Advanced > Developer options**.
4. Slide the **USB debugging** switch to the **ON** position.
5. If the device and host computer are connected for the first time, the **Allow USB debugging?** dialog box with the **Always allow from this computer** check box displays. Select the check box, if required.
6. Touch **OK** or **Allow**.
7. On the host computer, navigate to the **platform-tools** folder and open a command prompt window.
8. Type `adb devices`.

The following displays:

```
List of devices attached      XXXXXXXXXXXXXXXXXX device
```

Where XXXXXXXXXXXXXXXXXX is the device number.



**NOTE:** If device number does not appear, ensure that ADB drivers are installed properly.

9. Press Enter.  
The System Recovery screen appears on the device.

10. On the host computer command prompt window type:

```
adb sideload <file>
```

where: <file> = the path and filename of the zip file.

11. Press Enter.

The Enterprise Reset package installs and then the System Recovery screen appears on the device.

12. Press the Volume Up and Volume Down buttons to navigate to **Apply upgrade from ADB**.

13. Press the Power button.

14. On the host computer command prompt window type:

```
adb sideload <file>
```

where: <file> = the path and filename of the zip file.

15. Press Enter.

The Enterprise Reset package installs and then the System Recovery screen appears on the device.

16. Press the Power button to reboot the device.

If you are not able to enter Android Recovery mode through the adb command, see [Entering Android Recovery Manually](#) on page 112.

## Android Factory Reset

A Factory Reset erases all data in the /data and /enterprise partitions in internal storage and clears all device settings. A Factory Reset returns the device to the last installed operating system image. To revert to a previous operating system version, re-install that operating system image.

### Performing a Factory Reset Using ADB

Perform a Factory Reset using ADB.

Go to the Zebra Support & Downloads web site at [zebra.com/support](https://zebra.com/support) and download the appropriate Factory Reset file to a host computer.

1. Connect the device to a host computer using a USB-C cable.
2. Go to **Settings**.
3. Touch **System > Advanced > Developer options**.
4. Slide the **USB debugging** switch to the **ON** position.
5. Touch **OK**.
6. If the device and host computer are connected for the first time, the **Allow USB debugging?** dialog box with the **Always allow from this computer** check box displays. Select the check box, if required.
7. Touch **OK** or **ALLOW**.
8. On the host computer, navigate to the **platform-tools** folder and open a command prompt window.

9. Type `adb devices`.

The following displays:

```
List of devices attached      XXXXXXXXXXXXXXXXXX device
```

Where XXXXXXXXXXXXXXXXXX is the device number.



**NOTE:** If device number does not appear, ensure that ADB drivers are installed properly.

10. Type:

```
adb reboot recovery
```

11. Press Enter.

The System Recovery screen appears on the device.

12. Press the Volume Up and Volume Down buttons to navigate to **Apply upgrade from ADB**.

13. Press the Power button.

14. On the host computer command prompt window type:

```
adb sideload <file>
```

where: <file> = the path and filename of the zip file.

15. Press Enter.

The Factory Reset package installs and then the System Recovery screen appears on the device.

16. Press the Power button to reboot the device.

17. Disconnect the USB-C cable from the device.

If you are not able to enter Android Recovery mode through the adb command, see [Entering Android Recovery Manually](#) on page 112.

## Android Storage

The device contains multiple types of file storage.

- Random Access Memory (RAM)
- Internal storage
- Enterprise folder.

### Random Access Memory

Executing programs use RAM to store data. Data stored in RAM is lost upon a reset.

The operating system manages how applications use RAM. It only allows applications and component processes and services to use RAM when required. It may cache recently used processes in RAM, so they restart more quickly when opened again, but it will erase the cache if it needs the RAM for new activities.

The screen displays the amount of used and free RAM.

- **Performance** - Indicates memory performance.

- **Total memory** - Indicates the total amount of RAM available.
- **Average used (%)** - Indicates the average amount of memory (as a percentage) used during the period of time selected (default - 3 hours).
- **Free** - Indicates the total amount of unused RAM.
- **Memory used by apps** - Touch to view RAM usage by individual apps.

### Viewing Memory

View the amount of memory used and free RAM.

1. Go to **Settings**.
2. Touch **System > Advanced > Developer options**.
3. Touch **Memory**.

### Internal Storage

The device has internal storage. The internal storage content can be viewed and files copied to and from when the device is connected to a host computer. Some applications are designed to be stored on the internal storage rather than in internal memory.

### Viewing Internal Storage

View available and used internal storage on the device.

1. Go to **Settings**.
2. Touch **Storage**.

**Internal Storage** displays the total amount of space on internal storage and amount used.

If the device has removable storage installed, touch **Internal shared storage** to display the amount of internal storage used by apps, photos, videos, audio, and other files.

### Enterprise Folder

The Enterprise folder (within internal flash) is a super-persistent storage that is persistent after a reset and an Enterprise Reset.


The Enterprise folder is erased during a Factory Reset. The Enterprise folder is used for deployment and device-unique data. The Enterprise folder is approximately 128 MB (formatted). Applications can persist data after an Enterprise Reset by saving data to the enterprise/user folder. The folder is ext4 formatted and is only accessible from a host computer using ADB or from an MDM.

### Managing Apps

Apps use two kinds of memory: storage memory and RAM. Apps use storage memory for themselves and any files, settings, and other data they use. They also use RAM when they are running.

1. Go to **Settings**.
2. Touch **Apps & notifications**.
3. Touch **See all XX apps** to view all apps on the device.



4. Touch  > **Show system** to include system processes in the list.
5. Touch an app, process, or service in the list to open a screen with details about it and, depending on the item, to change its settings, permissions, notifications and to force stop or uninstall it.




### App Details

Apps have different kinds of information and controls.

- **Force stop** - Stop an app.
- **Disable** - Disable an app.
- **Uninstall** - Remove the app and all of its data and settings from the device.
- **Notifications** - Set the app notification settings.
- **Permissions** - Lists the areas on the device that the app has access to.
- **Storage & cache** - Lists how much information is stored and includes buttons for clearing it.
- **Mobile data & Wi-Fi** - Provides information about data consumed by an app.
- **Mobile data & Wi-Fi** - Provides information about data consumed by an app. Mobile data not supported.
- **Advanced**
  - **Screen time** - Displays the amount of time the app has displayed on the screen.
  - **Battery** - Lists the amount of computing power used by the app.
  - **Open by default** - If you have configured an app to launch certain file types by default, you can clear that setting here.
  - **Display over other apps** - Allows an app to display on top of other apps.
  - **App details** - Provides a link to additional app details on the Play store.
  - **Additional settings in the app** - Opens settings in the app.
  - **Modify system settings** - Allows an app to modify the system settings.

### Managing Downloads

Files and apps downloaded using the Browser or Email are stored on the USB drive or Internal storage in the Download directory. Use the Downloads app to view, open, or delete downloaded items. Files and apps downloaded using the Browser or Email are stored on the microSD card or Internal storage in the Download directory. Use the Downloads app to view, open, or delete downloaded items.

1. Swipe the screen up and touch .
2. Touch  > **Downloads**.
3. Touch and hold an item, select items to delete and touch . The item is deleted from the device.

# Maintenance and Troubleshooting

This section explains how to maintain and troubleshoot the device.

## Maintaining the Device

Follow these guidelines to maintain the device properly.

For trouble-free service, observe the following tips when using the device:

- To avoid scratching the screen, use a Zebra approved capacitive compatible stylus intended for use with a touch-sensitive screen. Never use an actual pen or pencil or other sharp object on the surface of the device screen.
- The touch-sensitive screen of the device is glass. Do not drop the device or subject it to strong impact.
- Protect the device from temperature extremes. Do not leave it on the dashboard of a car on a hot day, and keep it away from heat sources.
- Do not store the device in any location that is dusty, damp, or wet.
- Use a soft lens cloth to clean the device. If the surface of the device screen becomes soiled, clean it with a soft cloth moistened with an approved cleanser.

## Battery Safety Guidelines

To use the device safely, you must follow the battery guidelines.

- The area in which the units are charged should be clear of debris and combustible materials or chemicals. Particular care should be taken where the device is charged in a non-commercial environment.
- Follow battery usage, storage, and charging guidelines found in this guide.
- Improper battery use may result in a fire, explosion, or other hazard.
- To charge the mobile device battery, the ambient battery and charger temperatures must be between +32°F and +104°F (0°C and +40°C).
- Do not use incompatible batteries and chargers, including non-Zebra batteries and chargers. Use of an incompatible battery or charger may present a risk of fire, explosion, leakage, or other hazard. If you have any questions about the compatibility of a battery or a charger, contact the Global Customer Support Center.
- For devices that utilize a USB port as a charging source, the device shall only be connected to products that bear the USB-IF logo or have completed the USB-IF compliance program.

- Do not disassemble or open, crush, bend or deform, puncture, or shred the battery.
- Severe impact from dropping any battery-operated device on a hard surface could cause the battery to overheat.
- Do not short circuit a battery or allow metallic or conductive objects to contact the battery terminals.
- Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard.
- Do not leave or store the equipment in or near areas that might get very hot, such as in a parked vehicle or near a radiator or other heat source. Do not place battery into a microwave oven or dryer.
- Battery usage by children should be supervised.
- Please follow local regulations to properly dispose of used rechargeable batteries.
- Do not dispose of batteries in fire.
- In the event of a battery leak, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with water for 15 minutes, and seek medical advice.
- If you suspect damage to your equipment or battery, contact Customer Support to arrange for inspection.

## Cleaning Instructions



**CAUTION:** Always wear eye protection. Read the warning label on alcohol product before using. If you have to use any other solution for medical reasons please contact the Global Customer Support Center for more information.



**WARNING:** Avoid exposing this product to contact with hot oil or other flammable liquids. If such exposure occurs, unplug the device and clean the product immediately in accordance with these guidelines.

## Approved Cleanser Active Ingredients

100% of the active ingredients in any cleaner must consist of one or some combination of the following: isopropyl alcohol, bleach/sodium hypochlorite<sup>1</sup> (see important note below), hydrogen peroxide, ammonium chloride, or mild dish soap.



**IMPORTANT:** Use pre-moistened wipes and do not allow liquid cleaner to pool.

Due to the powerful oxidizing nature of sodium hypochlorite, the metal surfaces on the device are prone to oxidation (corrosion) when exposed to this chemical in the liquid form (including wipes). In the event that these type of disinfectants come in contact with metal on the device, prompt removal with an alcohol-dampened cloth or cotton swab after the cleaning step is critical.

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<sup>1</sup> When using sodium hypochlorite (bleach) based products, always follow the manufacturer's recommended instructions: use gloves during application and remove the residue afterwards with a damp alcohol cloth or a cotton swab to avoid prolonged skin contact while handling the device.

### Harmful Ingredients

The following chemicals are known to damage the plastics on the device 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 and TB-lysoform.

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 device.

### Device Cleaning Instructions

Do not apply liquid directly to the device. Dampen a soft cloth or use pre-moistened wipes. Do not wrap the device in the cloth or wipe, instead gently wipe the unit. Be careful not to let liquid pool around the display window or other places. Before use, allow the unit to air dry.



**NOTE:** For thorough cleaning, it is recommended to first remove all accessory attachments, such as hand straps or cradle cups from the mobile device and to clean them separately.

### Special Cleaning Notes

Do not handle the device while wearing vinyl gloves containing phthalates. Remove vinyl gloves and wash hands to eliminate any residue left from the gloves.

If products containing any of the harmful ingredients listed above are used prior to handling the device, such as a hand sanitizer that contains ethanolamine, hands must be completely dry before handling the device to prevent damage to the device.



**IMPORTANT:** If the battery connectors are exposed to cleaning agents, thoroughly wipe off as much of the chemical as possible and clean with an alcohol wipe. It is also recommended to install the battery in the terminal prior to cleaning and disinfecting the device to help minimize buildup on the connectors. When using cleaning/disinfectant agents on the device, it is important to follow the directions prescribed by the cleaning/disinfectant agent manufacturer.

### Cleaning Materials Required

- Alcohol wipes
- Lens tissue
- Cotton-tipped applicators
- Isopropyl alcohol
- Can of compressed air with a tube.

### Cleaning Frequency

The cleaning frequency is at the customer's discretion due to the varied environments in which the mobile devices are used and may be cleaned as frequently as required. When dirt is visible, it is recommended to clean the mobile device to avoid the build-up of particles, which makes the device more difficult to clean later on.

### Cleaning the Device

This section describes how to clean the housing and display for the device.

#### Housing

Thoroughly wipe the housing, including all buttons and triggers, using an approved alcohol wipe.

#### Display

The display can be wiped down with an approved alcohol wipe, but care should be taken not to allow any pooling of liquid around the edges of the display. Immediately dry the display with a soft, non-abrasive cloth to prevent streaking.

#### Exit Window

Wipe the exit window periodically with a lens tissue or other material suitable for cleaning optical material such as eyeglasses.

### Cleaning Cradle Connectors

1. Remove the DC power cable from the cradle.
2. Dip the cotton portion of the cotton-tipped applicator in isopropyl alcohol.
3. Rub the cotton portion of the cotton-tipped applicator along the pins of the connector. Slowly move the applicator back and forth from one side of the connector to the other. Do not leave any cotton residue on the connector.
4. All sides of the connector should also be rubbed with the cotton-tipped applicator.
5. Remove any lint left by the cotton-tipped applicator.
6. If grease and other dirt can be found on other areas of the cradle, use a lint-free cloth and alcohol to remove.
7. Allow at least 10 to 30 minutes (depending on ambient temperature and humidity) for the alcohol to air dry before applying power to cradle.

If the temperature is low and humidity is high, longer drying time is required. Warm temperature and low humidity requires less drying time.



**CAUTION:** After cleaning the cradle connectors with bleach-based chemicals, follow the Cleaning Cradle Connectors instructions to remove bleach from the connectors.

### Troubleshooting

Troubleshoot issues with your EC30 device and charging cradles.

#### Performing a Soft Reset

Perform a soft reset if applications stop working.

1. Press and hold the Power button until the menu appears.

## 2. Touch **Restart**.

The device reboots.

## Performing a Hard Reset

Perform a hard reset if the device stops responding.

1. Simultaneously press the Power and Volume Up buttons for at least five seconds.

2. When the screen turns off, release the buttons.

The device reboots.

## EC30

The following tables provides typical problems that might arise and the solution for correcting the problem.

Problem	Cause	Solution
When pressing the power button the device does not turn on.	Battery not charged.	Charge or replace the battery in the device.
	System crash.	Perform a reset.
When pressing the power button the device does not turn on, but the charging LED blinks.	Battery charge is at a level where data is maintained but battery should be re-charged.	Charge the battery in the device.
Battery did not charge.	Battery failed.	Contact system administrator.
	Device removed from cradle while battery was charging.	Insert device in cradle. See <a href="#">Device Charging</a> .
	Extreme battery temperature.	Battery does not charge if ambient temperature is below 0°C (32°F) or above 40°C (104°F).
Cannot see characters on display.	Device not powered on.	Press the <b>Power</b> button.
During data communication with a host computer, no data transmitted, or transmitted data was incomplete.	Device disconnected from host computer during communication.	Reattach the communication cable and re-transmit.
	Incorrect cable configuration.	See the system administrator.
	Communication software was incorrectly installed or configured.	Perform setup.
During data communication over Wi-Fi, no data transmitted, or transmitted data was incomplete.	Wi-Fi radio is not on.	Turn on the Wi-Fi radio.
	You moved out of range of an access point.	Move closer to an access point.

Problem	Cause	Solution
During data communication over Bluetooth, no data transmitted, or transmitted data was incomplete.	Bluetooth radio is not on.	Turn on the Bluetooth radio.
	You moved out of range of another Bluetooth device.	Move within 10 meters (32.8 feet) of the other device.
No sound.	Volume setting is low or turned off.	Adjust the volume.
Device shuts off.	Device is inactive.	The display turns off after a period of inactivity. Set to 15 seconds for optimal battery life.
	Battery is depleted.	Replace the battery.
Tapping the window buttons or icons does not activate the corresponding feature.	The device is not responding.	Reboot the device.
A message appears stating that the device memory is full.	Too many files stored on the device.	Delete unused memos and records. If necessary, save these records on the host computer.
	Too many applications installed on the device.	Remove user-installed applications on the device to recover memory. Select <b>Settings</b> > <b>Apps</b> . Select the unused application and tap <b>UNINSTALL</b> .
The device does not decode with reading bar code.	Scanning application is not loaded.	Load a scanning application on the device or enable DataWedge. See the system administrator.
	Unreadable bar code.	Ensure the symbol is not defaced.
	Distance between exit window and bar code is incorrect.	Place the device within proper scanning range.
	Device is not programmed for the bar code.	Program the device to accept the type of bar code being scanned. Refer to the EMDK or DataWedge application.
	Device is not programmed to generate a beep.	If the device does not beep on a good decode, set the application to generate a beep on good decode.
	Battery is low.	If the scanner stops emitting an LED beam upon a trigger press, check the battery level. When the battery is low, the scanner shuts off before the device low battery condition notification. Note: If the scanner is still not reading symbols, contact the distributor or the Global Customer Support Center.
Device cannot find any Bluetooth devices nearby.	Too far from other Bluetooth devices.	Move closer to the other Bluetooth device(s), within a range of 10 meters (32.8 feet).
	The Bluetooth device(s) nearby are not turned on.	Turn on the Bluetooth device(s) to find.
	The Bluetooth device(s) are not in discoverable mode.	Set the Bluetooth device(s) to discoverable mode. If needed, refer to the device's user documentation for help.

Problem	Cause	Solution
Cannot unlock device.	User enters incorrect password.	If the user enters an incorrect password five times, the user is requested to wait for 30 seconds when using a PIN, Pattern or Password.
Some screen contents are not visible.	Some screen contents do not display correctly.	Rotate the device to enable landscape mode.
Some on-screen buttons are not visible.	On-screen buttons are covered by the virtual keyboard.	Use the back button to dismiss the virtual keyboard.

## 2-Slot Charge Only Cradle

Symptom	Possible Cause	Action
LEDs do not light when device or spare battery is inserted.	Cradle is not receiving power.	Ensure the power cable is connected securely to both the cradle and to AC power.
	Device is not seated firmly in the cradle.	Remove and re-insert the device into the cradle, ensuring it is firmly seated.
Device battery is not charging.	Device was removed from cradle or cradle was unplugged from AC power too soon.	Ensure cradle is receiving power. Ensure device is seated correctly. Confirm the device is charging. The battery fully charges in less than three hours.
	Battery is faulty.	Verify that other batteries charge properly. If so, contact the distributor or Zebra support
	The device is not fully seated in the cradle.	Remove and re-insert the device into the cradle, ensuring it is firmly seated.
	Extreme battery temperature.	Battery does not charge if ambient temperature is below 0 °C (32 °F) or above 40 °C (104 °F).

## 10-Slot Charge Only Cradle

Problem	Cause	Solution
Battery is not charging.	Device removed from the cradle too soon.	Replace the device in the cradle. The battery fully charges in approximately three hours.
	Battery is faulty.	Verify that other batteries charge properly. If so, replace the faulty battery.
	Device is not inserted correctly in the cradle.	Remove the device and reinsert it correctly. Verify charging is active. Touch <b>Settings</b> > <b>System</b> > <b>About phone</b> > <b>Battery Information</b> to view battery status.
	Ambient temperature of the cradle is too warm.	Move the cradle to an area where the ambient temperature is between -10 °C (+14 °F) and +60 °C (+140 °F).



## 10-Slot SmartLock Charge Only Cradle

Problem	Cause	Solution
Cradle is not locking.	Device is not inserted correctly in the cradle.	Remove the device and reinsert it correctly. Verify charging is active. Touch <b>Settings</b> > <b>System</b> > <b>About phone</b> > <b>Battery Information</b> to view battery status. An icon is visible in the status bar if a connection is currently active.
Battery is not charging.	Device removed from the cradle too soon.	Replace the device in the cradle. The battery fully charges in approximately five hours.
	Battery is faulty.	Verify that other batteries charge properly. If so, replace the faulty battery.
	Device is not inserted correctly in the cradle.	Remove the device and reinsert it correctly. Verify charging is active. Touch <b>Settings</b> > <b>System</b> > <b>About phone</b> > <b>Battery Information</b> to view battery status.
	Ambient temperature of the cradle is too warm.	Move the cradle to an area where the ambient temperature is between -10 °C (+14 °F) and +60 °C (+140 °F).

# Technical Specifications

For device technical specifications, go to [zebra.com/support](https://zebra.com/support).

## Data Capture Supported Symbologies

**Table 16** Data Capture Supported Symbologies

Item	Description
1D Bar Codes	Code 128, EAN-8, EAN-13, GS1 DataBar Expanded, GS1 128, GS1 DataBar Coupon, UPCA, Interleaved 2 of 5, UPC Coupon Code
2D Bar Codes	PDF-417, QR Code

## Decode Distances

The table below lists the typical distances for selected bar code densities. The minimum element width (or “symbol density”) is the width in mils of the narrowest element (bar or space) in the symbol.

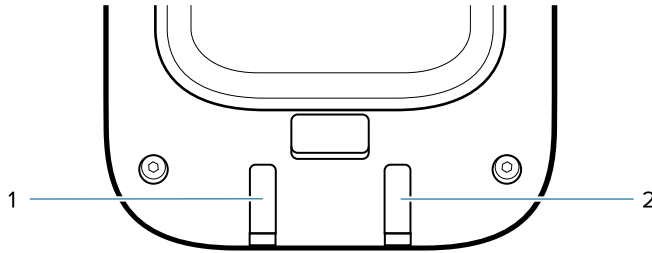
**Table 17** SE2100 Decode Distances

Symbol Density/ Bar Code Type	Typical Working Ranges	
	Near	Far
5.0 mil Code 128	5.1 cm (2.0 in.)	12.2 cm (4.8 in.)
5 mil Code 39	4.3 cm (1.7 in.)	14.7 cm (5.8 in.)
6.6 mil PDF417	4.1 cm (1.6 in.)	12.4 cm (4.9 in.)
10 mil Data Matrix	3.0 cm (1.2 in.)	12.4 cm (4.9 in.)
100% UPCA	5.1 cm (2.0 in.)	26.2 cm (10.3 in.)
20 mil Code 39	5.3 cm (2.1 in.) <sup>a</sup>	33.0 cm (13.0 in.)
10 mil QR Code	2.8 cm (1.1 in.)	13.2 cm (5.2 in.)

<sup>a</sup> Limited by width of bar code in field of view. Notes: Photographic quality bar code at 15° tilt pitch angle under 30 fcd ambient illumination. Distances measured from front edge of scan engine chassis.

## I/O Connector Pin-Outs

**Figure 36** I/O Connector



Item	Pin	Signal	Description
1	Pin 1	GND	Power / signal ground.
2	Pin 2	Cradle_IN	Cradle power / communication signal.

## 2-Slot Charge Only Cradle Technical Specifications

**Table 18** 2-Slot Charge Only Cradle Technical Specifications

Item	Description
Dimensions	Height: 10.6 cm (4.17 in.) Width: 19.56 cm (7.70 in.) Depth: 13.25 cm (5.22 in.)
Weight	748 g (26.4 oz.)
Input Voltage	12 VDC
Power Consumption	30 watts
Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
Charging Temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	5% to 95% non-condensing
Drop	76.2 cm (30.0 in.) drops to vinyl tiled concrete at room temperature.
Electrostatic Discharge (ESD)	+/- 20kV air +/- 10 kV contact +/- 10 kV indirect discharge

## 10-Slot Charge Only Cradle Technical Specifications

**Table 19** 10-Slot Charge Only Cradle Technical Specifications

Item	Description
Dimensions	Height: 90.1 mm (3.5 in.) Width: 449.6 mm (17.7 in.) Depth: 120.3 mm (4.7 in.)
Weight	1.31 kg (2.89 lbs.)
Input Voltage	12 VDC
Power Consumption	65 watts 90 watts with 4-Slot Battery Charger installed.
Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
Charging Temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	0% to 95% non-condensing
Drop	76.2 cm (30.0 in.) drops to vinyl tiled concrete at room temperature.
Electrostatic Discharge (ESD)	+/- 20kV air +/- 10kV contact +/- 10kV indirect discharge

## 10-Slot SmartLock Charge Only Cradle Technical Specifications

**Table 20** 10-Slot SmartLock Charge Only Cradle Technical Specifications

Item	Description
Dimensions	Height: 90.1 mm (3.5 in.) Width: 449.6 mm (17.7 in.) Depth: 120.3 mm (4.7 in.)
Weight	1.31 kg (2.89 lbs.)
Input Voltage	12 VDC
Power Consumption	65 watts 90 watts with 4-Slot Battery Charger installed.
Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
Charging Temperature	0 °C to 40 °C (32 °F to 104 °F)
Humidity	0% to 95% non-condensing
Drop	76.2 cm (30.0 in.) drops to vinyl tiled concrete at room temperature.

**Table 20** 10-Slot SmartLock Charge Only Cradle Technical Specifications (Continued)

Item	Description
Electrostatic Discharge (ESD)	+/- 20kV air +/- 10kV contact +/- 10kV indirect discharge

