MC93XX

Mobile Computer

Quick Start Guide

ZEBRA

MN-003413-04EN Rev A

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Unpacking the Device

Follow these steps when unpacking the device for the first time.

1. Carefully remove all protective material from the device and save the shipping container for later storage and shipping.
2. Verify that the following items are in the box:
   - Mobile computer
   - PowerPrecision+ Lithium-ion battery
   - Regulatory Guide
3. Inspect the equipment for damage. If any equipment is missing or damaged, contact the Global Customer Support Center immediately.
4. Before using the device for the first time, remove the protective shipping films that cover the scan window, display, and camera window.

Device Features

This section lists the features of the MC93 mobile computer.

Figure 1 Front View

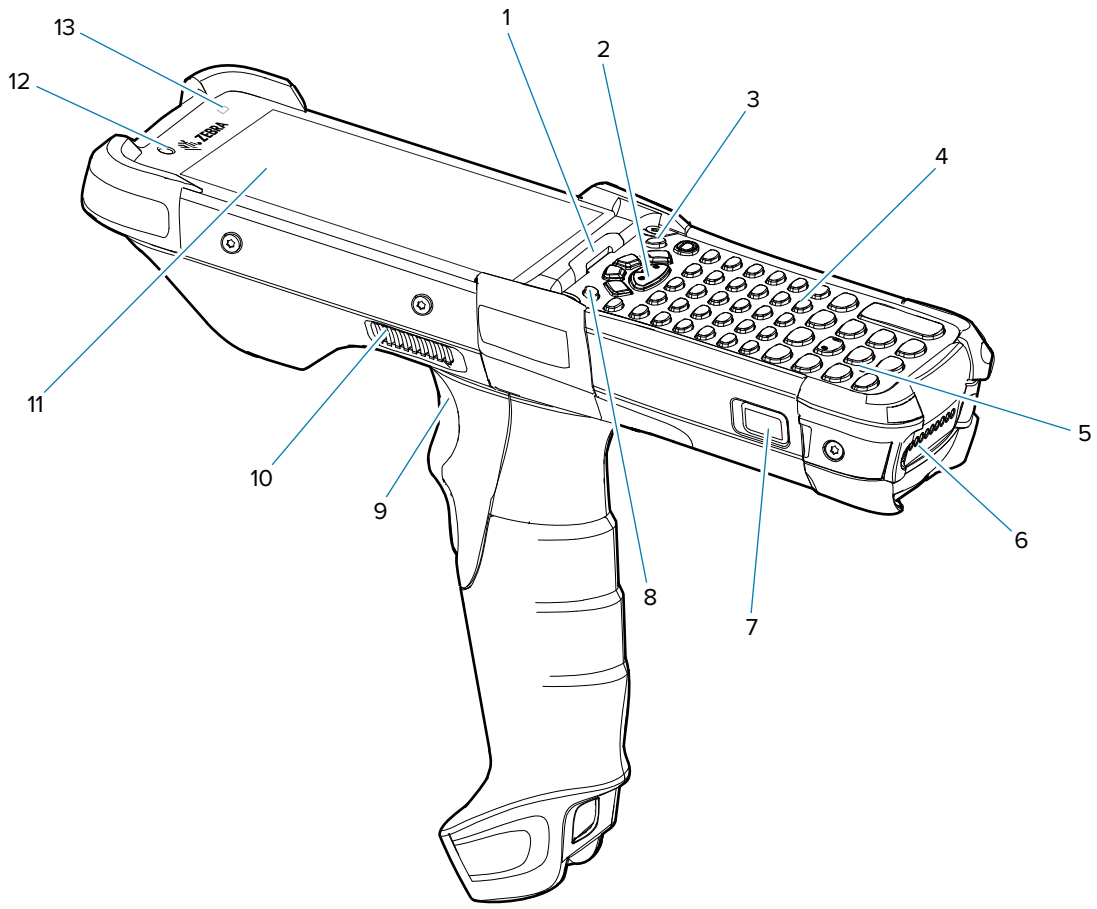


Table 1 Device Front View

Number	Item	Description
1	Charger/ Decode status LED	Indicates battery charging status while charging, app-generated notifications, and data capture status.
2	Center scan button	Initiates data capture when a scan application is enabled.
3	Power button	Press and hold to turn on the device. Press to turn on or off the screen. Press and hold to select one of these options: • **Power off** - Turn off the device. • **Restart** - Restart the device when the software stops responding.
4	Keypad	Use to enter data and navigate on-screen functions.
5	Microphone	Use for communications in Handset mode.
6	Battery	Provides power for operating the device.
7	Battery release latch	Releases the battery from the device. To release the battery, simultaneously press the battery release latches on both sides of the device.
8	P1 - Dedicated PTT key	Initiates push-to-talk communications (programmable).
9	Trigger	Initiates data capture when a scan application is enabled.
10	Speaker side port	Provides audio output for video and music playback.
11	Display	Displays all information needed to operate the device.
12	Front-facing camera	Use to take photos and videos.
13	Ambient light sensor	Controls display and keyboard backlight.

Figure 2 Rear View

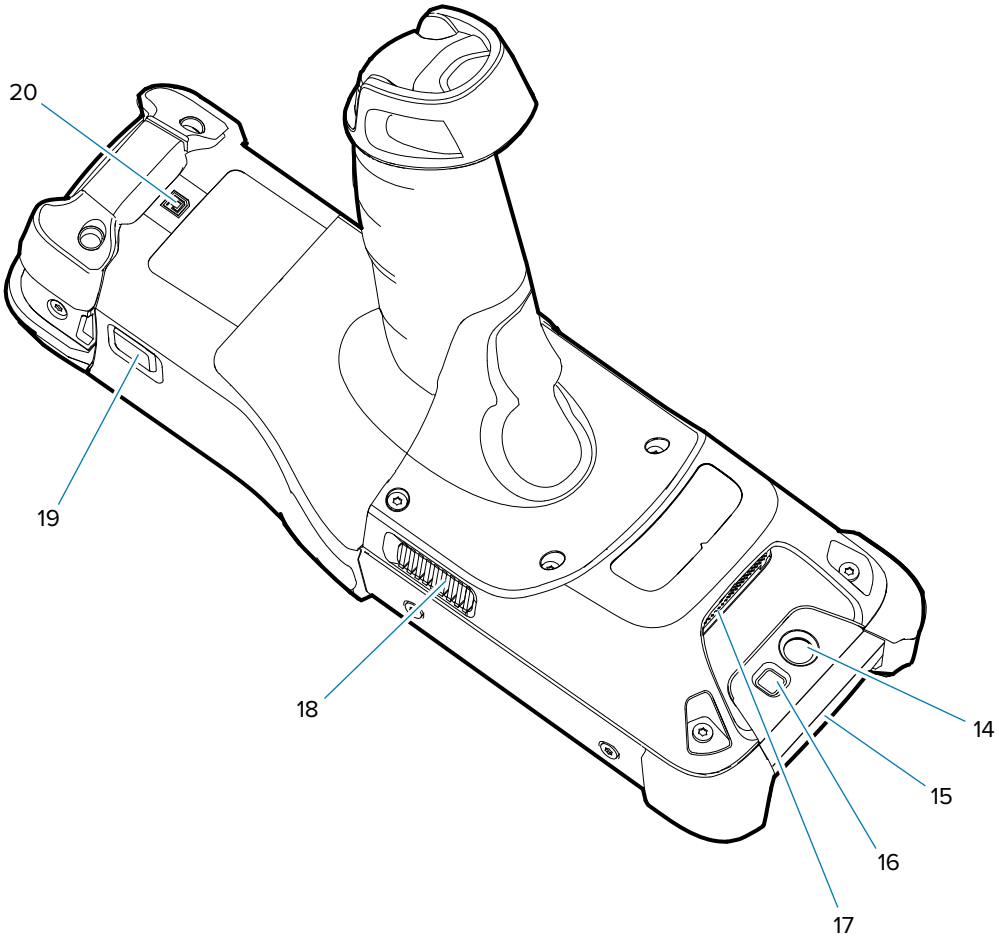


Table 2 Device Rear View

Number	Item	Description
14	Rear camera	Takes photos and videos.
15	NFC antenna	Provides communication with other NFC-enabled devices.
16	Camera flash	Provides illumination for the camera.
17	Scanner exit window	Provides data capture using the scanner/imager.
18	Side speaker port	Provides audio output for video and music playback.
19	Battery release latch	Releases the battery from the device.
20	Passive NFC tag (Inside the battery compartment.)	Provides secondary product label information (configuration, serial number, and manufacture data code) in the event that the readable product label is worn or missing.

NOTE: The camera, front camera, rear camera, and NFC antenna are available only on premium configurations.

Installing a microSD Card

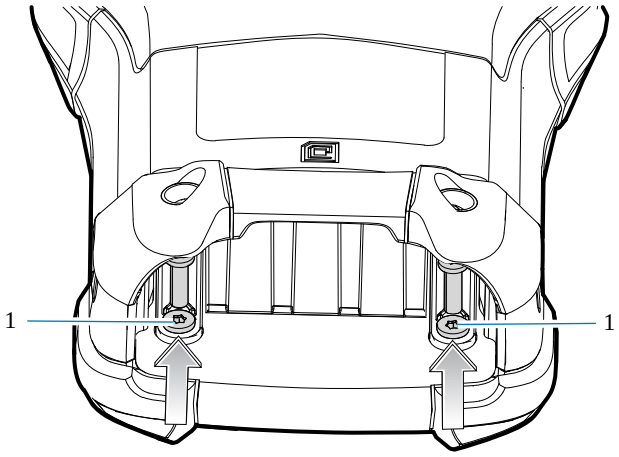
The microSD card slot provides secondary non-volatile storage. The slot is located under the keypad module. For more information, refer to the documentation provided with the card, and follow the manufacturer's recommendations for use. It is strongly recommended that prior to use, you must format the microSD card on the device.

NOTE: The following microSD cards were tested and are validated for use with the MC93XX:

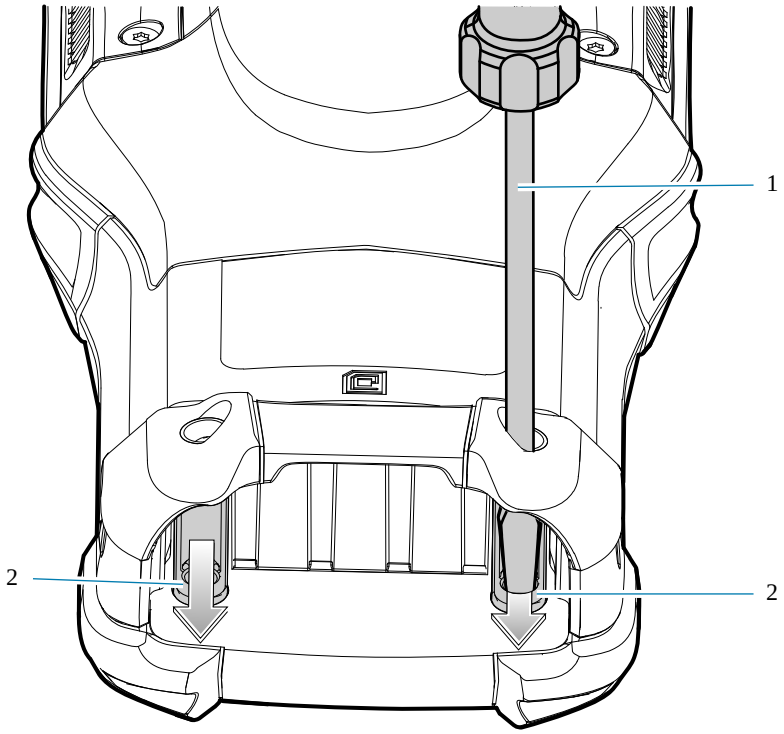
- SanDisk 16GB (SDSDQ-016G-A11M)
- SanDisk 32GB (SDSDQ-032G-A11M)
- SanDisk 64GB (SDSDQUA-064G-U46A)
- SanDisk 128GB (SDSDQUI-128G-A46)
- SanDisk 200GB (SDSDQUAN-200G-A4A)

CAUTION: Follow proper electrostatic discharge (ESD) precautions to avoid damaging the microSD card. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is properly grounded.

1. Power off the device.
2. Remove the battery
3. Using a Torx T8 screwdriver with a large grip, remove the two keypad latch screws (1) from inside the battery slot.



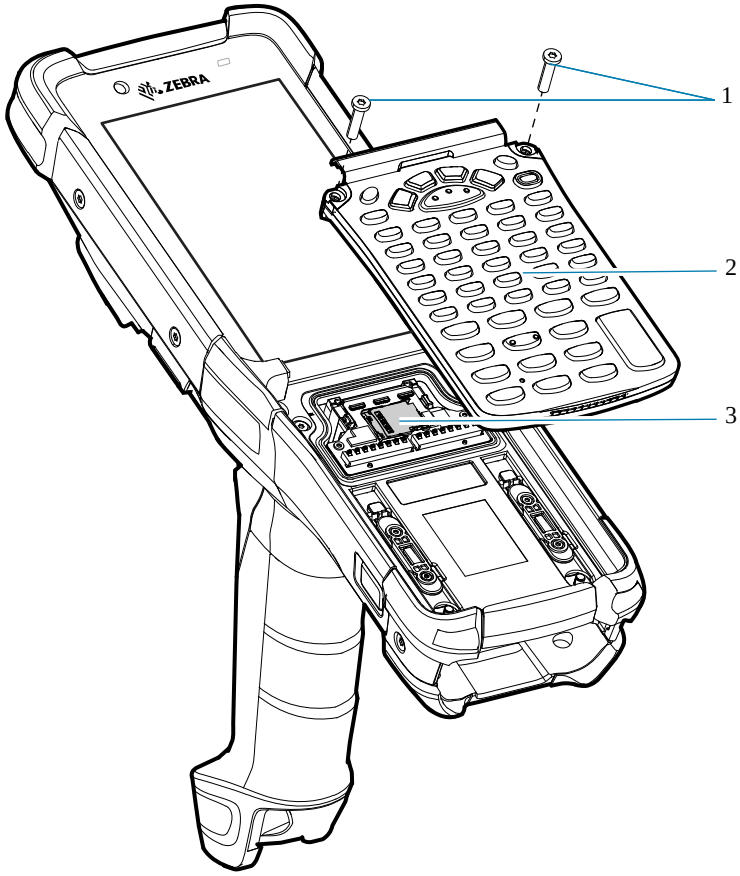
4. Using a screwdriver (1), slide the keypad latches (2) toward the bottom of the device.



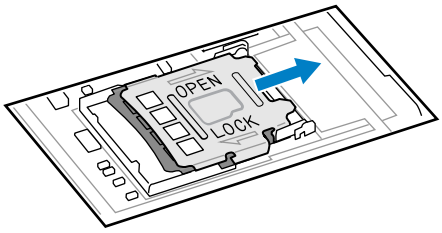
NOTE: If the keypad latches are hard to move, use a screwdriver to gently slide them towards the bottom of the device.

5. Turn the device over so that the keypad is visible.

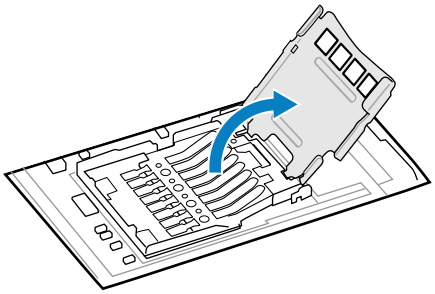
6. Using a Torx T8 screwdriver with a large grip, remove the two keypad assembly screws (1) from the top of the keypad (2) that covers the microSD card holder (3).



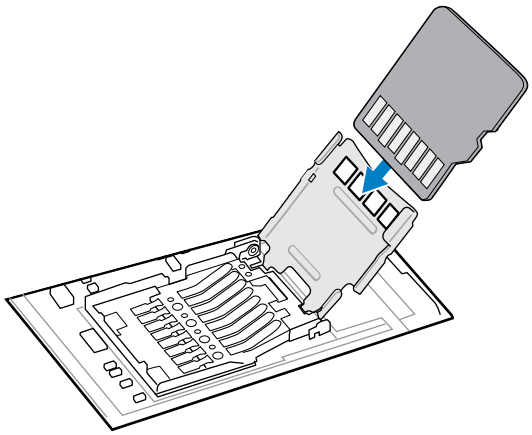
7. Lift the keypad from the device.
8. Slide the microSD card holder to the Open position.



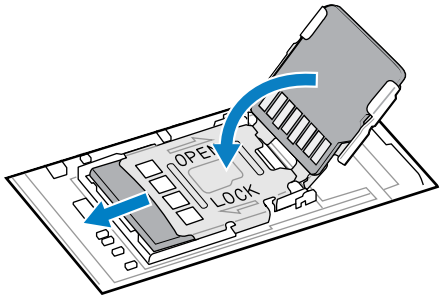
9. Lift the microSD card holder.



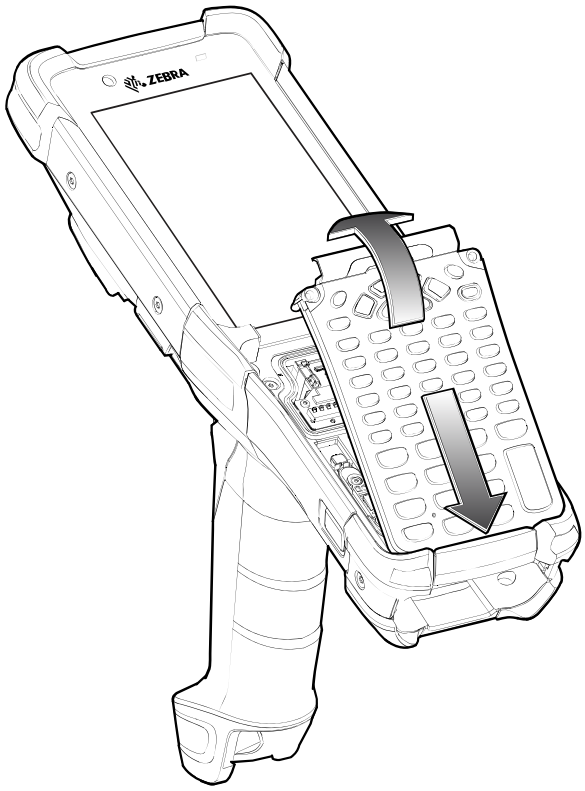
10. Insert the microSD card into the card holder door ensuring that the card slides into the holding tabs on each side of the door.



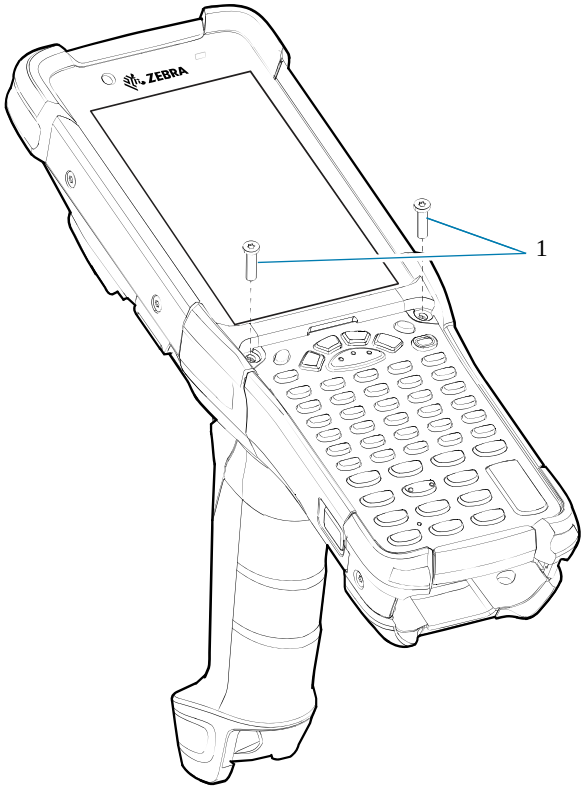
11. Close the microSD card holder door and slide the door to the Lock position.



12. Align the keypad along the bottom ridge of the device, and then lay it flat.

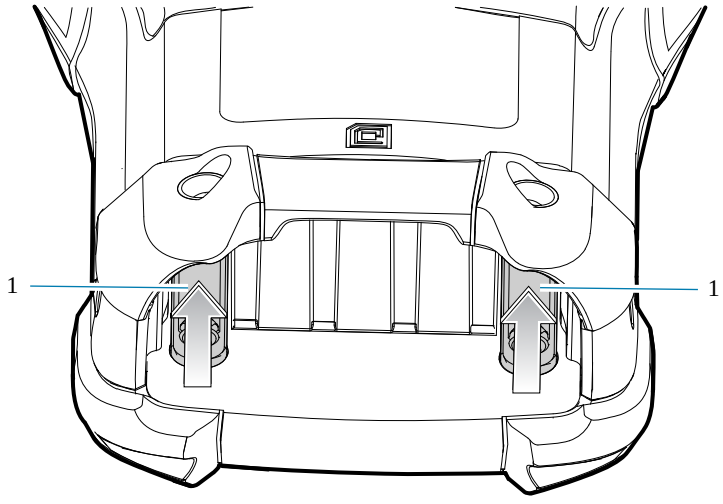


13. Using a Torx T8 screwdriver with a large grip and a long shaft, secure the keypad to the device using the two screws (1). Torque screws to 5.8 kgf-cm or 5.0 lbf-in.

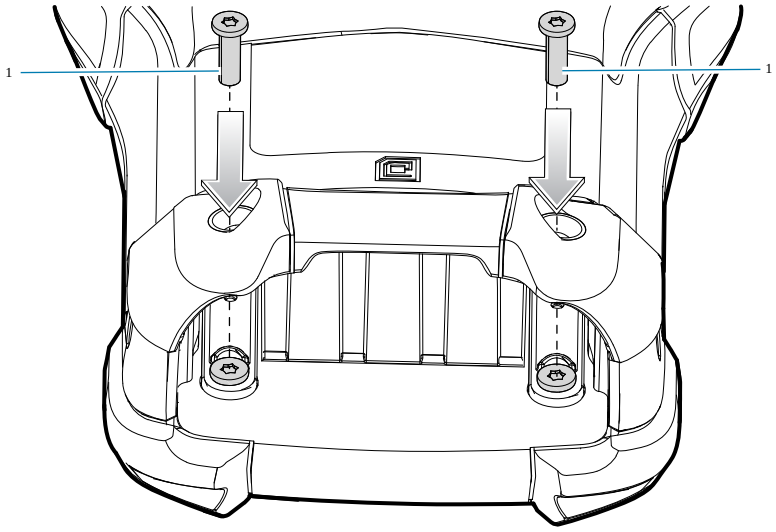


14. Turn the device over so that the keypad latches are visible.

15. Slide both the keypad latches (1) toward the top of the device.



16. Using a Torx T8 screwdriver, replace the two keypad latch screws (1) inside the battery slot and torque to 5.8 kgf-cm or 5.0 lbf-in.

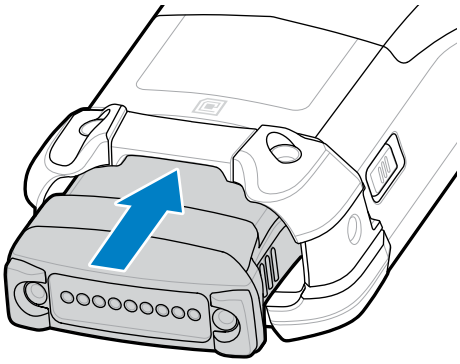


17. Insert the battery.
18. Press and hold **Power** to power on the device.

Installing the Battery

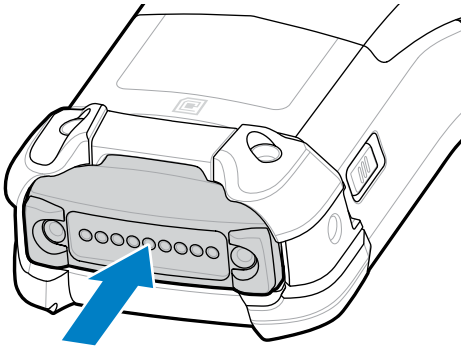
This section describes how to install the battery into the device.

1. Align the battery with the battery slot.
2. Push the battery into the battery slot.



3. Press the battery firmly into the battery well.

   Ensure that both the battery release latches on the sides of the device return to the home position. An audible click sound indicates that both the battery release latches have returned to the home position, locking the battery in place.



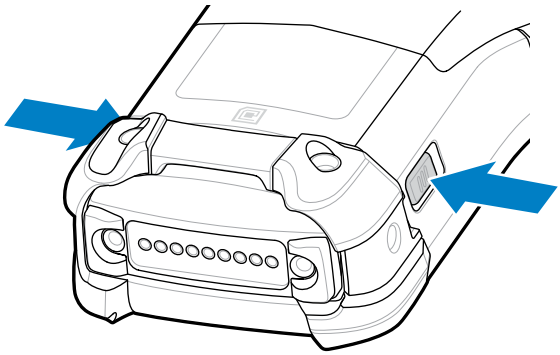
4. Press **Power** to turn on the device.

Replacing the Battery

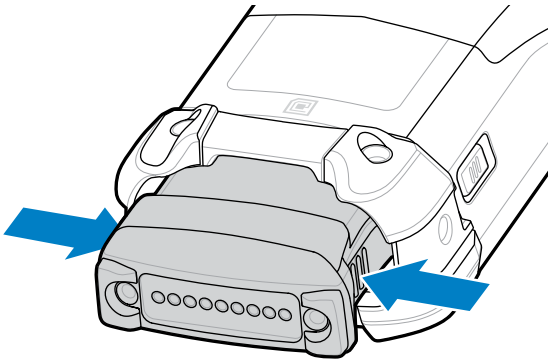
This section describes how to replace the battery in the device.

1. Push in the two primary battery release latches.

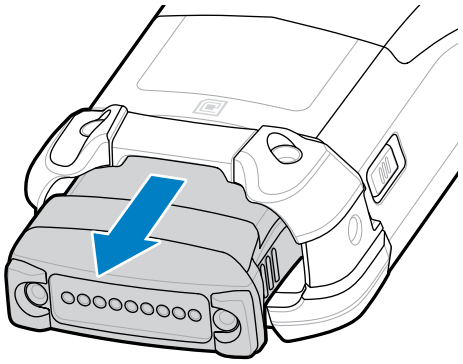
   The battery ejects slightly. With Hot Swap mode, when you remove the battery, the display turns off, and the device enters a low-power state. The device retains RAM data for approximately 5 minutes. Replace the battery within 5 minutes to preserve memory persistence.



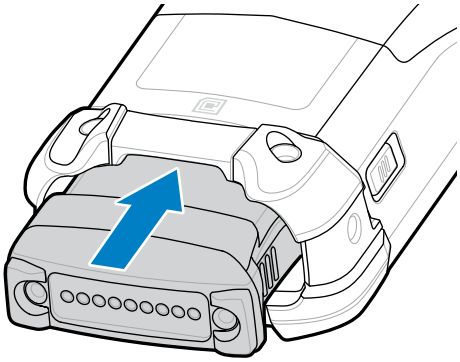
2. Push in the secondary battery release latches on the sides of the battery.



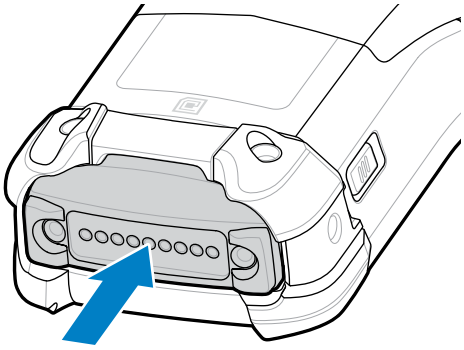
3. Remove the battery from the battery slot.



4. Align the battery with the battery slot.



5. Push the battery into the battery slot.



6. Press the battery firmly into the battery well.

   Ensure that both the battery release latches on the sides of the device return to the home position. You will hear an audible click sound indicating that both the battery release latches have returned to the home position, locking the battery in place.

7. Press **Power** to turn on the device.

Accessories for Charging

Use one of the following accessories to charge the device and/or spare battery.

Table 3 Charging and Communication

Description	Part Number	Charging		Communication	
		Main Battery (In device)	Spare Battery	USB	Ethernet
1-Slot USB Charge Cradle with Spare Battery Charger	CRD-MC93-2SUCHG-01	Yes	Yes	Yes	No
4-Slot Charge Only ShareCradle	CRD-MC93-4SCHG-01	Yes	No	No	No
4-Slot Ethernet ShareCradle	CRD-MC93-4SETH-01	Yes	No	No	Yes
4-Slot Spare Battery Charger	SAC-MC93-4SCHG-01	No	Yes	No	No
16-Slot Spare Battery Charger	SAC-MC93-16SCHG-01	No	Yes	No	No
USB Charge/Com Snap-on Cup	CBL-MC93-USBCHG-01	Yes	No	Yes	No

Charging the Device

To achieve optimal charging results, use only Zebra charging accessories and batteries. Charge batteries at room temperature with the device in sleep mode.

A standard battery charges from fully depleted to 90% in approximately 4 hours and from fully depleted to 100% in approximately 5 hours. In many cases, a 90% charge provides enough charge for daily use. Depending on the usage profile, a full 100% charge may last for approximately 14 hours of use.

NOTE: Ensure that you follow the guidelines for battery safety described in the Product Reference Guide.

The device or accessory always performs battery charging in a safe and intelligent manner. The device or accessory indicates when charging is disabled due to abnormal temperatures via its LED, and a notification appears on the device display.

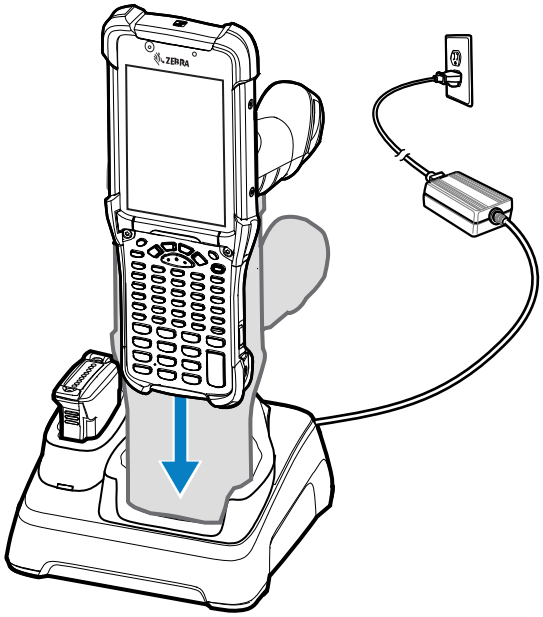
Temperature	Battery Charging Behavior
0°C to 40°C (32°F to 104°F)	Optimal charging range.
0 to 20°C (32 to 68°F) 37 to 40°C (98 to 104°F)	Charging slows to optimize the JEITA requirements of the cell.
Below 0°C (32°F) Above 40°C (104°F)	Charging stops.
Above 58°C (136°F)	The device shuts down.

To charge the device using a cradle:

1. Connect the cradle to the appropriate power source.

2. Insert the device into the slot in the cradle to begin charging. Gently press down on the device to ensure that it is properly seated.

   Figure 3 1-Slot USB Charge Cradle with Spare Battery Charger



   The device turns on and begins charging. The charging/notification LED indicates the battery charging status.

3. When charging is complete, remove the device from the cradle slot.

See Also

Charging Indicators

Charging the Spare Battery

1. Connect the charger to a power source.
2. Insert the battery into a spare battery charging slot and gently press down on the battery to ensure proper contact. The spare battery charging LEDs on the front of the cradle indicates the spare battery charging status.
3. When charging is complete, remove the battery from the charging slot.

Charging Indicators

The Charge LED Indicator indicates the charge status.

Table 4 LED Charge Indicators

Status	Indications
Off	• The battery is not charging. • The device is not inserted correctly in the cradle or connected to a power source. • is not powered.
Slow Blinking Amber Every 3 seconds	• is charging, but the battery is fully depleted and does not yet have sufficient charge to power the device. • After battery removal, it indicates that the device is in hot swap mode with connectivity persistence. The SuperCap requires a minimum of 15 minutes to fully charge in order to provide adequate connectivity and memory session persistence.
Solid Amber	is charging.
Solid Green	Battery charging is complete.
Fast Blinking Red 2 blinks/second	Charging error. For example: • Temperature is too low or too high. • Charging has gone on too long without completion (typically 8 hours).
Solid Red	• is charging, and the battery is at the end of its useful life. • Charging is complete, and the battery is at the end of its useful life.

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, at 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 indicate when charging is disabled due to abnormal temperatures via their LEDs.

1-Slot USB Charge Cradle with Spare Battery Charger

The 1-Slot USB charge cradle charges the main battery and a spare battery simultaneously.

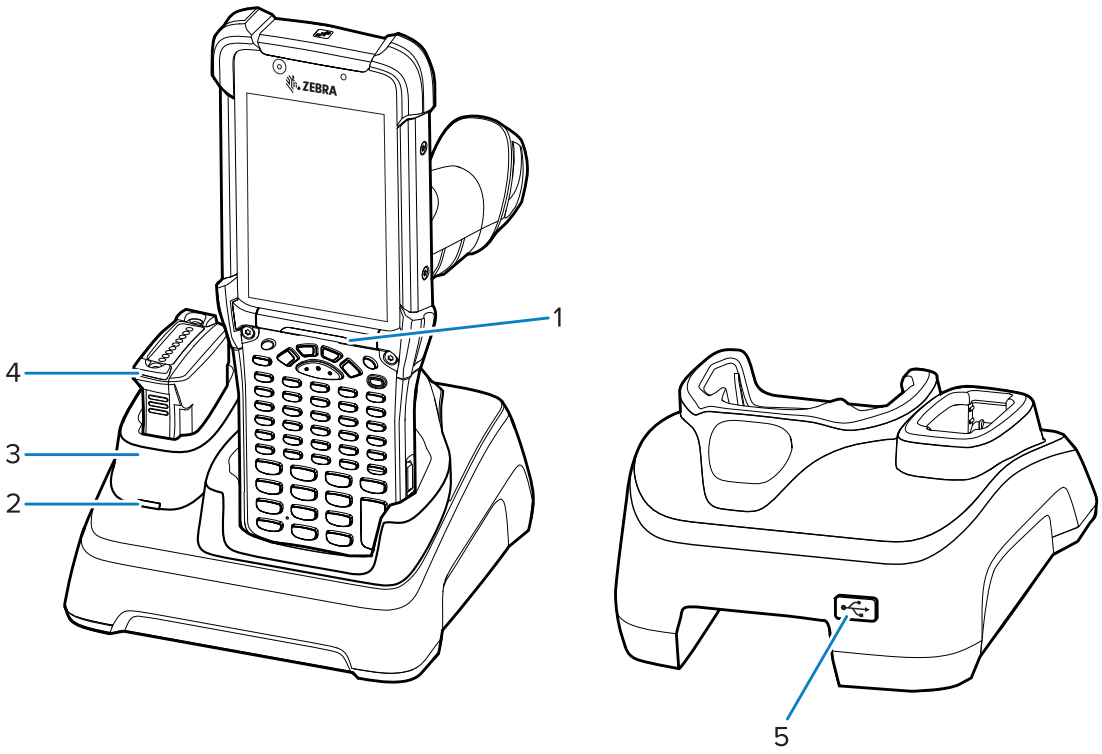
NOTE: Ensure that you follow the guidelines for battery safety described in the Product Reference Guide.

The 1-Slot USB Charge Cradle with spare battery:

- Provides 9 VDC power to operate the mobile computer and charge the battery.

- Provides 4.2 VDC power to charge the spare battery.
- Provides a USB port for data communication between the mobile computer and a host computer or other USB devices, for example, a printer.
- Synchronizes information between the mobile computer and a host computer. With customized or third-party software, it can also synchronize the mobile computer with corporate databases.
- Compatible with the following batteries:
  - 7000mAh PowerPrecision+ standard battery
  - 5000mAh PowerPrecision+ freezer battery
  - 7000mAh PowerPrecision+ non-incendive battery

Figure 4 1-Slot USB Charge Cradle with Spare Battery Charger



1	Indicator LED bar
2	Spare battery charging LED
3	Spare battery charging well
4	Spare battery
5	USB port (for service only)

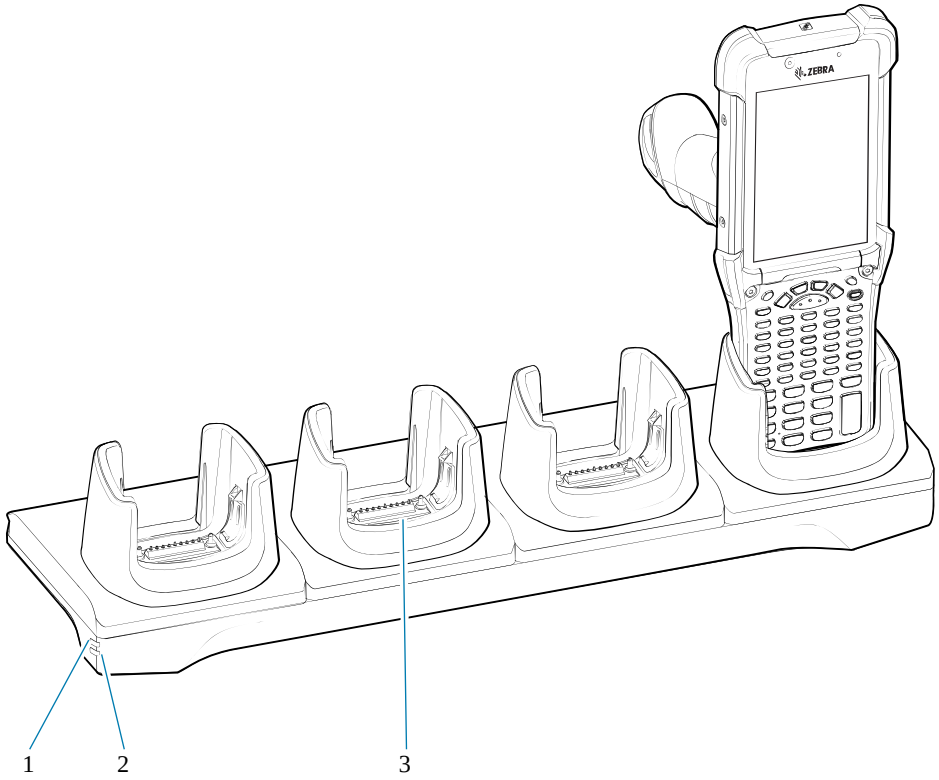
4-Slot Ethernet ShareCradle

NOTE: Ensure that you follow the guidelines for battery safety described in the Product Reference Guide.

The 4-Slot Ethernet ShareCradle:

- Provides 9 VDC power to operate the mobile computer and charge the battery.
- Simultaneously charges up to four mobile computers.
- Connects up to four devices to an Ethernet network.
- Compatible with devices using the following batteries:
  - 7000mAh PowerPrecision+ standard battery
  - 5000mAh PowerPrecision+ freezer battery
  - 7000mAh PowerPrecision+ non-incendive battery.

Figure 5 4-Slot Ethernet ShareCradle



1	1000Base-T LED
2	10/100Base-T LED
3	Charging slot

4-Slot Spare Battery Charger

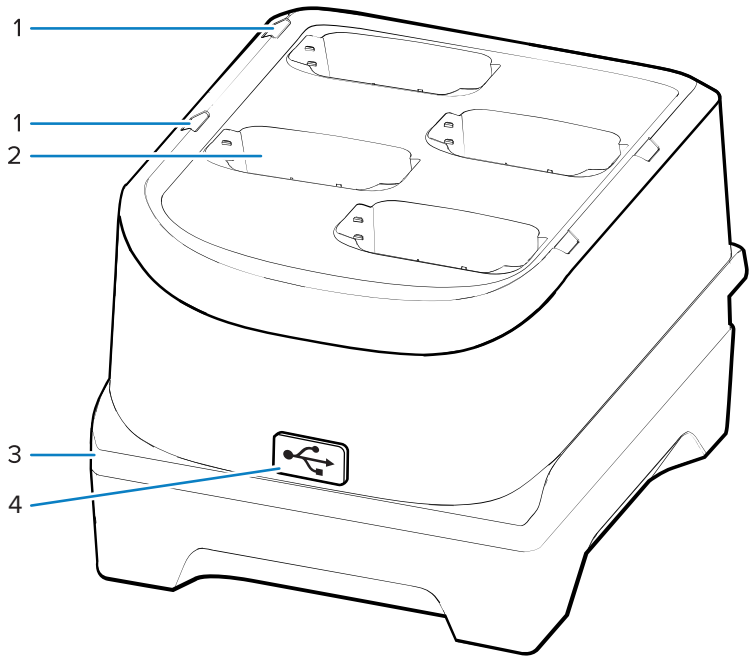
NOTE: Ensure that you follow the guidelines for battery safety described in the Product Reference Guide.

The 4-Slot Spare Battery Charger:

- Charges up to four spare batteries.

- Provides 4.2 VDC power to charge the spare battery.

Figure 6 4-Slot Spare Battery Charger Cradle



1	Spare battery charging LEDs
2	Charging slot
3	Power LED
4	USB port (for service only)

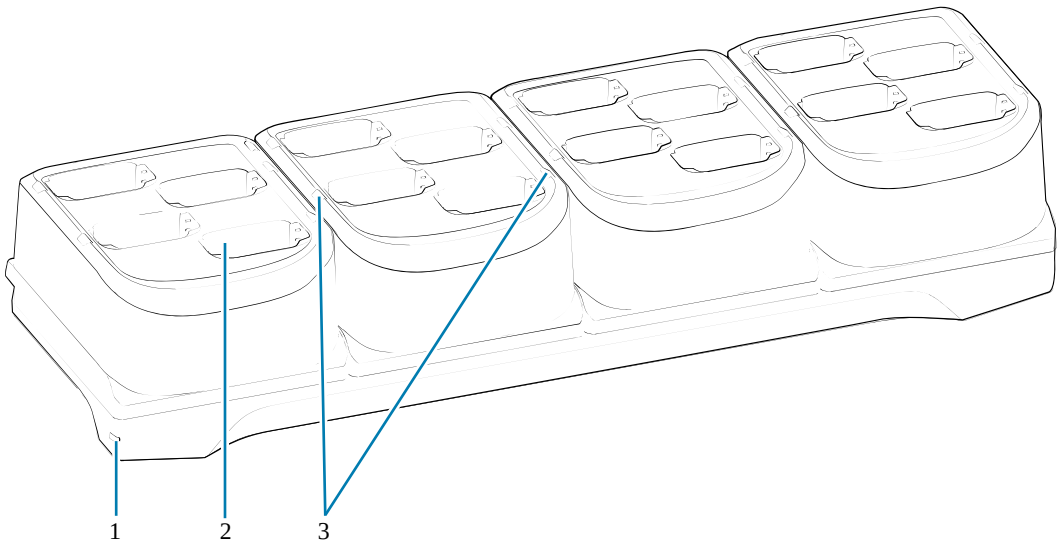
16-Slot Spare Battery Charger

NOTE: Ensure that you follow the guidelines for battery safety described in the Product Reference Guide.

The 16-Slot Spare Battery Charger:

- Charges up to 16 spare batteries.
- Provides 4.2 VDC power to charge the spare battery.

Figure 7 16-Slot Spare Battery Charger



1	Power LED
2	Charging slot
3	Spare battery charging LEDs

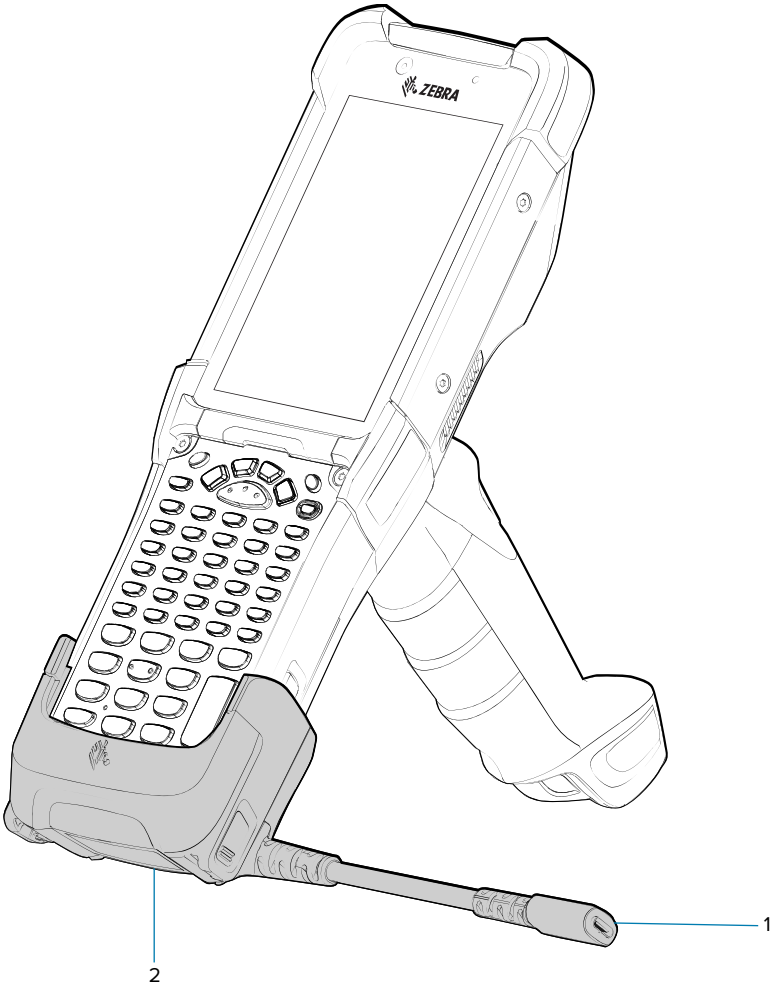
USB Charge/Com Snap-on Cup

NOTE: Ensure that you follow the guidelines for battery safety described in the Product Reference Guide.

The USB Charge/Com Snap-on Cup:

- Provides 5 VDC power to operate the device and to charge the battery.
- Provides power and/or communication with the host computer over USB to the device.

Figure 8 USB Charge/Com Snap-on Cup



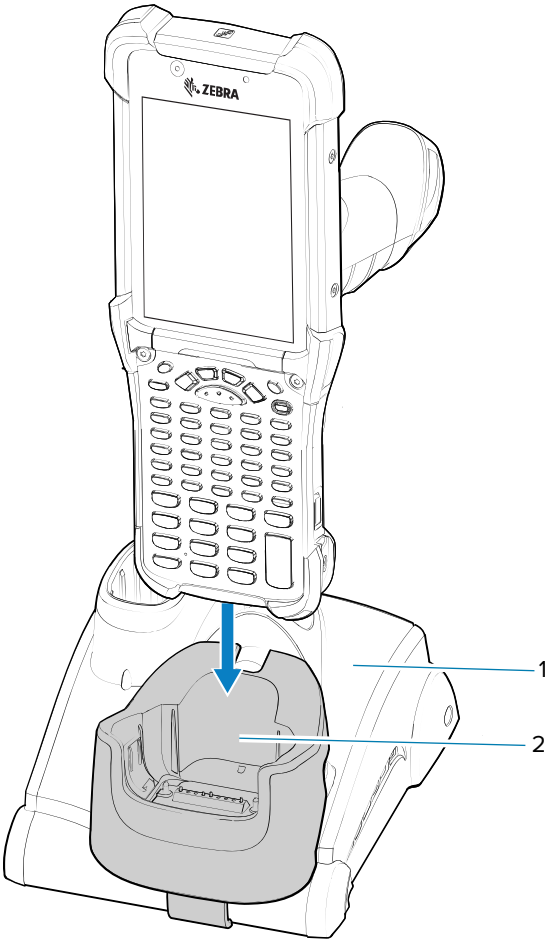
1	Pigtail with USB Type C socket
2	USB charge/com snap-on cup

Charge Only Adapter

Use the charge only adapter for compatibility with other MC9x cradles.

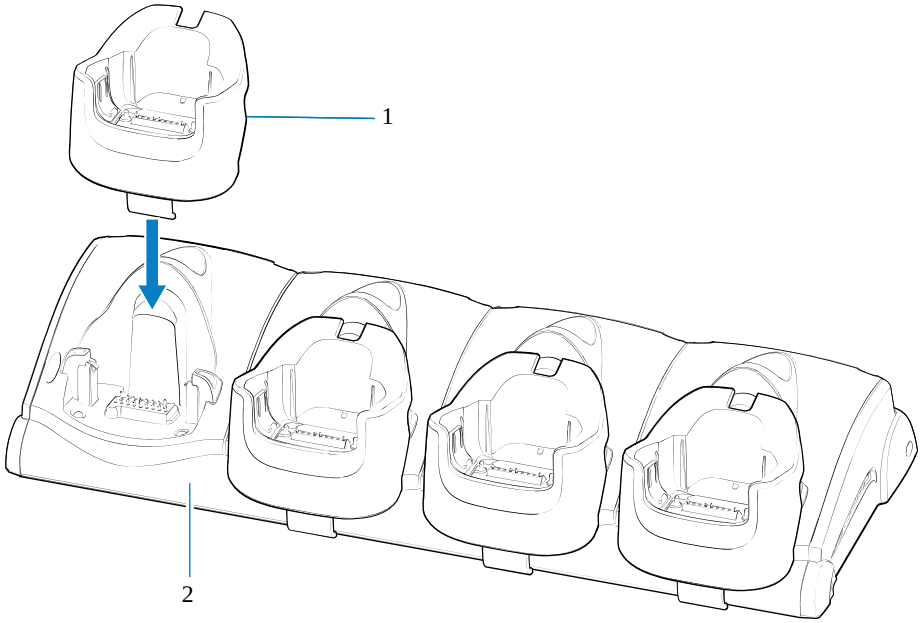
- The charge only adapter can be installed on any MC9x single-slot or multi-slot cradle (charge only or Ethernet).
- When used with MC9x cradles, the adapter provides the ability to charge but no USB or Ethernet communication.

Figure 9 MC9x 1-Slot Cradle with Charge Only Adapter



1	MC9x 1-Slot cradle
2	Charge only adapter

Figure 10 MC9x 4-Slot Cradle Charge Only Adapter

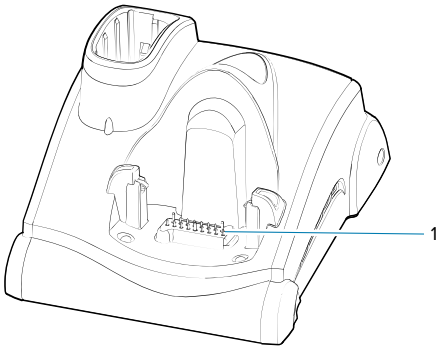


1	Charge only adapter
2	MC9x 4-Slot cradle

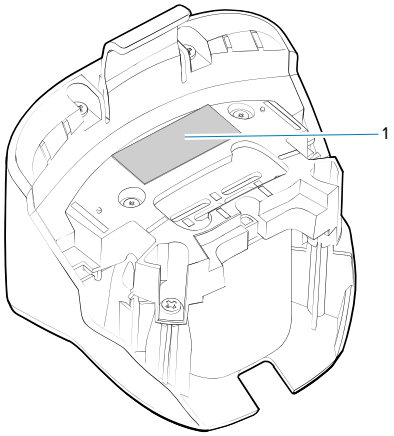
Installing the Adapter

Follow these instructions to install the charge only adapter.

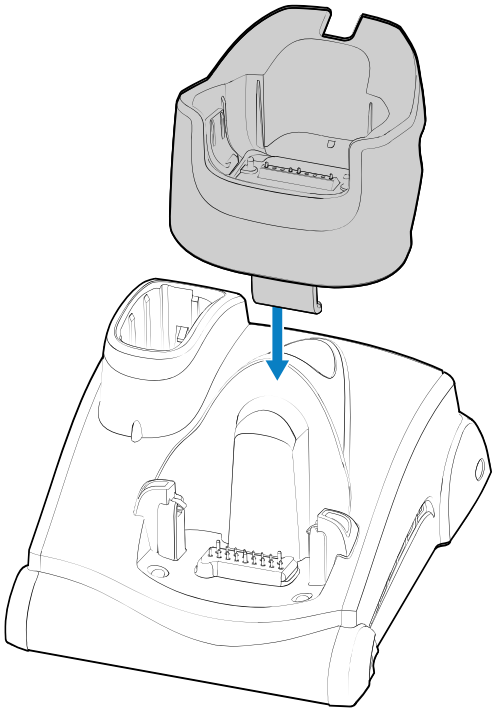
1. Clean the cradle and contacts surface (1) with an alcohol wipe, using a back and forth motion with your finger.



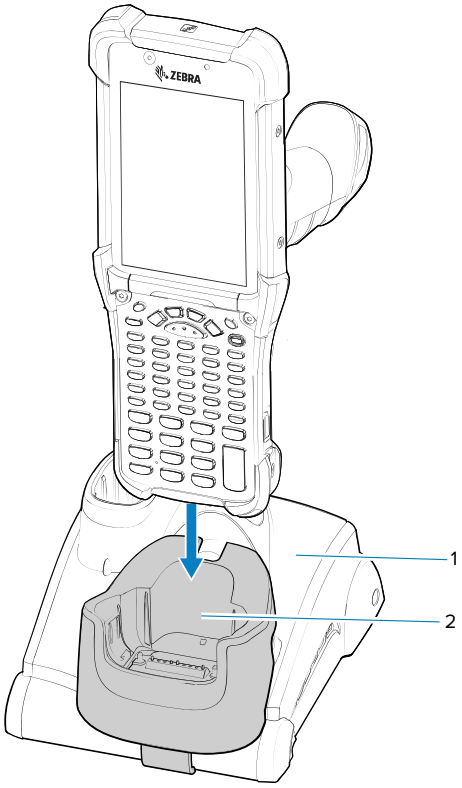
2. Peel and remove the adhesive (1) from the back of the adapter.



3. Insert the adapter into the MC9x cradle, and press it into the bottom of the cradle.



4. Insert the device into the adapter (2).



Scanning

The MC93XX offers the following data capture options:

- Barcode Capture with Imager
- Barcode Capture with Laser Scanner

Barcode Capture with Imager

To capture barcode data:

1. Ensure an application is open on the device and a text field is in focus (text cursor in the text field).
2. Point the top 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 the cross-hairs in the aiming pattern. The aiming dot is used for increased visibility in bright lighting conditions.

   The Scan LEDs light green, and a beep sounds, by default, to indicate the barcode was decoded successfully.

NOTE: Note that when the device is in Pick List Mode, the device does not decode the barcode until the center of the crosshair touches the barcode.

Table 5 Aiming Pattern: Standard and Extended Range

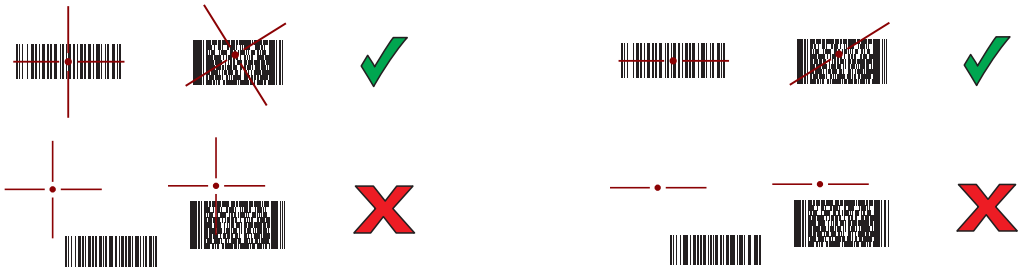


Table 6 Pick List Mode with Multiple Barcodes in Aiming Pattern: Standard and Extended Range

5. Release the Scan button or trigger.

The barcode content data appears in the text field.

Barcode Capture with Laser Scanner

To capture barcode data:

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

2. Point the top of the device at a barcode.
3. Point the scan exit window at a bar code.
4. Press and hold the Scan button or trigger.

   The red scan line turns on to assist in aiming. Ensure that the scan line crosses every bar and space of the barcode. The Scan LEDs light green and a beep sounds, by default, to indicate the barcode was decoded successfully.

   Figure 11 Laser Scanner Aiming Pattern

5. Release the Scan button or trigger.

The captured data appears in the text field.

Ergonomic Considerations

Taking breaks and task rotation are recommended.

Optimum Body Posture

Figure 12 Alternate between left and right hand

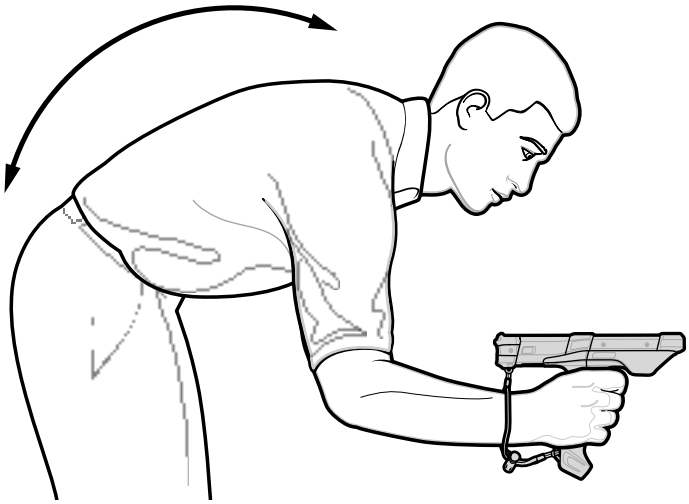
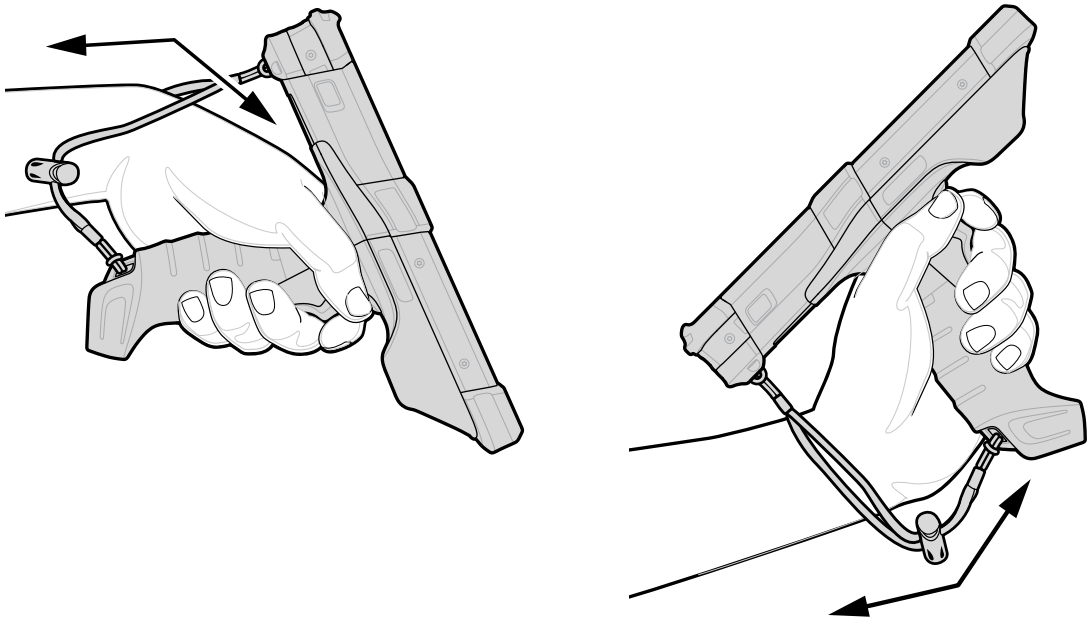
Optimize Body Posture for Scanning

Figure 13 Alternate left and right knees

Figure 14 Use a ladder

Figure 15 Avoid reaching

Figure 16 Avoid bending



Avoid Extreme Wrist Angles