

# **WS101/WS101-H**

Bluetooth Communication Badge



**ZEBRA**

**Product Reference Guide**

2025/12/18

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# About This Guide

This guide provides information about using the WS101/WS101-H wearable Bluetooth communication device.

## 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.
- 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.

## 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](http://zebra.com/support).

When contacting support, please have the following information available:

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

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

## About This Guide

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.

# Getting Started

This section provides information to get the device up and running for the first time.

## Unpacking the Device

Before using the device, carefully unpack the device by following the recommended unpacking procedures:

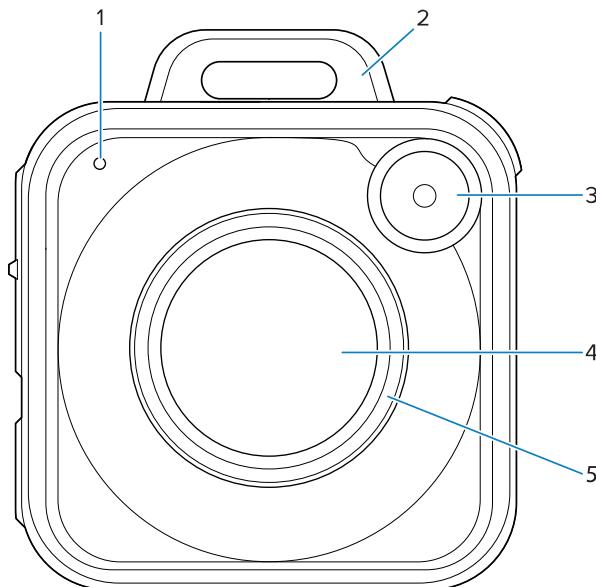
1. Carefully remove all protective material from the device and save the shipping container for later storage and shipping.
2. Verify the box contains all the equipment listed below:
  - Device
  - Lithium-ion battery
  - Regulatory Guide
3. Inspect the equipment for damage. If you are missing any equipment or if you find any damaged equipment, contact Support immediately.

## Device Features

The device is a lightweight wearable Bluetooth device, allowing workers to communicate without picking up a phone or tablet. The device features a variety of programmable buttons.

### Front View

**Figure 1** Front View

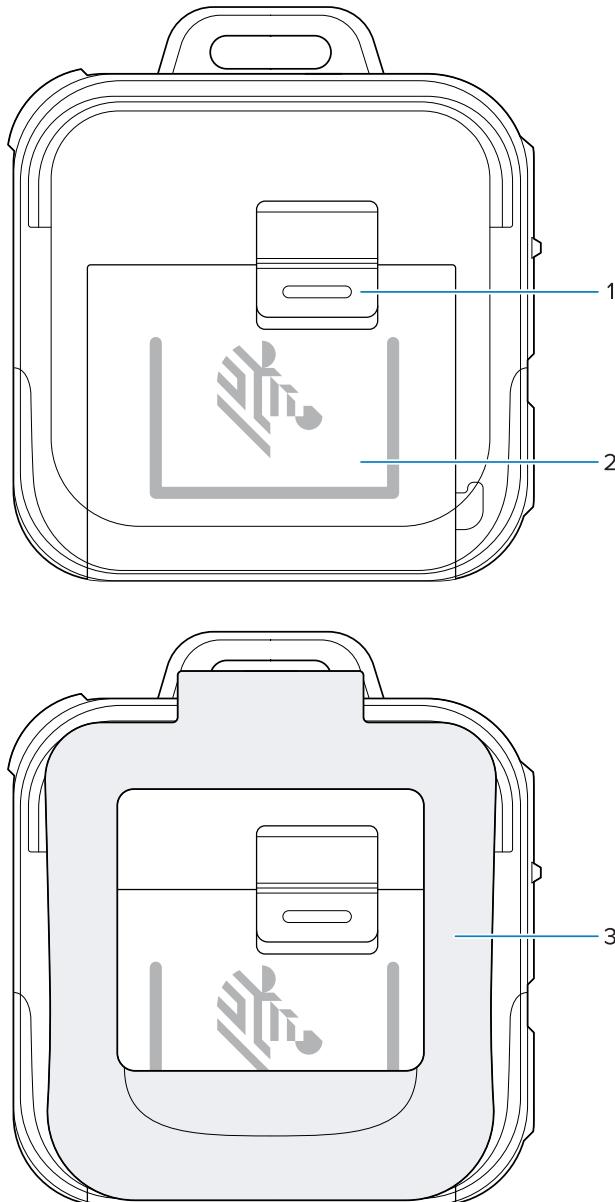


Number	Item	Function
1	Microphone	Captures voice.
2	Badge Clip Tower Bar	Enables the attachment of a badge clip to the device.
3	Power	The Power button performs multiple functions: <b>Power:</b> Press and hold to turn the device on or off. <b>Pairing:</b> When the device is powered for the first time, enters pairing mode for Bluetooth setup. Otherwise, hold the button to enter pairing mode. <b>Calling:</b> Initiates two-way call control on telephony devices.
4	P1	P1 is a programmable button that sends an event to a registered application.   <b>NOTE:</b> The button does not have a default function, but push-to-talk is the suggested function.

Number	Item	Function
5	LED Ring	Provides a visual indicator for a variety of functions, such as pairing, battery level, incoming calls, and calls on hold. Indicators may vary depending on configuration settings.

## Rear View

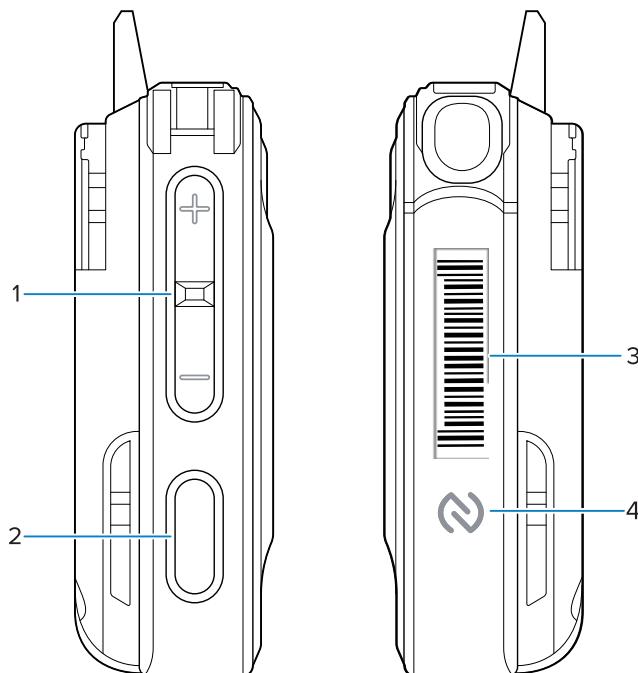
**Figure 2** Rear View



Number	Item	Function
1	Battery Latch	Locks the removable battery into place. Slide or press the latch to release the battery only when necessary.
2	Removable Battery Pack	Provides the device's power. To install the battery, see <a href="#">Installing the Battery</a> for more information.
3	Clothing Clip	Securely attaches the device to clothing, typically a shirt collar, pocket, or lapel.

### Side View

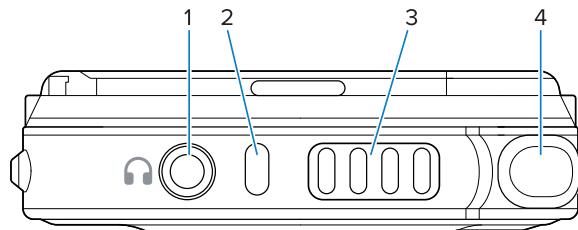
**Figure 3** Side View, No Clothing Clip



Number	Item	Function
1	Volume Up + and Down -	Adjusts the speaker volume. Press + to increase the volume and - to decrease the volume.
2	P2	P2 is a programmable button that sends an event to a registered application.  By default, the P2 button mutes the microphone when on an ongoing cellular call.
3	Barcode	Enables scan-to-pair for Bluetooth functionality. See <a href="#">Pairing the Device</a> for more information.
4	NFC Tag	Enables touch-to-pair for Bluetooth functionality. See <a href="#">Pairing the Device</a> for more information.

## Top View

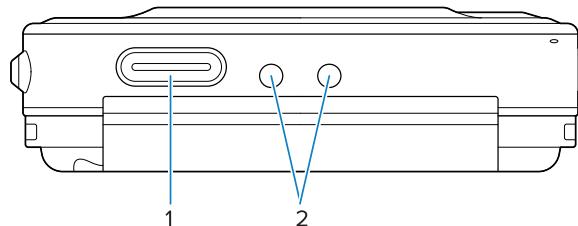
**Figure 4** Top View, No Clothing Clip



Number	Item	Function
1	3.5 Audio Jack	Input for audio device.   <b>NOTE:</b> The 3.5 mm Audio Jack is not available on the blue version of the device.
2	Top LED	Provides a visual indicator for a variety of different statuses, such as receiving an incoming call or placing a call on hold.
3	Speaker	Projects audio clearly from the device.
4	P3	P3 is a programmable button that sends an event to an application.

## Bottom View

**Figure 5** Bottom View, No Clothing Clip



Number	Item	Function
1	USB-C Port	Charges the internal battery through the connection to a USB-C power source. A cable is not included.   <b>NOTE:</b> The USB-C port does not support attaching any USB-C accessories, such as a headset.

Number	Item	Function
		 <b>NOTE:</b> The USB-C port is not available on the blue version of the device.
2	Charging Contacts	Facilitates the transfer of power from an external charging source to the device's battery.   <b>NOTE:</b> Only used with the cradle.

## Setting Up the Device

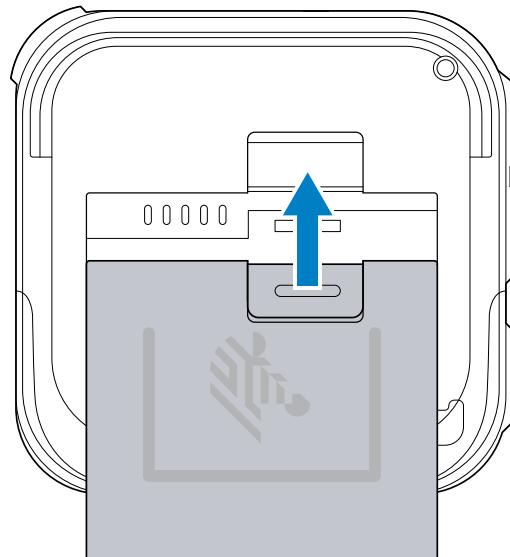
This section explains how to set up your device to start using the device.

1. Install the battery.
2. Fully charge the battery to ensure optimal performance.
3. Power on the device.
4. Pair the device through Bluetooth.
5. Attach the device to your clothing or badge clip.

### Installing the Battery

The device comes with a removable lithium-ion battery that requires installation before use.

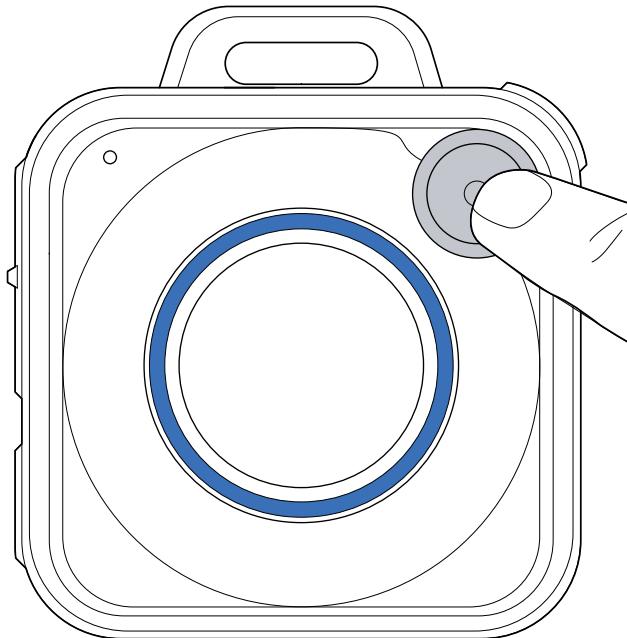
1. Locate the battery compartment on the back of the device.
2. Align the battery contacts with the corresponding contacts in the battery compartment and slide the battery into place, ensuring it fits snugly.



## Powering On the Device

This section details how to turn on the device and what to expect during the startup process.

1. Press and hold the Power button for approximately two and a half seconds.



2. Release the button once the LED Ring indicator on the device begins to illuminate. This confirms the device has successfully powered on. The device must be paired to a host to properly function.



**NOTE:** The device automatically powers off if it is not paired within five minutes of being powered on. See [Pairing the Device](#) for more information.

## Powering Off the Device

Power off the device when not in use to conserve battery.

To power the device off, press the Power button for approximately two and a half seconds. A Power Off audio alert plays through the speaker to inform you when the device is no longer powered.

## Removing the Battery

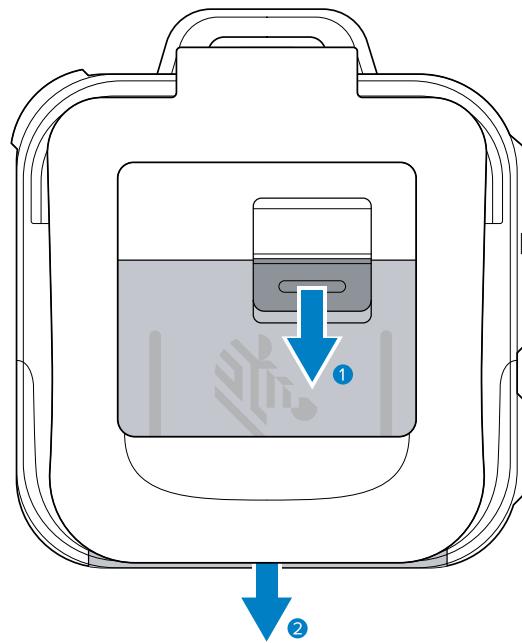
The removable battery allows for replacement and maintenance.



**CAUTION:** Ensure the device is completely dry before replacing the battery. If you recently dried the device, remove the battery with the device oriented face-up to ensure no water enters the battery cavity.

1. Power off the device.
2. Disconnect the device from all accessories.
3. Locate the battery compartment on the back of the device.

4. Identify the battery release latch. Slide this latch to disengage the battery (1).



5. Slide the battery out of the device (2).
6. Inspect the battery for any signs of damage or debris and store the battery in a safe and dry location.

## Device Pairing

The device is pairable with Bluetooth devices.

- Tap-to-pair using NFC-enabled hosts.
- Discovery mode using and holding the Power button.
- Scan-to-pair using the Bluetooth MAC address barcode.

### Pairing with NFC

The device is NFC-enabled and supports Bluetooth tap-to-pair.



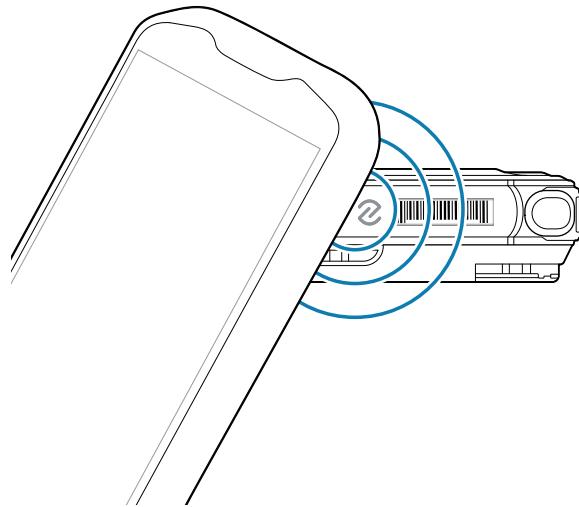
**NOTE:** The host device must support tap-to-pair.

When WS101 is already connected to a host, using NFC tap-to-pair on another host will not connect to the new host, because the WS101 is already connected and cannot accept another connection.

NFC tap-to-pair is entirely a host-side functionality; only the host can decide to connect or disconnect on NFC tap.

1. Power on the device.

2. Align the host device's NFC reader icon with the NFC icon on the device.



The device provides a successful pairing audio alert, and the LED ring flashes blue when successfully paired.

### Pairing with Bluetooth Discover

This method of pairing allows the host device to discover the device manually over Bluetooth.



**NOTE:** The serial number for the device is printed on the back of the device and is viewable by removing the battery

The WS101 is discoverable and pairable in both BT Classic & LE. When the device is already paired in only one of BT Classic or LE, it will still show up as available on the other BT. When both layers are connected, the device will not be available for further discovery or connection.

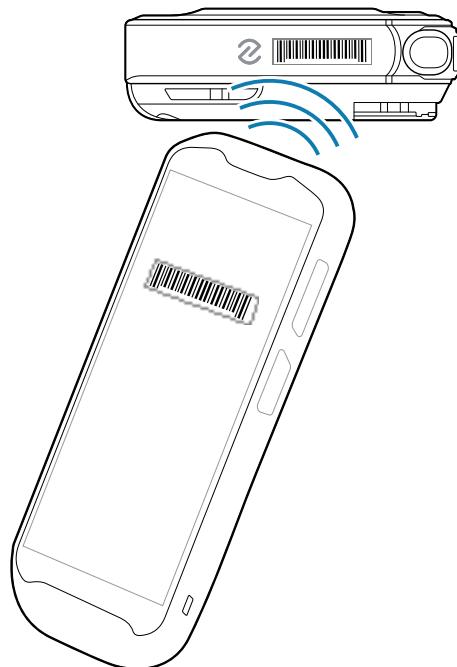
1. Power off the device.
2. Press and hold the Power button until the LED Ring flashes blue and white, and pairing is announced.
3. Navigate to the Bluetooth settings on the host device, and then scan for available devices.
4. Select the device in the list of discovered Bluetooth devices. Depending on the host device, you may need to confirm a passkey to complete the pairing.

### Pairing with a Barcode

This pairing method is for devices that support pairing via scanned Bluetooth MAC addresses, such as Zebra mobile computers.

1. Power on the device.

2. Scan the barcode label on the device using a Zebra mobile computer (with an integrated scanner) or a compatible device.



3. Accept the connection prompt on the device once the scanned MAC address triggers the device to begin pairing.

### Clearing Paired Devices

A pairing list reset removes all previously paired Bluetooth devices from the WS101's memory.

Simultaneously press and hold the Power and Volume - (minus) buttons for six seconds.

The LED flashes red and clears all paired devices from its memory. The device enters Pairing mode.

### Using the Zebra BT Comms Utility Application

The Zebra BT Communication Utility Application is a management tool that runs on the Android Mobile Host device. Use the application to view device information, configuring settings, customizing button functionality, and performing diagnostics.

Visit the Google Play store or Zebra Support web to download the Zebra BT Comms Utility application.

### Device Information

Device Information in the application provides a summary of information concerning important statuses of the device.

The Device Information section displays the following information:

- **Battery Level:** The device's current battery level displayed as a percentage.
- **Address:** The device's Bluetooth address.

- **Serial Number:** The device's unique serial number used for identification purposes.
- **Firmware Version:** The software running on the device.
- **Transport:** The different ways the device connects.
- **Paging:** Provides the ability to locate the device by calling the device.

## Device Settings

Device Settings provides a variety of ways to customize your device.

The Device Settings screen provides the following settings:

- **Tones & Voice Prompts:** Toggles short audio cues for device events, such as pairing and button presses. Voice prompts enables or disables spoken feedback for device status and actions.
- **Wake Word:** Activates the device using a spoken wake phrase. The SDK is the default method for capturing the wake word, but the communications utility also allows you to configure the host device's voice assistant to be triggered with the default wake phrase, "OK Zebra".
- **Duress Word:** Activates the device via a spoken Duress phrase. The default phrase is "OK pineapple". The action is established through custom SDK configuration.
- **Buttons:** Assigns specific functions to the the programmable buttons on the device.
- **Other Device Settings:** Configures notification controls, firmware updates, and contains the factory reset action.
- **Diagnostics:** Provides tests to check for issues concerning the device.

### Enabling or Disabling Notification Events

Notification events impact how the device provides feedback. Customize the status notifications to accommodate for your work environment.

1. Tap **Settings** to navigate to the **Device Settings** section.
2. Tap **Notification Sounds**.
3. Press the toggle button to enable **Tones** .
4. Press the toggle button to enable **Voice Prompts**.
5. Select your preferred language from the **Prompt Language** list.

### Configuring Wake Word

Use this section to control the behavior of the Wake Word voice trigger that activates the device. When enabled, saying the Wake Word activates the device. The default wake word "OK Zebra".



**NOTE:** Wake Word is enabled by default.

1. Tap **Settings** to navigate to the **Device Settings** section.
2. Tap **Wake Word**.
3. Press the toggle button to enable the **Wake Word** .

4. Select the handling of the Wake Word trigger:
  - a) **Voice Assistant:** If the device voice assistant is enabled on the host device, the wake word launches the mobile device voice assistant.
  - b) **Application Control:** Enables the use of third party app via SDK to customize the wake word. This is the default setting.

## Configuring Duress Word

Use this section to control the behavior of the Duress Word trigger. Similar to the Wake Word, the Duress Word is a secondary voice activated trigger that activates the device when enabled. The default Duress Word is "OK Pineapple".



**NOTE:** The Duress Word is enabled by default.

1. Tap **Settings** to navigate to the **Device Settings** section.
2. Tap **Duress Word**.
3. Press the the toggle button to enable or disable the Duress Word.
4. Select the handling of the Duress Word trigger:
  - a) **Duress Word Demo:** Performs the demo duress action for three seconds.
  - b) **Application Control:** Enables the use of third party app via SDK to customize the wake word. For example, speaking the duress word could automatically call security.

## Mapping Buttons

The Button section helps customize the functionality of some buttons on the device to better suit the needs of your work environment.

There are three customizable buttons on the device: P1, P2, and P3.

Button	Customized Functions	Default Function
P1	<p><b>Application Control:</b> Events are made available to applications via SDK and SPP.</p> <p><b>Battery Level Check:</b> Displays the current battery level of the device using the LED Ring.</p> <p><b>Call Functions:</b> Controls cellular call management device behavior. Tap once to answer a call and double-tap to reject the call.</p>	Call Functions
P2	<p><b>Application Control:</b> Events are made available to applications via SDK and SPP.</p> <p><b>Battery Level Check:</b> Displays the current battery level of the device using the LED Ring.</p>	Call Function: Microphone Mute

Button	Customized Functions	Default Function
	<p><b>Microphone Mute:</b> Toggle microphone mute during cellular calls.</p> <p><b>PTT:</b> When the button is pressed, sends PTT string to an integrated application via SPP interface.</p>	
P3	<p><b>Application Control:</b> Events are made available to applications via SDK and SPP.</p> <p><b>Duress Button Demo:</b> Runs the system duress Demo action for three seconds. The button must be pressed and held for three seconds.</p>	Application Control

## Customizing the Duress Action

You can customize the behavior of the device when the Duress Word is spoken or when the P3 button is pressed. Each alert type is an independent toggle to allow for full customization.

1. Tap **Settings** to navigate to the **Device Settings** section.
2. Tap **Other Device Settings**.
3. Tap **Duress Action**.
4. Enable **LED** to flash the device's LED ring during a duress event.
5. Enable **Haptic** to vibrate the device during a duress event.
6. Enable **Tone** to emit an alert tone on the device during a duress event.

## Performing a Firmware Update

Flashing your firmware helps keep the device operating at its best performance. The firmware Version section displays both your current firmware version and the firmware build ID.



**NOTE:** Never disconnect the device during the firmware update procedure.

1. Download the latest firmware from Zebra Support and upload the firmware to the Android Host device.
2. Turn on the WS101 device.
3. Open the Zebra BT Comms Utility Service on the Android Host device.
4. Tap **Settings** to navigate to the **Device Settings** section.
5. Tap **Other Device Settings**.
6. Tap **Firmware Update**.

7. Select one of the two methods for updating firmware: Tap **Select Upgrade File** or **Check for Updates Online**.
  - a) **Select Upgrade File:** Choose the downloaded firmware file and confirm. Wait for the update to complete and do not power off or disconnect the device during updating.
  - b) **Check for Updates Online:** Select the update if one is available. Wait for the update to complete and do not power off or disconnect the device during updating. This option is not currently supported.
8. Once the firmware is successfully transferred to the WS101 device, the UI asks if the firmware should be installed now or later or if the firmware install should be aborted. Restart the device if prompted.
  - a) Select **Now** to reboot the WS101 device.
  - b) Select **Later** to defer the install to the next time the WS101 device is rebooted.

### Performing a Factory Reset

A factory reset clears all custom settings and restores the device to its factory default settings.

1. Tap **Settings** to navigate to the **Device Settings** section.
2. Tap **Other Device Settings**.
3. Tap **Factory Reset**.
4. Tap **Factory Reset**.
5. Review the message appearing in the confirmation dialog and tap **OK** to proceed or **Cancel** to abort the procedure.

### Performing Diagnostics

The Diagnostics section allows for diagnostics tests to verify the audio on your device is working as expected.

1. Tap **Settings**.
2. Tap **Diagnostics**.
3. Select **Audio Test** to test the audio of the device.
  - a) Tap **Record** and speak into the device.
  - b) Tap **Playback** to listen to the output of your recording.
  - c) Tap **Play Ringtone** to play a sample of your current ringtone.

### Clearing Pairing on Dock

Use this section to automatically remove all saved Bluetooth pairings whenever the device is placed on a charging dock.



**NOTE:** Clear Pairing on Dock is enabled by default.

1. Tap **Settings** to navigate to the **Device Settings** section.
2. Tap **Other Device Settings**.
3. Enable **Clear Pairing on Dock** using the toggle button.

### Changing Device

Use this to display a list of currently connected devices and previously paired devices and select the connected device you want to view more details about, such as the MAC address of the device, or connect to a previously paired device.

1. Tap **Settings** .
2. Tap **Change Device**.
3. Select the device you want to connect. If none are available, tap **Scan to Pair** and enter the MAC address of the device you want to pair.

### Hands-Free Operation

The device is designed for flexible, hands-free communication. You can wear the device on your clothing with the lapel mount, or around your neck with a lanyard, depending on your preferences and work environment.

#### Attaching to the Lapel

Attach the included clothing clip to the back of the device to securely attach the device to your shirt, jacket, or uniform lapel. It is recommended for optimal performance that the device be no more than eight inches away from the user's mouth.

1. Ensure the fabric is flat and firm.
2. Select a location for the device on the garment that is close to the user's mouth.
3. Attach the included clothing clip to the device.
4. Slide the clip over the edge of the garment until the device fits snugly.

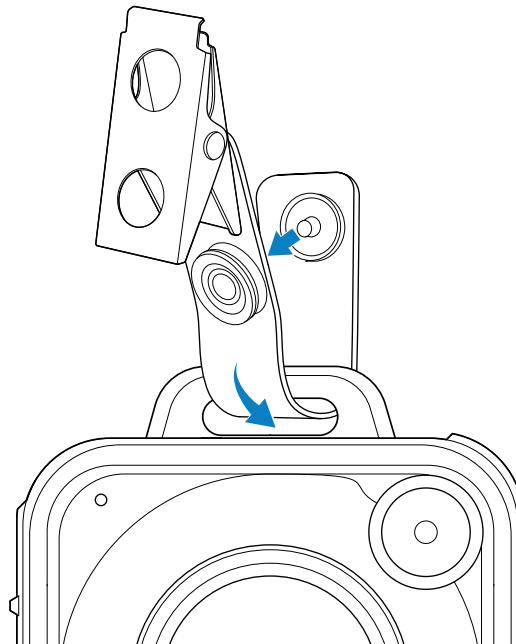


5. Confirm the device is upright, with the speaker and microphone facing toward the user.

## Attaching to a Badge Clip

Use the badge clip tower bar, located at the top of the device, to wear the device around the neck. A badge clip is not supplied with the device. It is recommended for optimal performance that the device be no more than eight inches away from the user's mouth.

1. Detach the clothing clip, located at the back of the device, by pressing the clip release buttons on the sides of the device and sliding the clip upwards.
2. Attach the badge clip, which is not included with the device, to the badge clip tower bar.



3. Ensure the device hangs upright, with the speaker facing toward the user's head.

## Operating the Device

This section provides an overview of the device's functions and how to perform various actions on the device, such as answering an incoming redialing the last called number.



**NOTE:** The top LED is for power and connectivity status notification, while the ring LED on the front of the device is primarily for battery status notifications.



**NOTE:** Ensure the device firmware is up to date to maintain accurate LED indicators.

Action	Procedure	Indicators
Answer an incoming call	Press the Power button.	The top and ring LEDs flash green and the device vibrates if vibration is enabled.
Ongoing call	N/A	The top LED is a solid red, while the ring LED blinks red.

Action	Procedure	Indicators
End an in progress call and answer a second incoming call	Double press on the Power button.	Both LED transitions from a solid red to indicate the ongoing call and then flash green to indicate the incoming call.
Placing an ongoing call on hold	Press the Power button.	The top LED transitions from a solid red to indicate the ongoing call and then alternates to flashing red and green to indicate a call is on hold.
Switch between held calls	Press the Power button	The top LED transitions from a solid red to indicate the ongoing call and then alternates to flashing red and green to indicate a call is on hold.
End an in progress call	Double press the Power button.	The top and ring LEDs turn off.
Redial the last number dialed	Press both Vol + and Vol - at the same time.	N/A
Increase or decrease the device's volume	<p>Press the Vol + button to increase the volume and the Vol - button to decrease the volume.</p> <p> <b>NOTE:</b> Volume control keys control the volume of the BT audio stream currently active.</p> <p> <b>NOTE:</b> When Android touch is enabled, use the device's volume buttons to adjust the system volume. Similar to other Bluetooth speakers or headsets, this can only be done when audio is actively playing through the device.</p> <p> <b>NOTE:</b> Media (A2DP) volume and in-call (HFP) volume are independent.</p>	N/A
Mute or unmute the microphone	Press the P2 button when on an ongoing call.	The top and ring LED flash orange.
Check battery status	N/A	When the device is not being charged, the battery status displays as a percentage on the

## Getting Started

Action	Procedure	Indicators
		ring LED. The fuller the ring, the fuller the battery. If the battery is faulty, the ring LED flashes red.
Remove all previously paired devices	Simultaneously press and hold the Power and both Vol buttons. The device enters pairing mode once it reboots.	The ring LED flashes blue before rebooting.

# Accessories

This section provides information on using the accessories for the device.

The following table lists the accessories available for the device.

Accessory	Part Number	Description
<b>Cradles</b>		
4-Slot Charge-Only Cradle	CRD-WS1X3-4SC-01	The cradle charges up to four devices at once. It requires the PWR-WUA5V45W1US power supply and the CBL-EC5X-USBC3A-01 cable.
20-Slot Charge-Only Cradle	CRD-WS1X3-20SC-01	The cradle charges up to twenty devices at once. It requires the PWR-BGA12V150W1WW power supply and a country specific AC line cord.
6-Slot Battery Charger	SAC-WS1X-6S4-01	The charger charges up to six batteries at once, keeping multiple batteries ready for use. It requires the PWR-WUA5V45W1US power supply and the CBL-EC5X-USBC3A-01 cable.
30-Slot Battery Charger	SAC-WS1X-30S4-01	The charger charges up to thirty batteries at once. It requires the PWR-BGA12V150W1WW power supply and a country specific AC line cord.
<b>Batteries</b>		
Black Battery	BTRY-WS1X-4MA-01R	480mAh battery
Blue Battery	BTRY-WS1X-4MA-01H	480mAh battery
<b>Charge and Communication Cables</b>		
USB C to USB C cable	CBL-EC5X-USBC3A-01	A USB C to USB C cable required for some cradles to connect the power supply to the cradle.
<b>Miscellaneous</b>		
Black Clothing Clip	SG-WS1X-CLPR-01	A replacement clothing clip for the black device.

Accessory	Part Number	Description
Blue Clothing Clip	SG-WS1X-CLPH-01	A replacement clothing clip for the blue device.

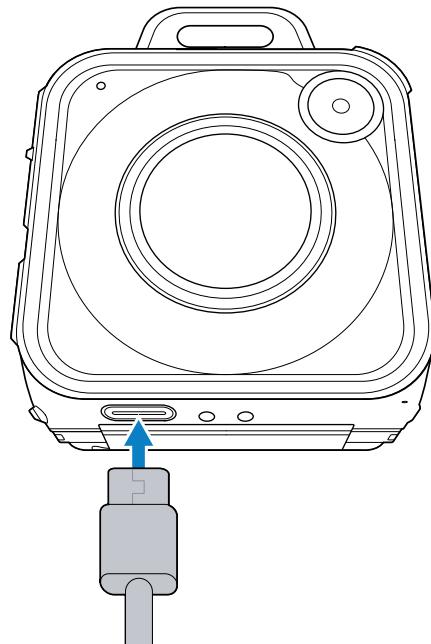
## Charging the Device

Before using the device, fully charge the battery to ensure optimal performance.

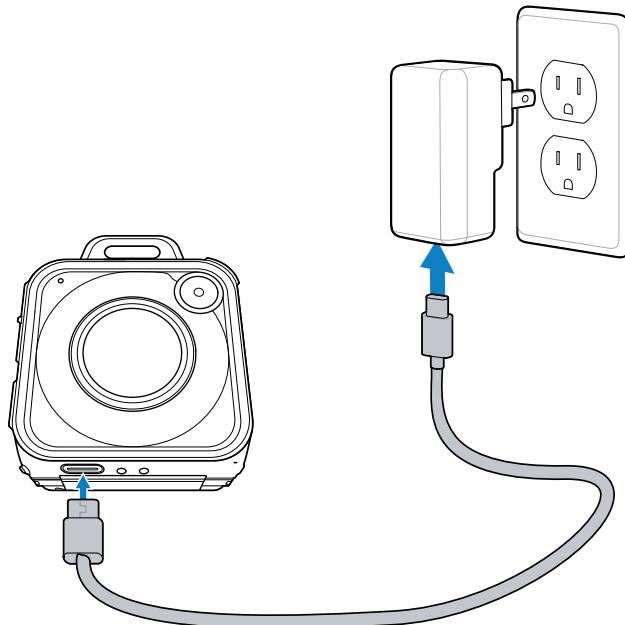


**NOTE:** The blue does not support USB-C charging. It requires on-cradle charging or remote battery charging using an external charger.

1. Connect a USB-C charging cable to the USB-C port located on the bottom of the device.



2. Connect the other end of the cable to a powered USB port, such as a wall adapter or a powered computer.



3. Verify the charging status by checking the LED Ring on the front of the device. The LED Ring illuminates yellow to indicate charging.

### LED Battery Indicator

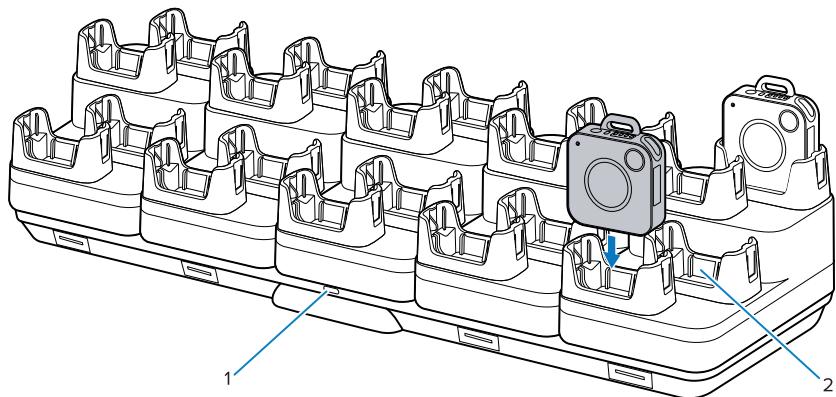
The LED Ring on the front of the device provides a variety of visual indicators.

The LED Ring visually displays the current power level of the installed battery. The LED forms a ring that illuminates progressively based on the battery's charge. A full green circle, for example, indicates the battery is fully charged, whereas a half circle indicates the battery is at fifty percent power. A complete yellow circle indicates the battery is currently charging.

## 20-Slot Charge-Only Cradle

The 20-Slot Charge-Only Cradle charges up to twenty devices simultaneously.

**Figure 6** 20-Slot Charge-Only Cradle



1	Power LED
2	Device charging slot with shim

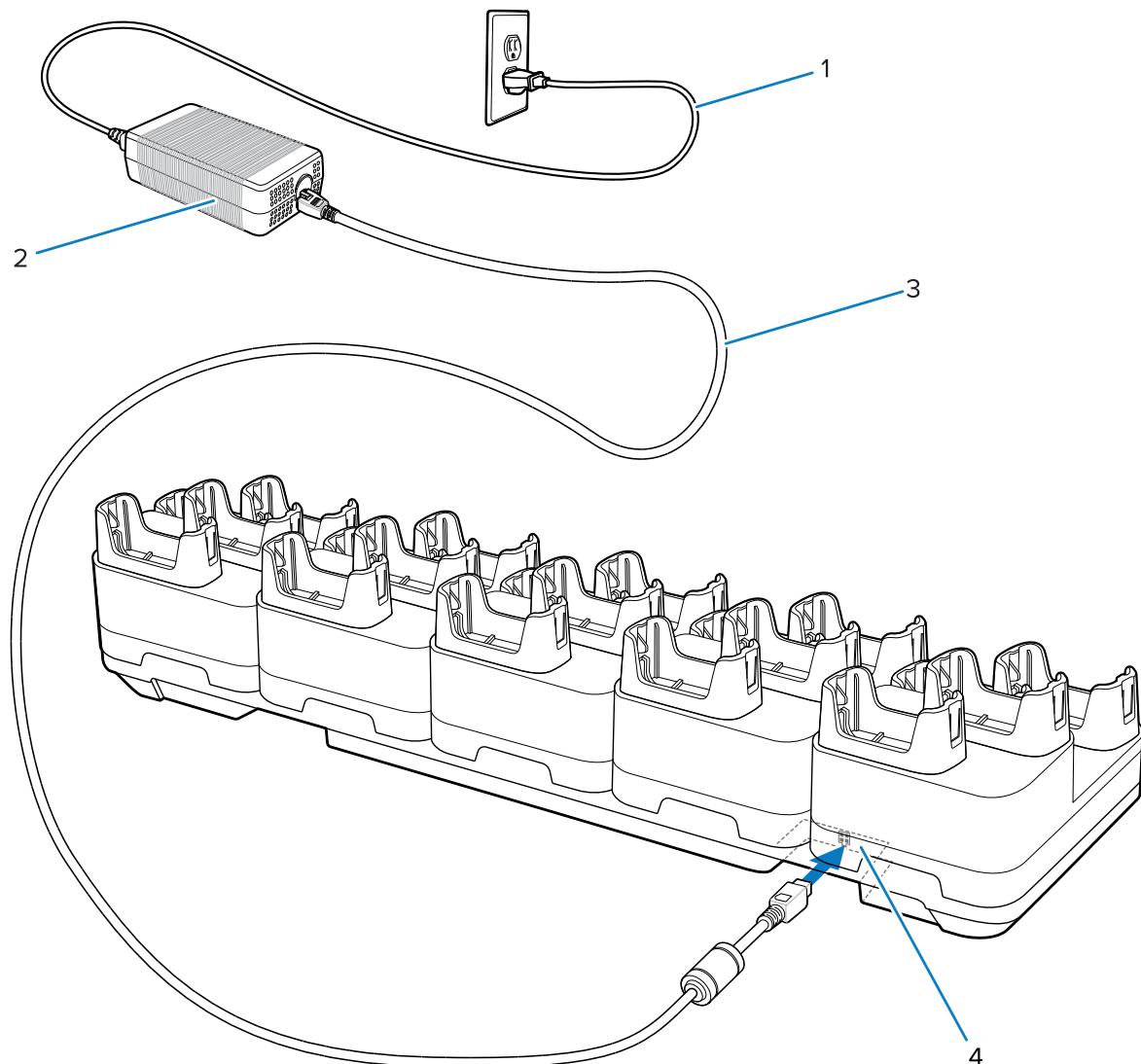


**NOTE:** Insert the device properly in the slot to charge it.

## Setup

This section shows how to set up the 20-Slot Charge-Only Cradle.

**Figure 7** 20-Slot Charge-Only Cradle

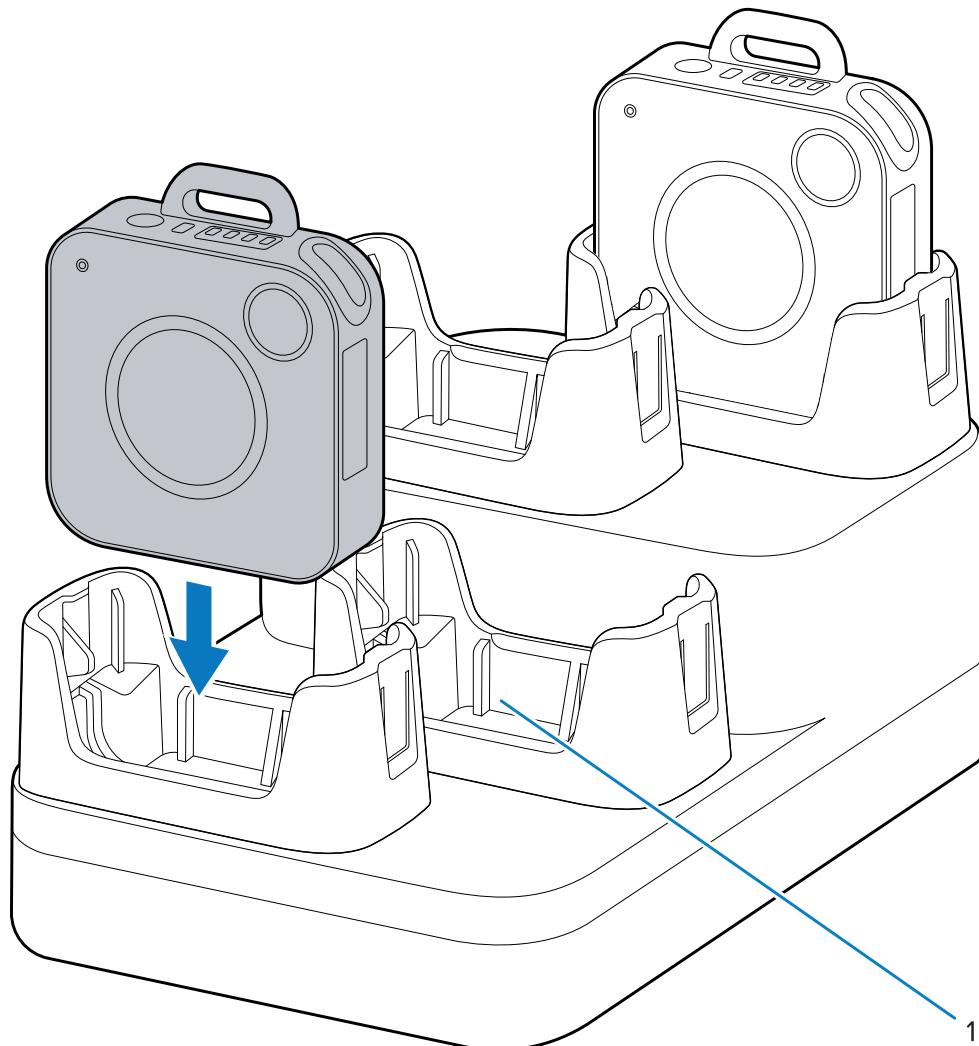


1	AC line cord
2	Power supply
3	DC line cord
4	Charging port

## 4-Slot Charge-Only Cradle

The 4-Slot Charge-Only Cradle charges up to four devices simultaneously.

**Figure 8** 4-Slot Charge-Only Cradle



1	Device charging slot with shim
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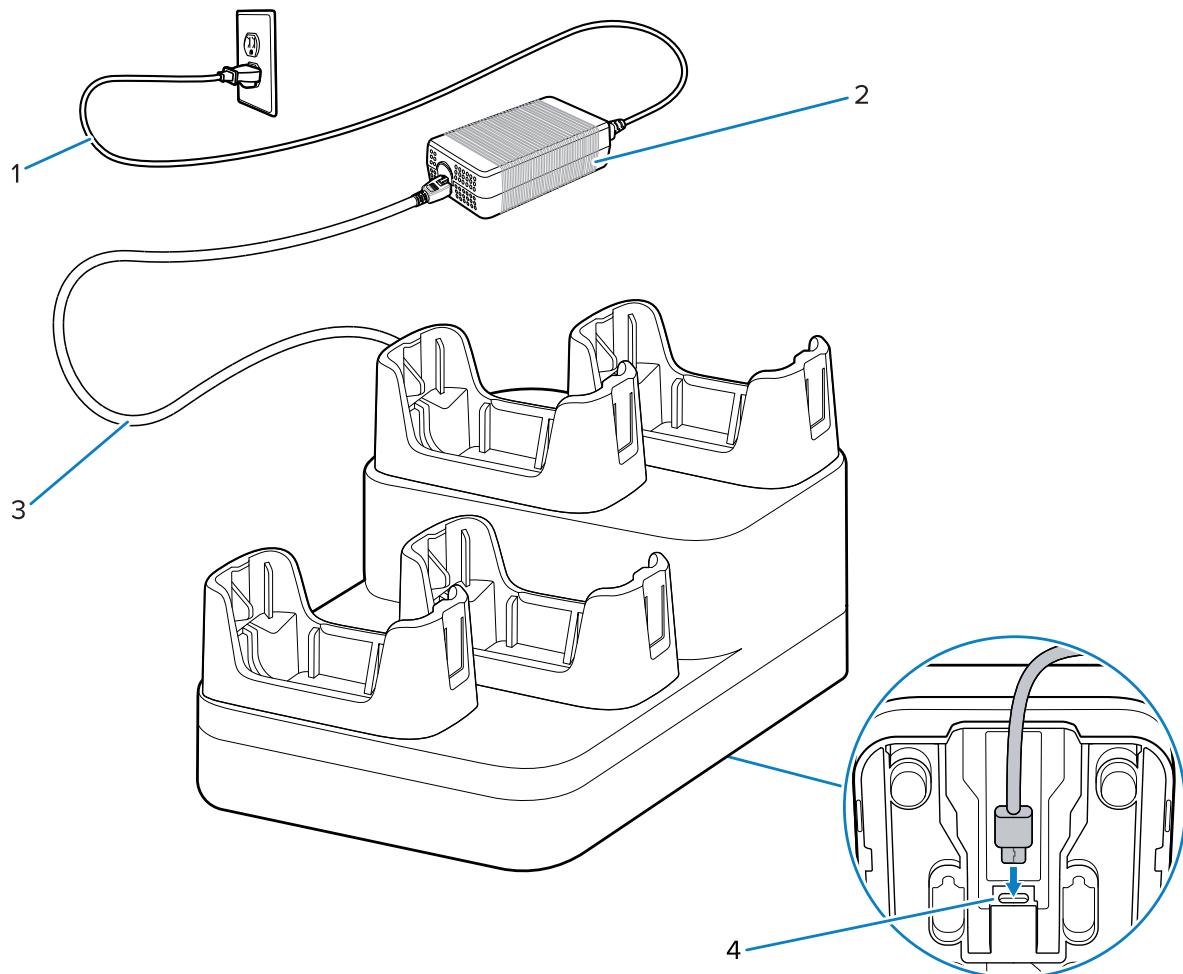


**NOTE:** Insert the device properly in the slot to charge it.

## Setup

This section shows how to set up the 4-Slot Charge-Only Cradle.

**Figure 9** 4-Slot Charge-Only Cradle

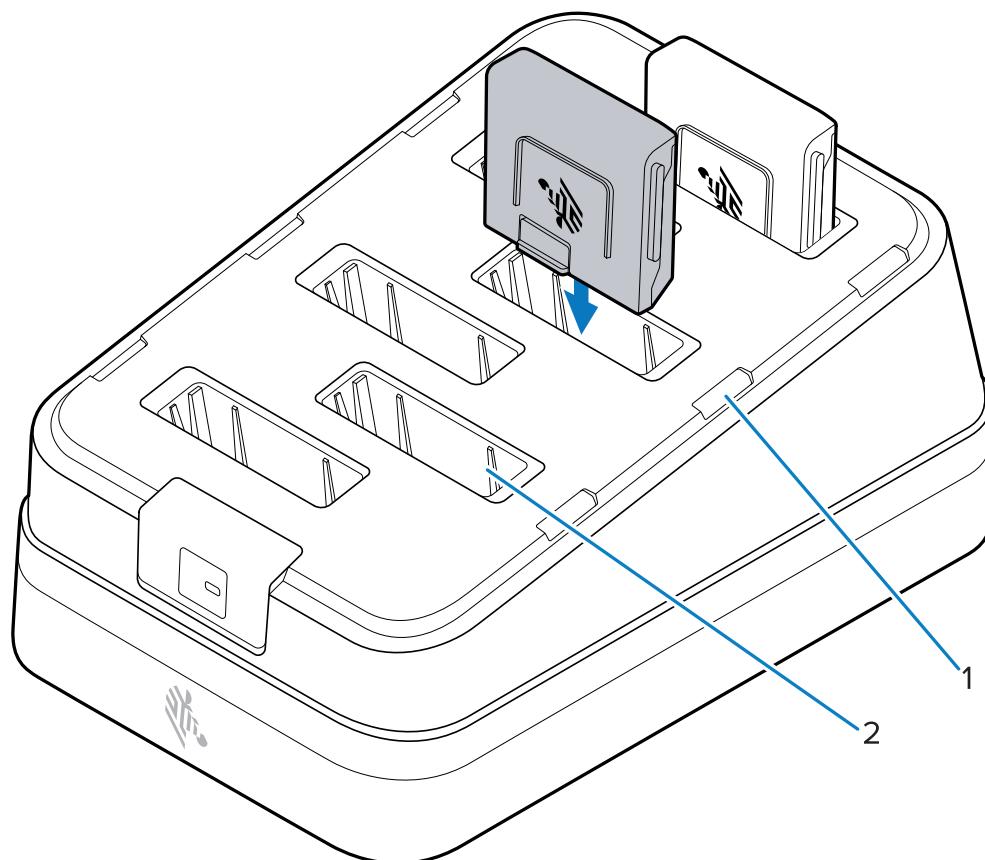


1	AC line cord
2	Power supply
3	DC line cord
4	Charging port

## 6-Slot Battery Charger

The 6-Slot Battery Charger charges up to six spare batteries.

**Figure 10** 6-Slot Battery Charger



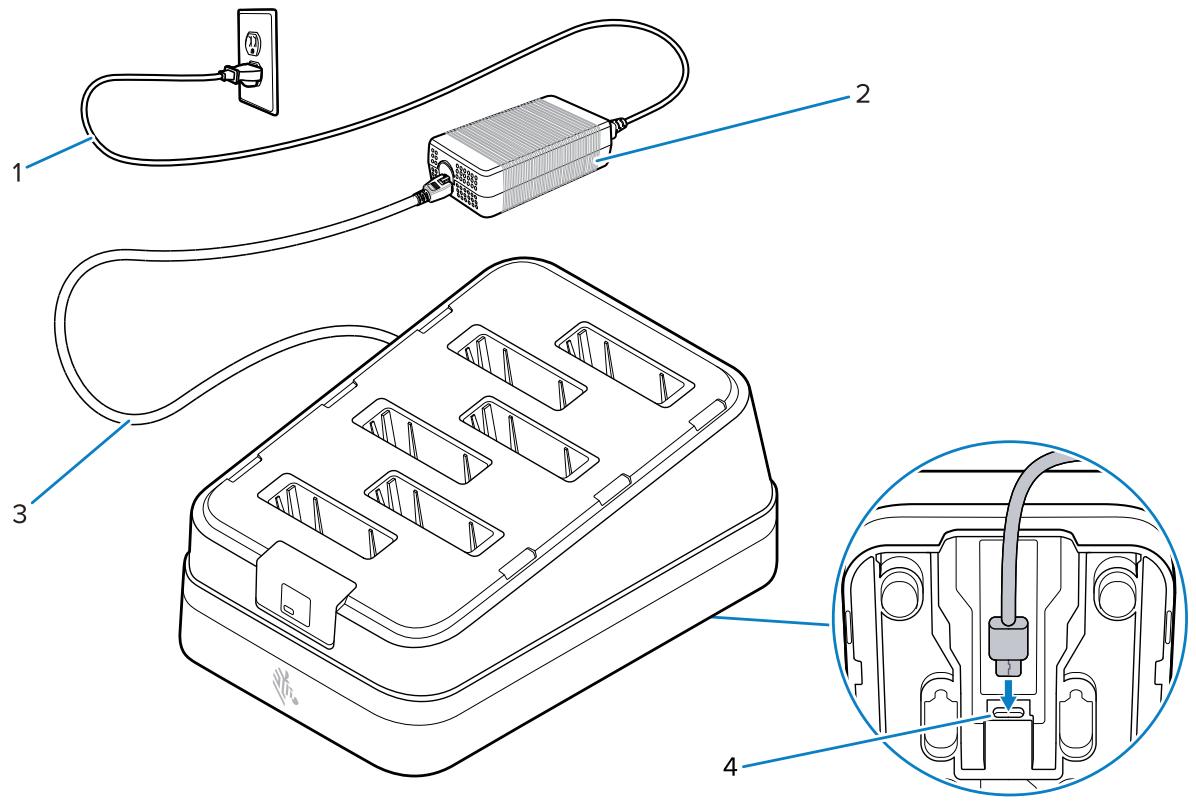
1	Charging LED
2	Battery charging slot



**NOTE:** Insert the battery properly in the slot to charge it.

## Setup

This section shows how to set up the 6-Slot Battery Charger.

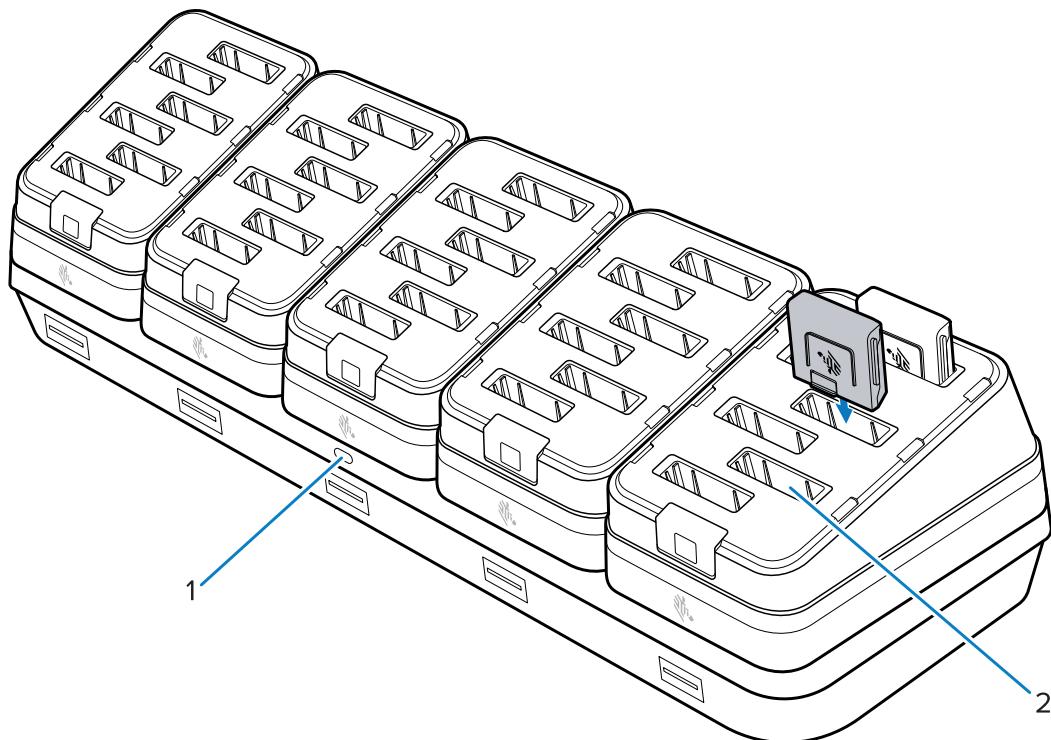
**Figure 11** 6-Slot Battery Charger

1	AC line cord
2	Power supply
3	DC line cord
4	Charging port

## 30-Slot Battery Charger

The 30-Slot Battery Charger charges up to thirty batteries simultaneously.

**Figure 12** 30-Slot Battery Charger



1	Power LED
2	Battery charging slot

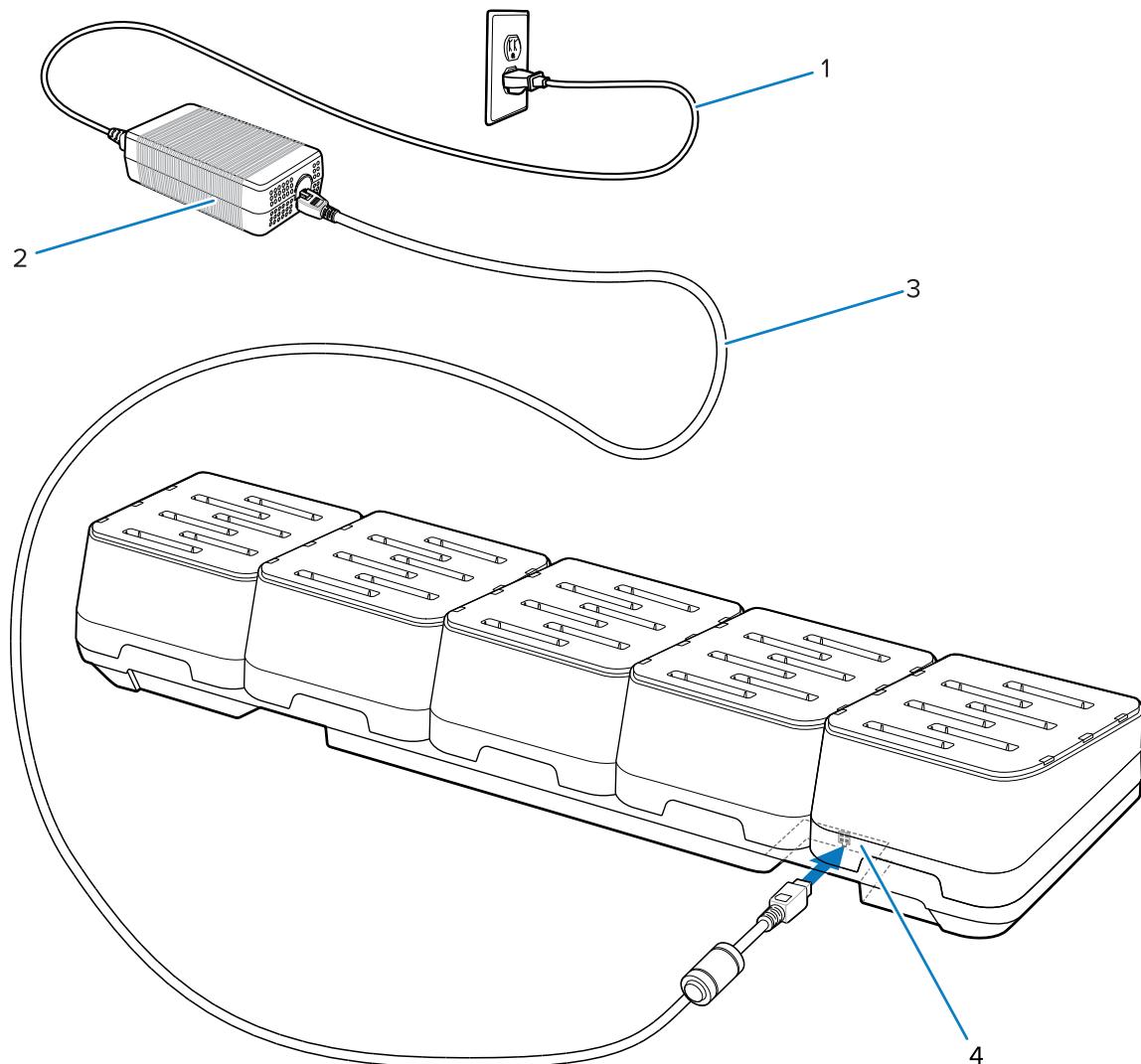


**NOTE:** Insert the battery properly in the slot to charge it.

## Setup

This section shows how to set up the 30-Slot Battery Charger.

**Figure 13** 30-Slot Battery Charger



1	AC line cord
2	Power supply
3	DC line cord
4	Charging port

# Maintenance and Troubleshooting

This section explains how to maintain and troubleshoot the device and accessories.

## Maintaining the Device

Keep the device performing reliably with regular checks and maintenance.

- 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 dusty, damp, or wet location.
- 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.
- Periodically replace the rechargeable battery to ensure maximum battery life and product performance. Battery life depends on individual usage patterns.
- Periodically inspect accessory cables and connectors. Check the inside and outside of cradles to ensure good electrical contact.

## Battery Safety Guidelines

Use and handle the battery carefully to avoid damage and safety issues.

- Only replace the battery when the device is dry and free of debris.
- 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 2°C to 46°C (35.6°F to 114.8°F).
- 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.
- Seek medical advice immediately if a battery has been swallowed.
- 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.

## Best Practices for Enterprise Mobile Devices Operating in Hot Environments and Direct Sunlight

Exceeding the operating temperature by external hot environments will cause the device's thermal sensor to notify you of a shutdown of the WAN modem or shutdown the device until the device's temperature returns to the operational temperature range.

- Avoid direct sunlight to the device - The easiest way to prevent overheating is to keep the device out of direct sunlight. The device absorbs light and heat from the sun and retains it, getting hotter the longer it remains in sunlight and heat.
- Avoid leaving the device in a vehicle on a hot day or hot surface - Similar to leaving the device out in direct sunlight, the device will also absorb the thermal energy from a hot surface or when left on the dashboard of a vehicle or seat, getting warmer the longer it remains on the hot surface or inside the hot vehicle.
- Turn off unused apps on the device. Open, unused apps running in the background can cause the device to work harder, which in turn may cause it to heat up. This will also improve your mobile computer device's battery life performance.
- Avoid turning your screen brightness up - Just the same as running background apps, turning your brightness up will force your battery to work harder and create more heat. Minimizing your screen brightness may extend operating the mobile computer device in hot environments.

## Cleaning Instructions

This section provides instructions for cleaning the device.

Use caution and avoid damaging the device when using cleaning materials.



**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 for Healthcare Devices

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



**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 types 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.



**NOTE:** For a list of approved cleaning materials, see the [Sanitize for Safety](#) fact sheet.

### 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. 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.

<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 afterward with a damp alcohol cloth or a cotton swab to avoid prolonged skin contact while handling the device.

## Cleaning Materials Required

- Alcohol wipes with 70% isopropyl alcohol
- Lens tissue
- Cotton-tipped applicators
- 70% Isopropyl alcohol
- Can of compressed air for electronics with a dispenser 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.

For consistency and optimum image capture, it is recommended to clean the camera window periodically especially when used in environments prone to dirt or dust.

## Cleaning the Device

This section describes how to clean the housing and battery of the device.

For more information on cleaning the device connector, refer to [Cleaning the Connectors](#).

### Housing

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

## Troubleshooting

If you experience unexpected behavior with your device, use this section to identify and resolve common issues.

### Troubleshooting the Device

**Table 1** Troubleshooting the Device

Problem	Cause	Solution
Device does not Turn On.	Battery not charged.	Charge or replace the battery in the device.
	Battery not installed properly.	Ensure the battery is installed properly. Go to <a href="#">Installing the Battery</a> .
Device does not pair.	Manual pairing requires the device to be turned off.	Turn off the device and try again.

**Table 1** Troubleshooting the Device (Continued)

Problem	Cause	Solution
	Device already connected to another host device.	Clear the list of previously paired devices and then re-pair with the desired host device. Go to <a href="#">Clear Pairing List</a> .
	Bluetooth is turned off on host device.	Turn on Bluetooth on the host device.
	Not within range of Bluetooth.	Make sure you are within 12 inches of the host device.
	Incorrect device selected.	Select the proper device on your host device when pairing.
	Unable to pair to a previously paired host device.	Go to the mobile device settings and clear the WS101 device from the host device list of saved devices.
	NFC not turned on.	Turn on NFC on the host device.
Device does not charge.	The battery is not seated properly.	Re-insert into the charging slot.
Device displays no LED lights when charging.	Bad power cable connection.	Check the power cable connection to the charger.
PTT Pro Button is not transmitting audio.	Incorrect settings.	Review WS101 device button mapping configuration to confirm they align with application interface expectations.

