WT6000

Wearable Computer

Integrator Guide

WT6000
INTEGRATOR GUIDE

MN-002699-03

Rev. A

February 2018

Revision History

Changes to the original guide are listed below:

Change	Date	Description
Rev A	6/2016	Initial release.
- 02	10/2016	Add support for RS5000.
- 03	2/2018	Supported stylus is capacitive, not conductive.

TABLE OF CONTENTS

ABOUT THIS GUIDE

Introduction

This guide provides information about using the WT6000 touch computer and accessories.

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

Documentation Set

The documentation set for the WT6000 is divided into guides that provide information for specific user needs.

WT6000 documentation includes:

- **WT6000 Quick Reference Guide** - describes basic set up and operation of the WT6000.
- **WT6000 User Guide** - describes how to set up, operate and program the WT6000 with Android operating system and it's accessories.
- **WT6000 Integrator Guide** (this guide) - describes how to setup and configure WT6000 and accessories.

Configurations

This guide covers the following configurations:

Configuration	Radios			Data Capture				Display	Memory		OS	Sensors	
	802.11 abgn	Bluetooth 4.0	NFC	RS4000	RS5000	RS6000	RS507	3.2" WVGA Color	1G RAM/ 4 GB Flash	2G RAM/ 16 GB Flash	Android AOSP V5.1.1	Accelerometer	Gyroscope
Standard													
WT60A0-TS0LEWR	X	X	X	X	X	X	X	X	X		X	X	X

Software Versions

To determine the current software versions, touch 🔧 > **About device**.

- Model number - Displays the model number.
- Android version - Displays the operating system version.
- Kernel version - Displays the kernel version number.
- Build number - Displays the software build number.

To determine the device serial number, touch 🔧 > **About device** > **Status**.

- Serial number - Displays the serial number.

Chapter Descriptions

Topics covered in this guide are as follows:

- Chapter 1, Getting Started, provides information on getting the mobile computer up and running for the first time.
- Chapter 2, Accessories, describes the accessories available for the mobile computer and how to use the accessories with the mobile computer.
- Chapter 3, USB Communication, explains how to perform Bluetooth functionality on the mobile computer.
- Chapter 4, DataWedge Configuration, describes how to use and configure the DataWedge application.
- Chapter 5, Administrator Utilities, provides information for using the suite of administrative tools for configuring the WT6000.
- Chapter 5, Settings, provides the settings for configuring the WT6000.
- Chapter 6, Application Deployment, provides information for developing and managing applications.
- Chapter 7, Maintenance and Troubleshooting, includes instructions on cleaning and storing the mobile computer, and provides troubleshooting solutions for potential problems during WT6000 operation.

- Appendix A, Specifications, includes a table listing the technical specifications for the WT6000.

Notational Conventions

The following conventions are used in this document:

- "touch computer" refers to the Zebra WT6000 touch computer.
- *Italics* are used to highlight the following:
  - Chapters and sections in this guide
  - Related documents
- **Bold** text is used to highlight the following:
  - Dialog box, window and screen names
  - Drop-down list and list box names
  - Check box and radio button names
  - Icons on a screen
  - Key names on a keypad
  - Button names on a screen.
- Bullets (•) indicate:
  - Action items
  - Lists of alternatives
  - Lists of required steps that are not necessarily sequential.
- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.

Related Documents and Software

The following documents provide more information about the WT6000.

- *WT6000 Quick Start Guide, p/n MN-002700-xx*
- *WT6000 Regulatory Guide*, p/n MN-002271-xx
- *WT6000 User Guide*, p/n MN-002698-xx
- *Rack/Wall Mount Bracket Installation Guide*, p/n MN-002412-xx

For the latest version of this guide and all guides, go to: http://www.zebra.com/support.

Service Information

If you have a problem with your equipment, contact Zebra Global Customer Support for your region. Contact information is available at: http://www.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.

CHAPTER 1 GETTING STARTED

Introduction

This chapter describes the features of the WT6000 and explains how to install and charge the battery and how to reset the WT6000.

Unpacking

Carefully remove all protective material from the WT6000 and save the shipping container for later storage and shipping.

Verify that box contains all the equipment listed below:

- WT6000
- Battery
- Regulatory Guide.

Inspect the equipment for damage. If you are missing any equipment or if you find any damaged equipment, contact Support immediately. See *Service Information on page xiii* for contact information.

Removing the Screen Protection Film

A screen protection film is applied to the WT6000 screen to protect the screen during shipping. To remove the screen protector, carefully lift the thin film off the display.

Features
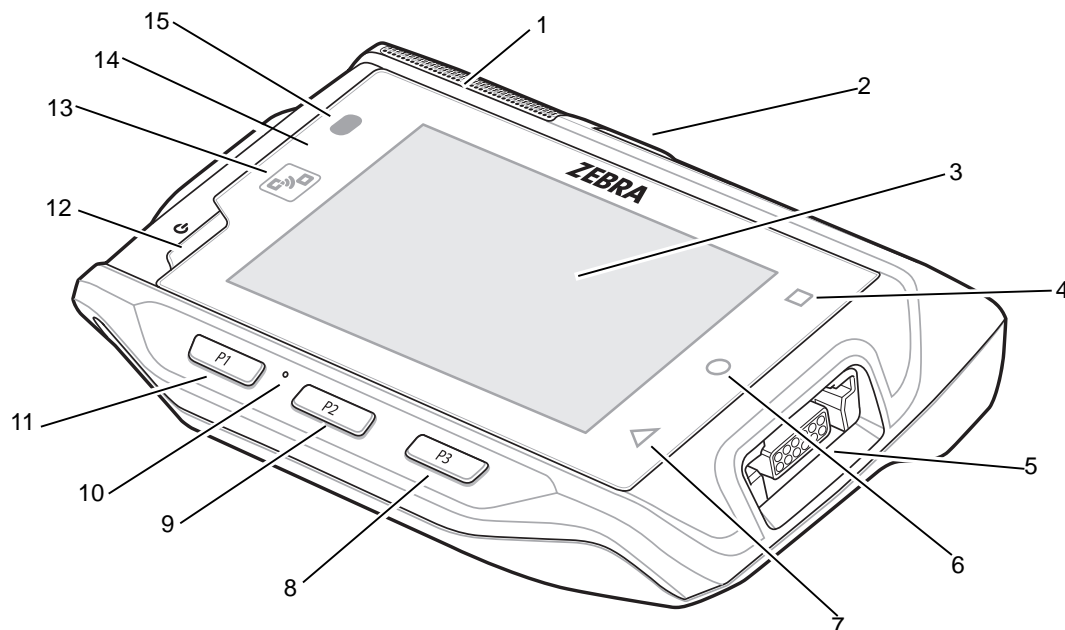
Figure 1-1   *Front View*

Table 1-1   *Front View Descriptions*

Number	Item	Function
1	Speakers	Provides audio output for video and music playback.
2	Battery	Provides power to the device.
3	Display	Displays all information needed to operate the WT6000.
4	Recent Button	Displays recently open applications.
5	Right Interface Connector	Provides USB host and client communication, audio and device charging via cables and accessories.
6	Home Button	Displays the Home screen.
7	Back Button	Displays the previous screen.
8	P3 Button	Initiates Push-To-Talk communication (programmable).
9	P2 Button	Increase volume.
10	Microphone	Use for communication in Headset mode.
11	P1 Button	Decreases volume.
12	Power Button	Turns the display on and off. Press and hold to reset the device and power off.
13	NFC Antenna	Provides communication with other NFC-enabled devices.

Table 1-1   *Front View Descriptions (Continued)*

Number	Item	Function
14	Ambient Light Sensor	Determines ambient light for controlling display backlight intensity.
15	Charge Status LED	Indicates battery charging status while charging.
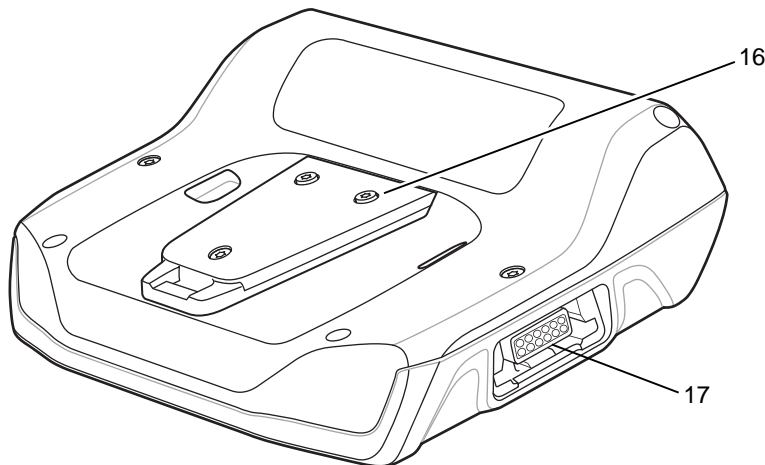
Figure 1-2   *Back View*

Table 1-2   *Back View Descriptions*

Number	Item	Function
16	Cleat	Provides alignment and secures the WT6000 to the wrist mount.
17	Left Interface Connector	Provides USB host and client communication, audio and device charging via cables and accessories.

Setup

Perform these procedures to start using the WT6000 for the first time.

1. Install the battery.
2. Charge the WT6000.
3. Power on the WT6000.

Installing the Battery

To install the battery:

1. Insert the silver end of the battery into the battery well.
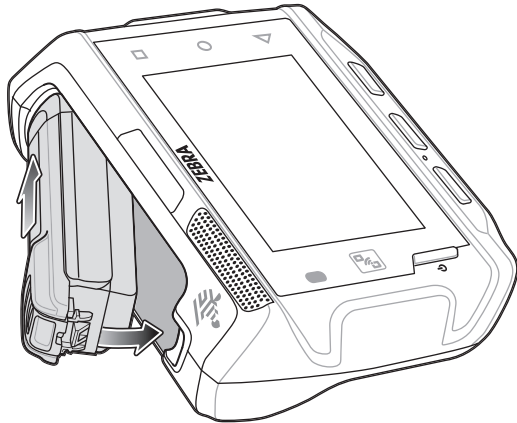
Figure 1-3   *Battery Installation*

2.   Press the battery down until it snaps into place.

Charging the Battery

Before using the WT6000 for the first time, charge the battery using a cable or a cradle with the appropriate power supply. For information about the accessories available for the WT6000, see Chapter 2, Accessories.

The 3,350 mAh battery fully charges in approximately four hours at room temperature.

Charge batteries in temperatures from 0°C to 40°C (32°F to 104°F). The WT6000 or accessory always performs battery charging in a safe and intelligent manner. At higher temperatures (e.g. approximately +37°C (+98°F)) the WT6000 or accessory may for small periods of time alternately enable and disable battery charging to keep the battery at acceptable temperatures. The WT6000 or accessory indicates when charging is disabled due to abnormal temperatures via its LED.

1.   To charge the main battery, connect the charging accessory to the appropriate power source.

2.   Insert the WT6000 into a cradle or attach to a cable. The WT6000 turns on and begins charging.

When using the USB Charge cable, the Notification/Charge LED lights amber while charging, then turns solid green when fully charged.

When using a cradle, the cradle Charge LED lights amber while charging, then turns solid green when fully charged.

Table 1-3   *Charge LED Charging Indicators*

State	Indication
Off	WT6000 is not charging. WT6000 is not inserted correctly in the cradle or connected to a power source. Charger/cradle is not powered.
Solid Amber	Healthy battery is charging.
Solid Green	Healthy battery charging is complete.
Fast Blinking Red (2 blinks/second)	Charging error, e.g.: - Temperature is too low or too high. - Charging has gone on too long without completion (typically eight hours).
Solid Red	Unhealthy battery is charging or fully charged.

⚠️ **IMPORTANT** When trying to power on the device, a quick red blink of the Charging LED indicates that it does not have enough battery power to turn on. Charge the battery or replace it.

Starting the WT6000

When installed in a cradle, the WT6000 starts automatically as soon as power is applied.

When a charged battery is installed and the WT6000 is turned off, press the Power button to turn on.

When the WT6000 is powered on for the first time, it initializes its system. The splash screen appears for a short period of time.
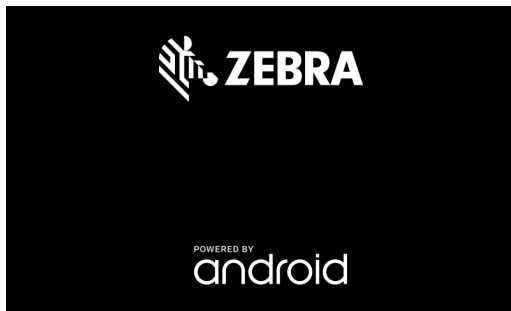
Figure 1-4   *Splash Screen*

The splash screen is followed by the boot animation screen and then the **Home Screen**.
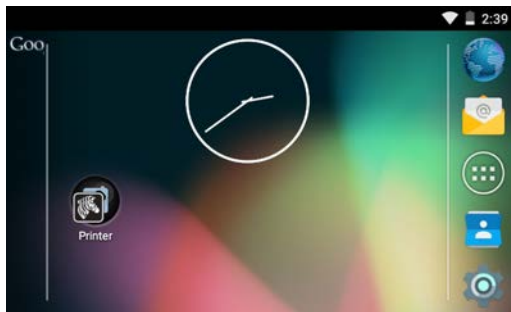
Figure 1-5   *Home Screen*

Resetting the WT6000

There are four reset functions:

- Soft reset
- Hard reset
- Enterprise reset
- Factory reset.

Performing a Soft Reset

Perform a soft reset if applications stop responding.

1. Press the power button until the menu appears.

2. Touch **Reset**.

3. The device reboots.

Performing a Hard Reset

⚠️ **CAUTION** Perform a hard reset only if the WT6000 stops responding.

To perform a hard reset, simultaneously press and hold the power button, P1 button and P2 button for five seconds. When the device reboots, release the buttons.

Performing an Enterprise Reset

An Enterprise Reset erases all data in the /cache and /data partitions and clears all device settings, except those in the /enterprise partition.

Before performing an Enterprise Reset, copy all applications and the key remap configuration file that you want to persist after the reset into the /enterprise/usr/persist folder.

1. Download the Enterprise Reset file from the Support Central web site.

2. Copy the Enterprise Reset file to the root of the Internal Storage. See Chapter 3, USB Communication.

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

4. Touch **Power off**.

5. Touch **OK**. The device turns off.

6. Press and hold the Power button and the P1 button.

7. When the Zebra splash screen appears, release the buttons.

   The System Recovery Screen appears.

8. Press the P1 and P2 buttons to navigate to the **apply update from internal storage** option.

9. Press the P3 button.

10. Press the P1 and P2 buttons to navigate to the Enterprise Reset file.

11. Press the P3 button. The Enterprise Reset occurs and then the device resets.

Performing a Factory Reset

A Factory Reset erases all data in the /cache, /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.

1. Download the Enterprise Reset file from the Support Central web site.

2. Copy the Factory Reset file to the root of Internal Storage. See Chapter 3, USB Communication.

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

4. Touch **Power off**.

5. Touch **OK**. The device turns off.

6. Press and hold the Power button and the P1 button.

7. When the Zebra splash screen appears, release the button and trigger.

   The System Recovery Screen appears.

8. Press the P1 and P2 buttons to navigate to **apply update from internal storage** option.

9. Press the P3 button.

10. Press the P1 and P2 buttons to navigate to the Factory Reset file.

11. Press the P3 button. The Factory Reset occurs and then the device resets.

CHAPTER 2 ACCESSORIES

Introduction

The WT6000 accessories provide a variety of product support capabilities. *Table 2-1* lists the accessories available.

Table 2-1 *Accessories*

Accessory	Part Number	Description
Cradles		
1-Slot WT6000 Charging Cradle	CRD-NGWT-1S1BU-01	Provides WT6000 and spare battery charging and USB communication with a host computer. Use with power supply, p/n PWRS-14000-148R and country specific grounded AC line cord.
2-Slot WT6000/RS6000 Charging Cradle	CRD-NWTRS-2SUCH-01	Provides WT6000 and RS6000 charging and USB communication with a host computer. Use with power supply, p/n PWRS-14000-148R and country specific grounded AC line cord.
5-Slot WT6000 Charge Only Cradle	CRD-NGWT-5S5BC-01	Charges up to five WT6000 devices and five spare batteries. Use with power supply, p/n PWRS-14000-241R, DC line cord, p/n 50-16002-029R and country specific grounded AC line cord.
10-Slot WT6000/RS6000 Charge Only Cradle	CRD-NWTRS-10SCH-01	Charges up to five WT6000 devices and up to five RS6000 scanners. Use with power supply, p/n PWRS-14000-241R, DC line cord, p/n 50-16002-029R and country specific grounded AC line cord.
10-Slot WT6000 Charge Only Cradle	CRD-NGWT-10SCH-01	Charges up to 10 WT6000 devices. Use with power supply, p/n PWRS-14000-241R, DC line cord, p/n 50-16002-029R and country specific grounded AC line cord.

Table 2-1 *Accessories (Continued)*

Accessory	Part Number	Description
5-Slot WT6000 Ethernet Cradle	CRD-NGWT-5S5BE-01	Charges up to five WT6000 devices and five spare batteries and provides Ethernet communication. Use with power supply, p/n PWRS-14000-241R, DC line cord, p/n 50-16002-029R and country specific grounded AC line cord.
Batteries and Chargers		
Replacement Battery	BTRY-NWTRS-33MA-01	Replacement battery for WT6000 and RS6000 (single pack).
4-Slot Battery Charger	SAC-NWTRS-4SCH-01	Charges up to four spare batteries. Requires power supply, p/n PWRS-14000-148R and country specific grounded AC line cord.
20-Slot Battery Charger	SAC-NWTRS-20SCH-01	Charges up to 20 spare batteries. Use with power supply, p/n PWRS-14000-241R, DC line cord, p/n 50-16002-029R and country specific grounded AC line cord.
Mounting Brackets		
Rack Mount Bracket	BRKT-SCRD-SMRK-01	Use for mounting a 5-Slot cradle or four 4-Slot Battery Chargers on a rack.
Cables		
Headset Adapter Cable with Quick Disconnect (Long)	CBL-NGWT-AUQDLG-01	Connects a wired headset to the WT6000 on a Hip Mount.
Headset Adapter Cable with Quick Disconnect (Short)	CBL-NGWT-AUQDST-01	Connects a wired headset to the WT6000 on a Wrist Mount.
USB/Charge Cable	CBL-NGWT-USBCHG-01	Provides USB communication and power to the WT6000. Requires power supply PWRS-14000-249R and country specific un-grounded AC line cord.
Vibrating Cable	CBL-NGWT-HDVBAP-01	Provides haptic notification feedback.
DC Y Cable	25-122026-02R	Provides power from the PWRS-14000-148R power supply to two 4-Slot Battery Chargers.
DC 4-way Cable	25-85992-01R	Provides power from the PWRS-14000-241R power supply to four 4-Slot Battery Chargers.
DC Line Cord	50-16002-029R	Provides power from the power supply to the 5-Slot Charge Only Cradle, 5-Slot Ethernet Cradle, 5-Slot Charge Only Cradle with Battery Charge and 5-Slot Ethernet Cradle with Battery Charger.
Power Supplies		
Power Supply	PWRS-14000-249R	Provides power to the device using the USB and Charging Cable. Requires country specific un-grounded AC line cord.

Table 2-1   *Accessories (Continued)*

Accessory	Part Number	Description
Power Supply	PWRS-14000-148R	Provides power to the 2–Slot cradles and 4-Slot Spare Battery Charger. Requires country specific grounded AC line cord.
Power Supply	PWRS-14000-241R	Provides power to the 5-Slot Charge Only Cradle, 5-Slot Ethernet Cradle, 5-Slot Charge Only Cradle with Battery Charger and the 5-Slot Ethernet Cradle with Battery Charger. Requires DC Line Cord, p/n 50-16002–029R and country specific grounded AC line cord.
Miscellaneous		
Screen Protectors	MISC-WT6X-SCRN-01	Provides additional protection for display (5-pack).
Soft Goods		
WT6000 Hip Mount	SG-NGWT-HPMNT-01	Provides mounting the WT6000 on a belt.
WT6000 Wrist Mount (Small/Medium)	SG-NGWT-WRMTS-01	Replacement strap.
WT6000 Wrist Mount (Medium/Large)	SG-NGWT-WRMTL-01	Replacement strap.
WT6000 Spare Straps (Small/Medium)	SG-NGWT-WSTPST-01	Replacement strap.
WT6000 Spare Straps (Medium/Large)	SG-NGWT-WSTPLN-01	Replacement strap.
WT6000 Spare Comfort Pad	SG-NGWT-CMPD-01	Replacement Comfort Pad for the Wrist Mount.

1-Slot WT6000 USB Charging Cradle

> **NOTE** Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-1*.

The 1-Slot WT6000 Charging Cradle:

- provides 5.4 VDC (nominal) power for operating the WT6000
- provides USB communication with a host computer
- charges a spare battery.
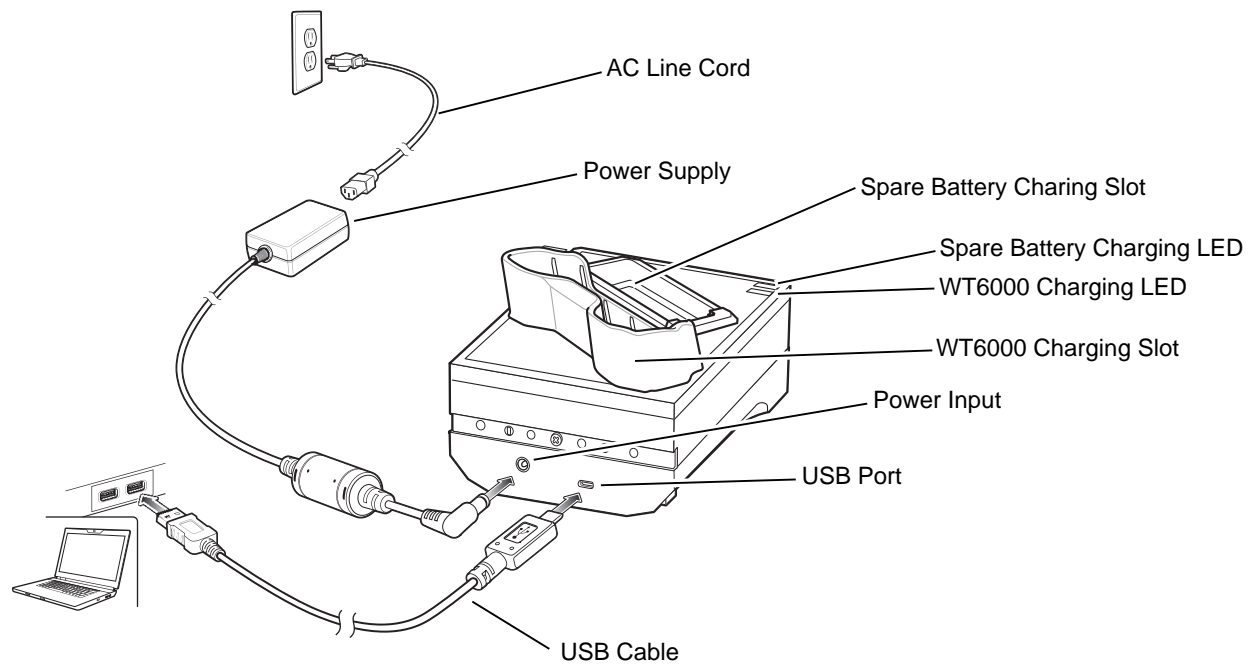
Figure 2-1   *1-Slot WT6000 Charging Cradle Setup*

Charging the Device

1. Insert either end of the WT6000 into the WT6000 charging slot.
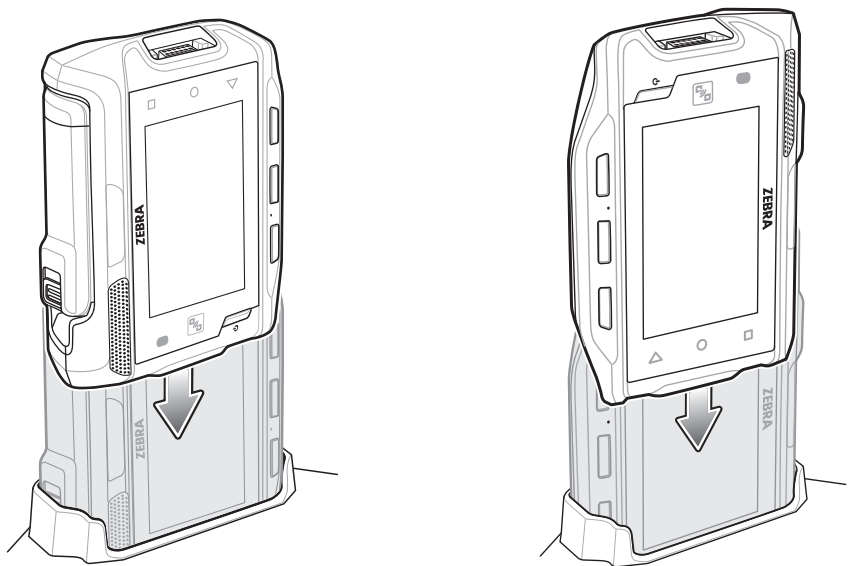
Figure 2-2   *Insert WT6000 into Cradle*

2.   Ensure the WT6000 is seated properly. The WT6000 Charge LED blinks indicating charging.

Charging the Spare Battery

1.   Insert a spare battery into the spare battery slot.
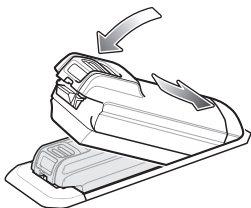
Figure 2-3   *Insert Battery into Cradle*

2.   Ensure the battery is seated properly. The Spare Battery Charging LED blinks indicating charging.

Battery Charging

The WT6000 Charging LED indicates the status of the battery charging in the device. The Spare Battery Charging LED indicates the status of the spare battery charging. See *Table 2-2 on page 2-5*. The 3,350 mAh battery fully charges in less than four hours at room temperature.

Table 2-2   *Spare Battery Charging LED Indicators*

State	Indication
Off	The WT6000, RS6000 or battery is not charging. The WT6000, RS6000 or battery is not inserted correctly in the cradle. Cradle is not powered.
Solid Amber	Battery is charging.
Solid Green	Battery charging is complete.

Table 2-2   *Spare Battery Charging LED Indicators (Continued)*

State	Indication
Fast Blinking Red (2 blinks/second)	Charging error, e.g.: - Temperature is too low or too high. - Charging has gone on too long without completion (typically eight hours).
Solid Red	Unhealthy battery is charging or fully charged.

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 (e.g. 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 WT6000/RS6000 Charging Cradle

✓ **NOTE** Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-1*.

The 2-Slot WT6000/RS6000 Charging Cradle:

- provides 5.4 VDC (nominal) power for operating the WT6000 and RS6000.
- provides USB communication with a host computer
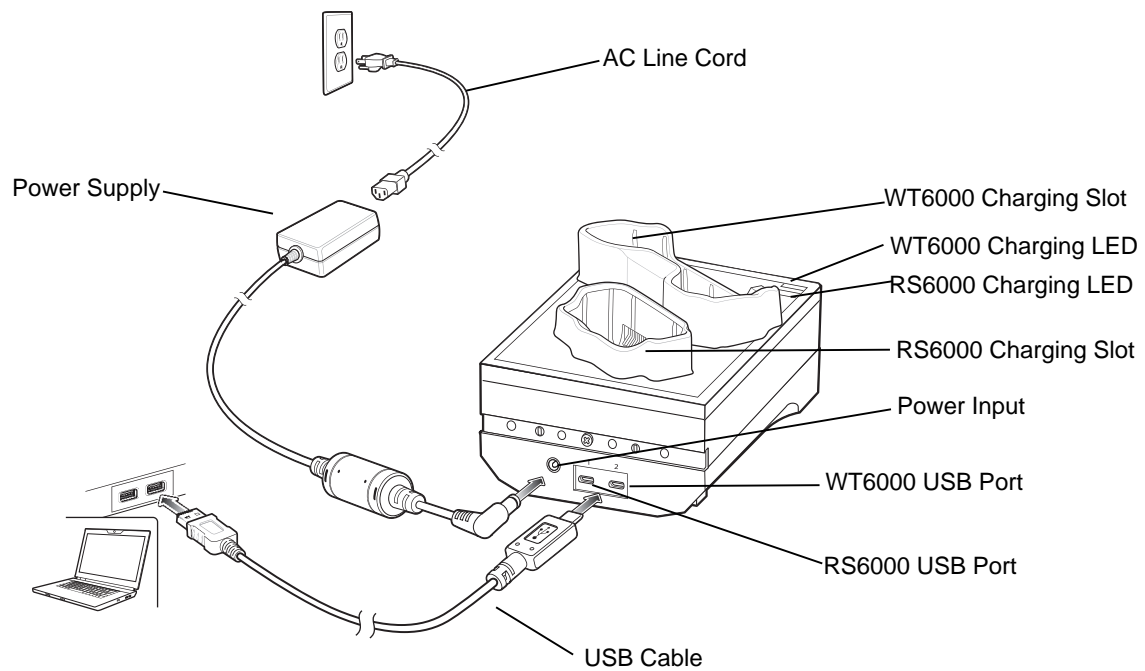
Figure 2-4   *2-Slot WT6000/RS6000 Charging Cradle Setup*

Charging the WT6000

1.   Insert the WT6000 into the WT6000 charging slot.
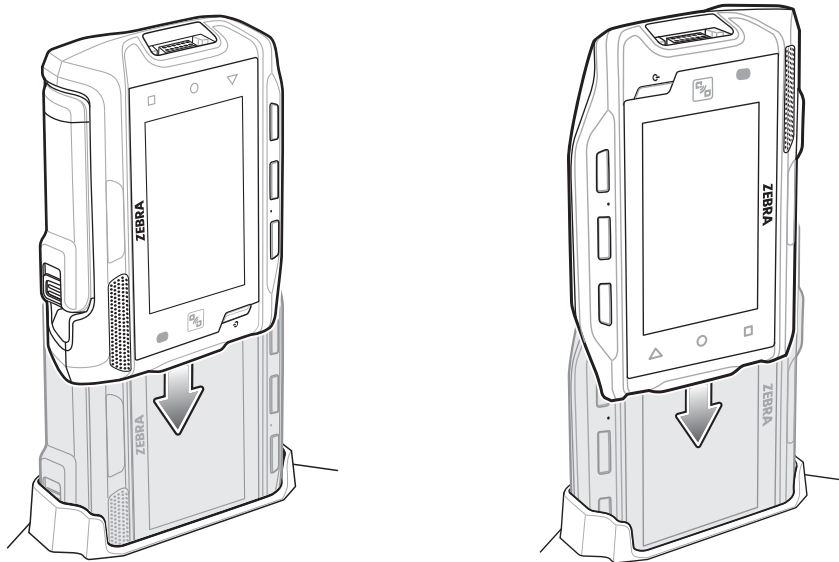
Figure 2-5   *Insert WT6000 into Cradle*

2. Ensure the WT6000 is seated properly. The WT6000 Charging LED blinks indicating charging.

Charging the RS6000

1. Insert the RS600 into the RS6000 charging slot.
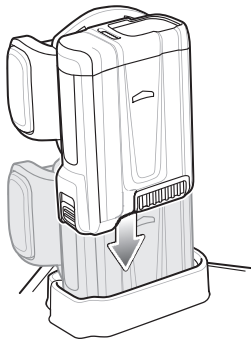
Figure 2-6   *Insert RS6000 into Cradle*

2. Ensure the RS6000 is seated properly. The RS6000 Charging LED blinks indicating charging.

Battery Charging

The WT6000 Charging LED indicates the status of the battery charging in the device. The RS6000 Battery Charging LED indicates the status of the battery charging in the device. See *Table 2-2 on page 2-5*. The 3,350 mAh battery fully charges in less than four hours at room 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 (e.g. 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.

5-Slot WT6000 Charge Only Cradle

✓ *NOTE* Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-1*.

The 5-Slot Charge Only Cradle:

- Provides 5.4 VDC (nominal) power for operating up to five WT6000 devices.
- Simultaneously charges up to five WT6000 devices.
- Simultaneously charges up to five spare batteries.
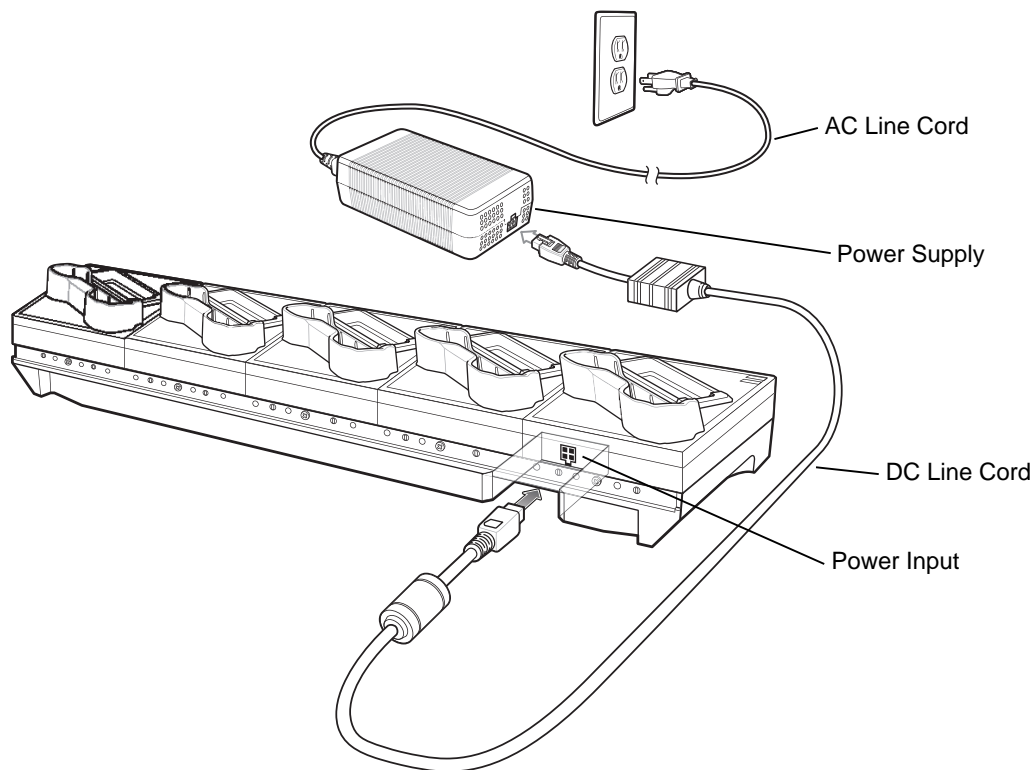
Figure 2-7   *5-Slot WT6000 Charge Only Cradle Setup*

Charging the WT6000

To Charge the WT6000:

1. Insert the WT6000 in a WT6000 charging slot.
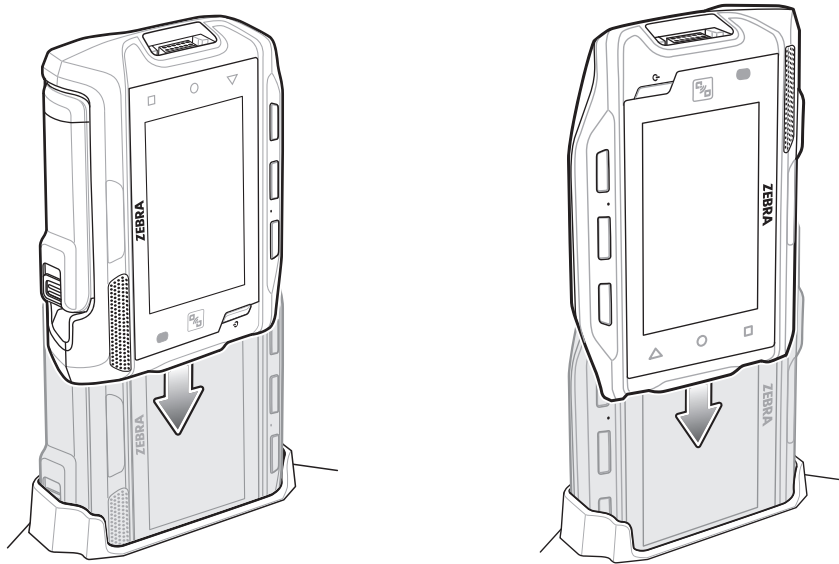
Figure 2-8 *Insert WT6000 into Cradle*

2. Ensure that the WT6000 is properly seated in the charging slot.

Charging the Spare Battery

1. Insert a spare battery into the spare battery slot.
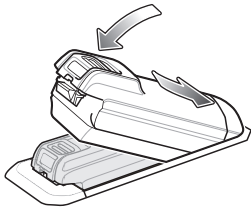
Figure 2-9 *Insert Battery into Cradle*

2. Ensure the battery is seated properly. The Spare Battery Charging LED blinks indicating charging.

Battery Charging

The WT6000 Charging LED indicates the status of the battery charging in the device. The Spare Battery Charging LED indicates the status of the spare battery charging. See *Table 2-2 on page 2-5*. The 3,350 mAh battery fully charges in less than four hours at room temperature.

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

10-Slot WT6000/RS6000 Charge Only Cradle

✓ **NOTE** Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-1*.

The 10-Slot Charge Only Cradle:

- Provides 5.4 VDC (nominal) power for operating the WT6000 and RS6000.
- Simultaneously charges up to five WT6000 devices.
- Simultaneously charges up to five RS6000 devices.
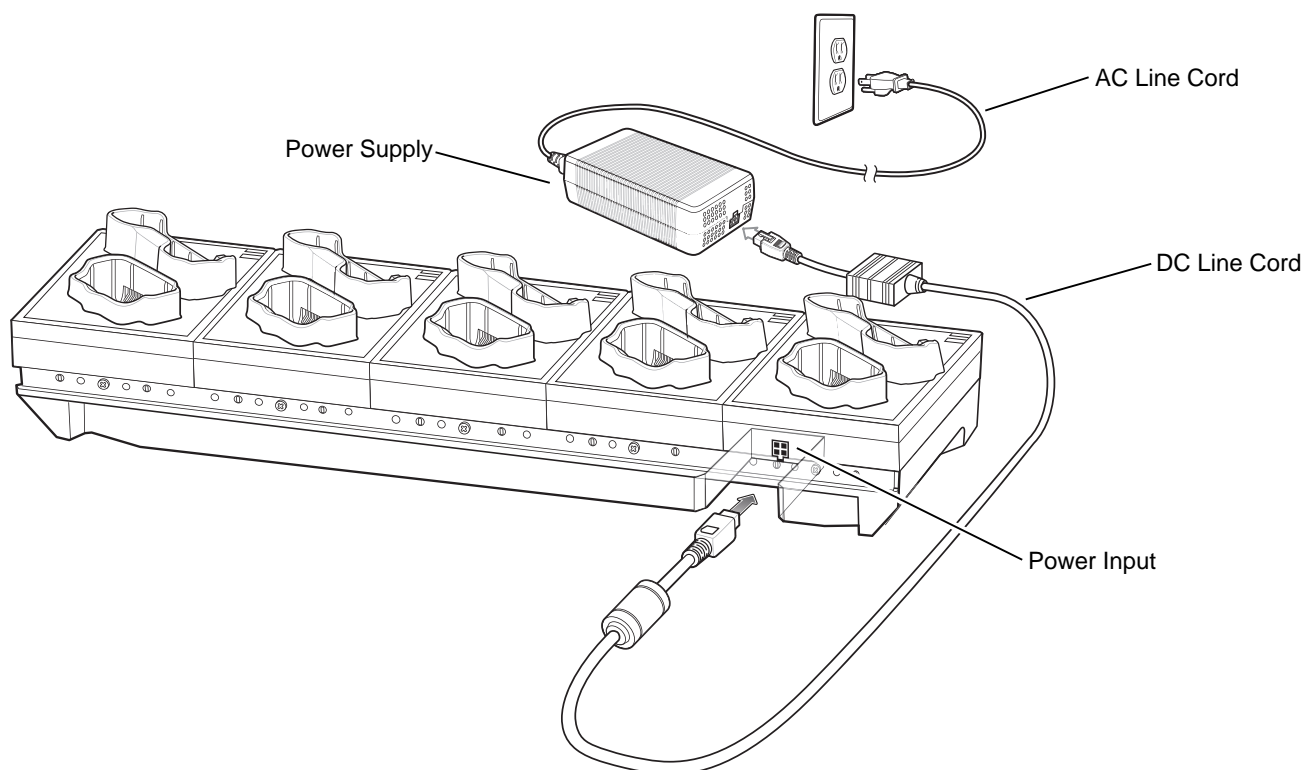
Figure 2-10   *10-Slot WT6000/RS6000 Charge Only Cradle Setup*

Charging the WT6000

To Charge the WT6000:

1. Insert the WT6000 in the WT6000 charging slot.
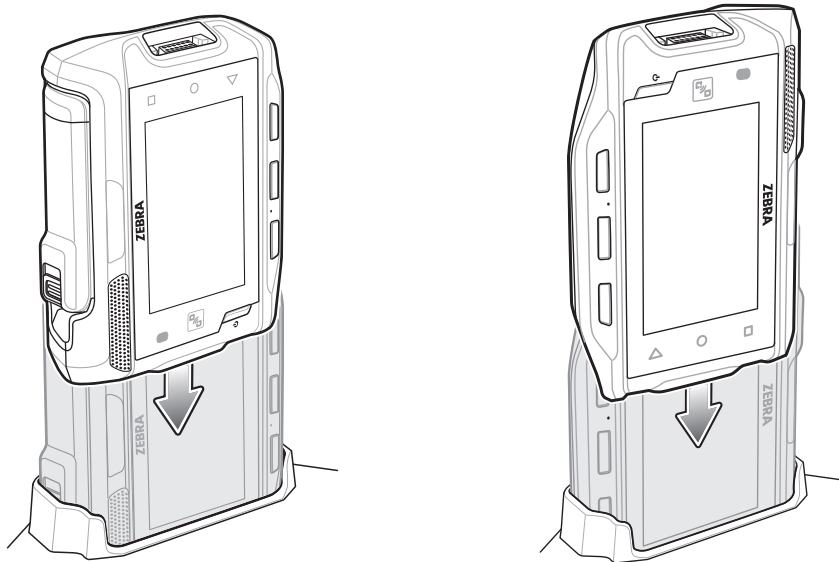
Figure 2-11   *Insert WT6000 into Cradle*

2.   Ensure that the WT6000 is properly seated in the charging slot.

Charging the RS6000

To Charge the RS6000:

1.   Insert the RS6000 in the RS6000 charging slot.
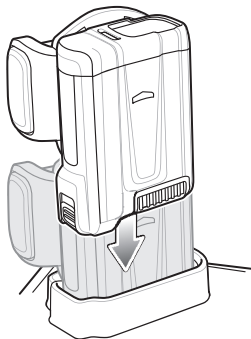
Figure 2-12   *Insert RS6000 into Cradle*

2.   Ensure that the RS6000 is properly seated in the charging slot.

Battery Charging

The WT6000 and RS6000 Charging LEDs indicate the status of the battery charging in the device. See *Table 2-2 on page 2-5*. The 3,350 mAh battery fully charges in less than four hours at room temperature.

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

10-Slot WT6000 Charge Only Cradle

✓ *NOTE* Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-1*.

The 10-Slot WT6000 Charge Only Cradle:

- Provides 5.4 VDC (nominal) power for operating the WT6000.
- Simultaneously charges up to 10 WT6000 devices.

Figure 2-13   *10-Slot WT6000 Charge Only Cradle Setup*

Charging the WT6000

To Charge the WT6000:

1. Insert the WT6000 in the charging slot.
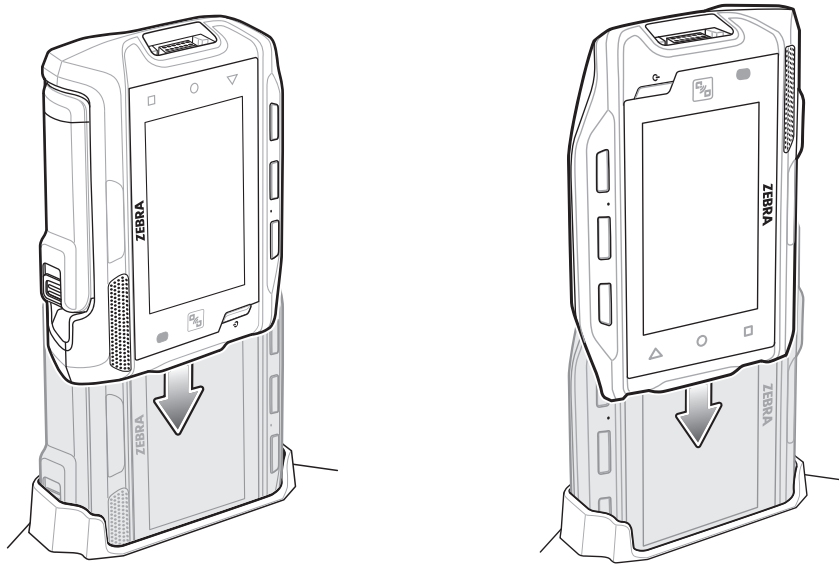
Figure 2-14   *Insert WT6000 into Cradle*

2. Ensure that the WT6000 is properly seated in the charging slot.

Battery Charging

The WT6000 Charging LED indicates the status of the battery charging in the device. See *Table 2-2 on page 2-5*. The 3,350 mAh battery fully charges in less than four hours at room temperature.

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

5-Slot WT6000 Ethernet Cradle

NOTE Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-1*.

The 5-Slot WT6000 Ethernet Cradle:

- Provides 5.4 VDC (nominal) power for operating the WT6000.
- Connects up to five WT6000 devices to an Ethernet network.
- Simultaneously charges up to five WT6000 devices.
- Simultaneously charges up to five spare batteries.
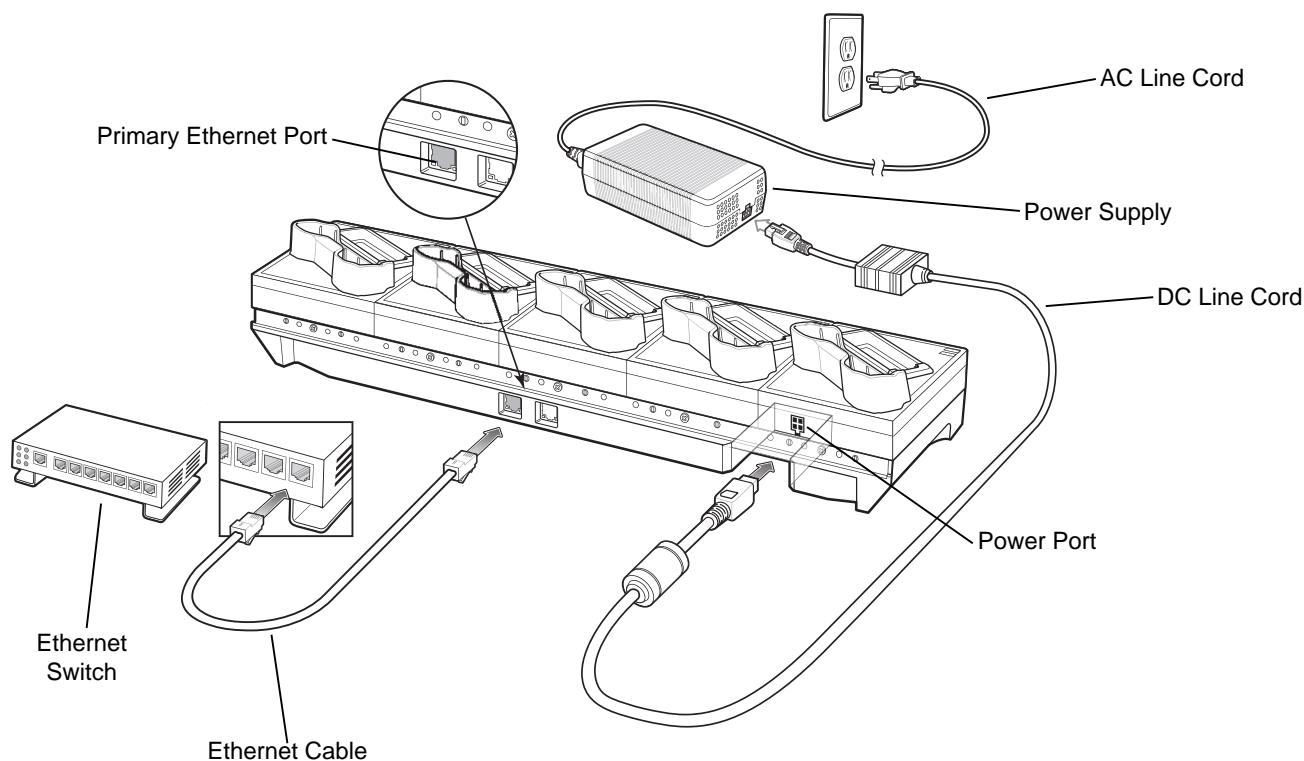
Figure 2-15 *5-Slot WT6000 Ethernet Cradle Setup*

Charging the WT6000

To charge the WT6000:

1. Insert the WT6000 in the WT6000 charging slot.
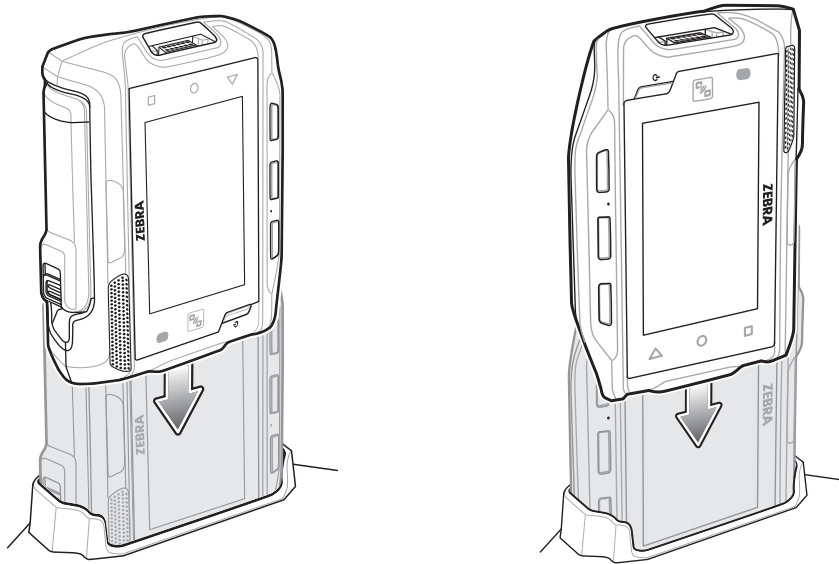
Figure 2-16 *Insert WT6000 into Cradle*

2. Ensure that the WT6000 is properly seated in the charging slot.

Charging the Spare Battery

1. Insert a spare battery into the spare battery slot.
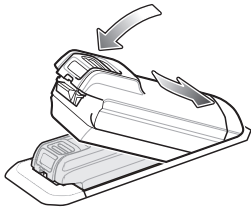
Figure 2-17 *Insert Battery into Cradle*

2. Ensure the battery is seated properly. The Spare Battery Charging LED blinks indicating charging.

Battery Charging

Main Battery Charging

The WT6000 Charging/Scan LED indicates the status of the battery charging in the device. The Spare Battery Charging LED indicates the status of the spare battery charging. See *Table 2-2 on page 2-5*. The 3,350 mAh battery fully charges in less than four hours at room temperature.

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

Establishing Ethernet Communication

1. Touch 🔘.

2. Touch **Ethernet**.

3. Slide the Ethernet switch to the **ON** position.

4. Insert the device into a slot.

5. The ⟨⋯⟩ icon appears in the Status bar.

6. Touch **Eth0** to view Ethernet connection details.

Ethernet LED Indicators

There are two green LEDs on the side of the cradle. These green LEDs light and blink to indicate the data transfer rate.

Table 2-3 *LED Data Rate Indicators*

Data Rate	1000 LED	100/10 LED
1 Gbps	On/Blink	Off
100 Mbps	Off	On/Blink
10 Mbps	Off	On/Blink

Daisy-chaining Ethernet Cradles

Daisy-chain up to ten 5-Slot Ethernet cradles to connect several cradles to an Ethernet network. Use either a straight or crossover cable. Daisy-chaining should not be attempted when the main Ethernet connection to the first cradle is 10 Mbps as throughput issues will almost certainly result.

To daisy-chain 5-Slot Ethernet cradles:

1. Connect power to each 5-Slot Ethernet Cradle.

2. Connect an Ethernet cable to port 1 on the back of the first cradle and to the Ethernet switch.

3. Connect an Ethernet cable to port 2 on the back of the first cradle to port 1 on the back of the second cradle.
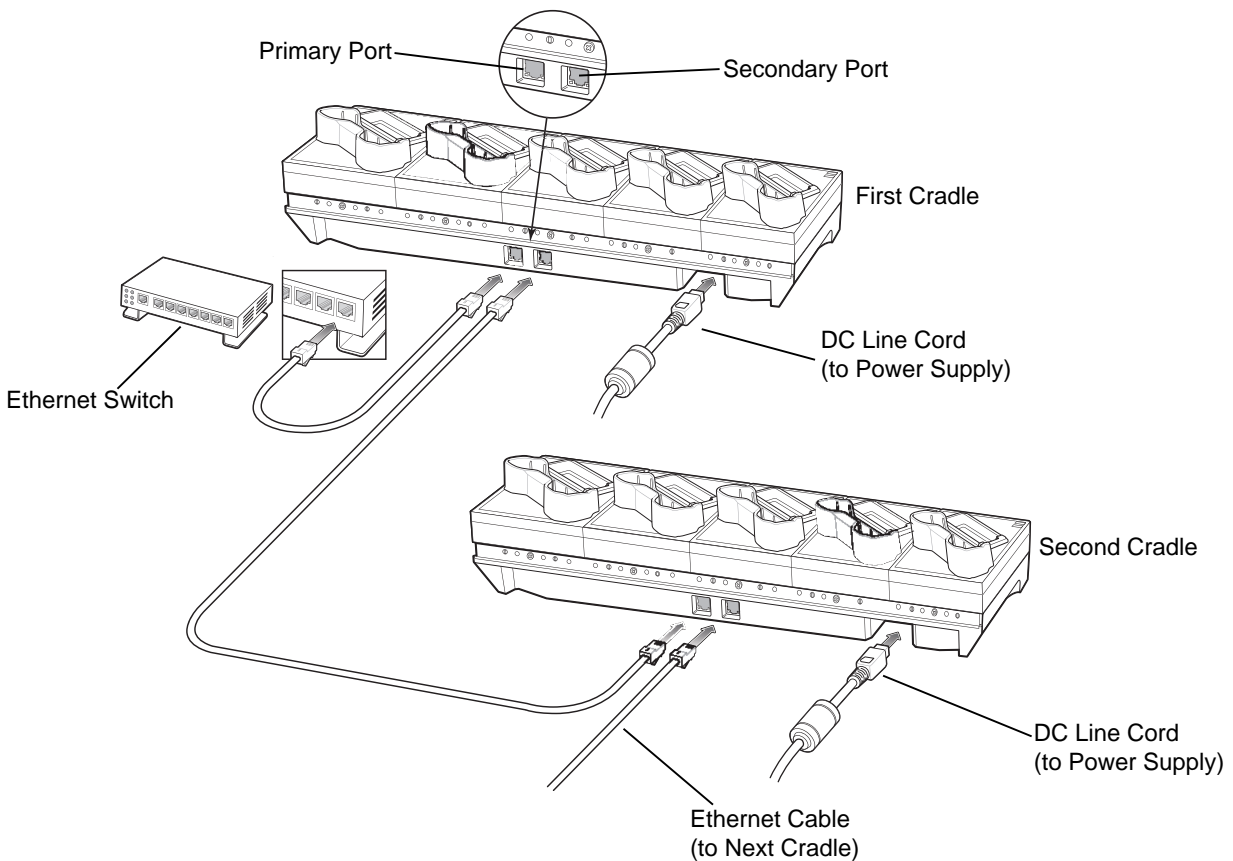
Figure 2-18 *Daisy-Chaining 5-Slot Ethernet Cradles*

4. Connect additional cradles as described in step 2 and 3.

Ethernet Settings

The following settings can be configured when using Ethernet communication:

- Proxy Settings
- Static IP.

Configuring Ethernet Proxy Settings

The WT6000 includes Ethernet cradle drivers. After the WT6000, configure the Ethernet connection:

1. Place the WT6000 into the Ethernet cradle slot.
2. Touch ⊕ > ⚙ > ⟨••⟩ **Ethernet**.
3. Slide the switch to the **ON** position.
4. Touch ⋮ > **Advance**.

Figure 2-19   *Ethernet Proxy Settings*

5.   Touch **Enable Http Proxy**.

6.   In the Proxy hostname field, enter the proxy server address.

7.   In the Proxy port field, enter the proxy server port number.

> ✓ **NOTE**   When entering proxy addresses in the Bypass proxy for field, do not use spaces or carriage returns between addresses.

8.   In the Bypass proxy for text box, enter addresses for web sites that do not require to go through the proxy server. Use the separator "|" between addresses.

9.   Touch **Save**.

10. Touch ○ .

Configuring Ethernet Static IP Address

The WT6000 includes Ethernet cradle drivers. After the WT6000, configure the Ethernet connection:

1.   Place the WT6000 into the Ethernet cradle slot.

2.   Touch ⊞ > ⚙ > ⟨••⟩ **Ethernet**.

3.   Slide the switch to the **ON** position.

4.   Touch ⋮ > **Advance**.

Figure 2-20   *Configure Ethernet Device Settings*

5. Touch **Static IP** radio button.

6. In the **IP address** field, enter the proxy server address.

7. If required, in the **Network** text box, enter a the network address.

8. If required, in the **Gateway address** text box, enter a gateway address for the WT6000.

9. If required, in the **DNS address** text box, enter a Domain Name System (DNS) address.

10. Touch **Save**.

11. Touch ⭕.

LED Indicators

There are two green LEDs on the side of the cradle and on each Ethernet port. These green LEDs light and blink to indicate the data transfer rate.

Table 2-4   *LED Data Rate Indicators*

Data Rate	1000 LED	100/10 LED
1 Gbps	On/Blink	Off
100 Mbps	Off	On/Blink
10 Mbps	Off	On/Blink

Establishing Ethernet Connection

1. Insert the WT6000 into a slot.

2. Touch ⚙️ > 〈••〉 **Ethernet**.

3. Slide the **Ethernet** switch to the **ON** position.

    The 〈••〉 icon appears in the **Status** bar.

4. Touch **Ethernet Information** to view Ethernet connection details.

5.

Ethernet Information

Connection Type
dhcp
IP address
25.11.36.25
Netmask
255.255.255.0
Gateway address
25.11.36.254
DNS address
25.9.9.9

OK

Figure 2-21   *Ethernet Information Dialog Box*

6. Touch **OK** to close dialog box.
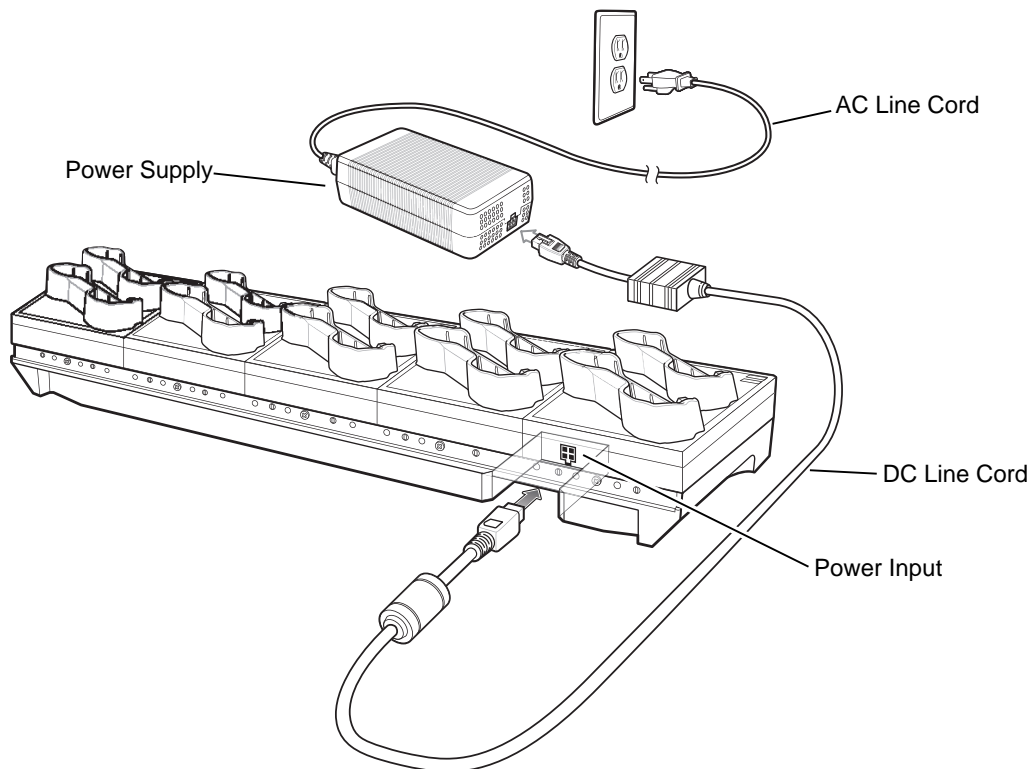
4-Slot Battery Charger

✓ **NOTE** Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-1*.

The 4-Slot Battery Charger charges up to four spare batteries.
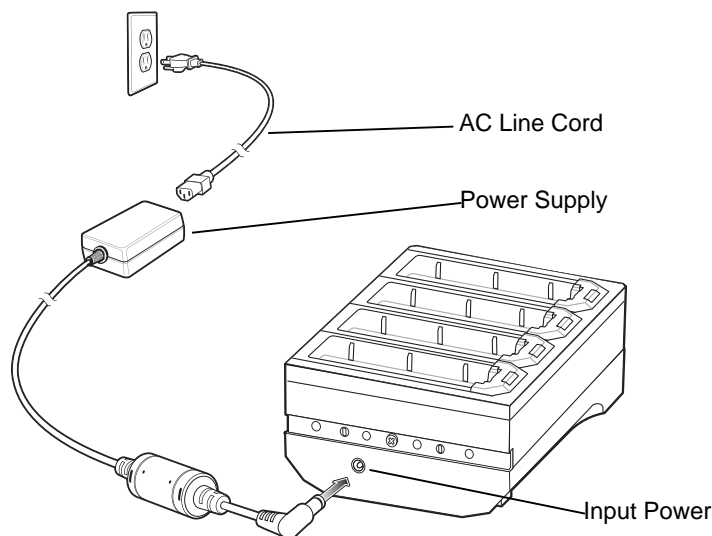
Figure 2-22 *Four Slot Battery Charger Power Setup*

Battery Installation

To install the battery:

1. Insert the battery into a battery slot.
2. Gently press down on the battery until it snaps into place.
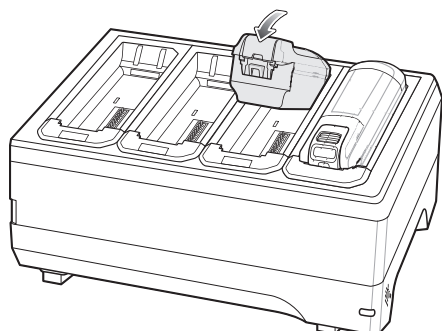
Figure 2-23 *Insert Battery into Slot*

Battery Removal

To remove the battery, press the two release latches on each side of the battery and lift the battery out of the battery slot.

Battery Charging

Each Battery Charging LED indicates the status of the battery charging in each slot. The table below describes the Battery Charging LED status. See *Table 2-2 on page 2-5*. The 3,350 mAh battery fully charges in less than four hours at room temperature.

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

20-Slot Battery Charger

✓ *NOTE* Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-1*.

The 20-Slot Battery Charger charges up to 20 spare batteries.
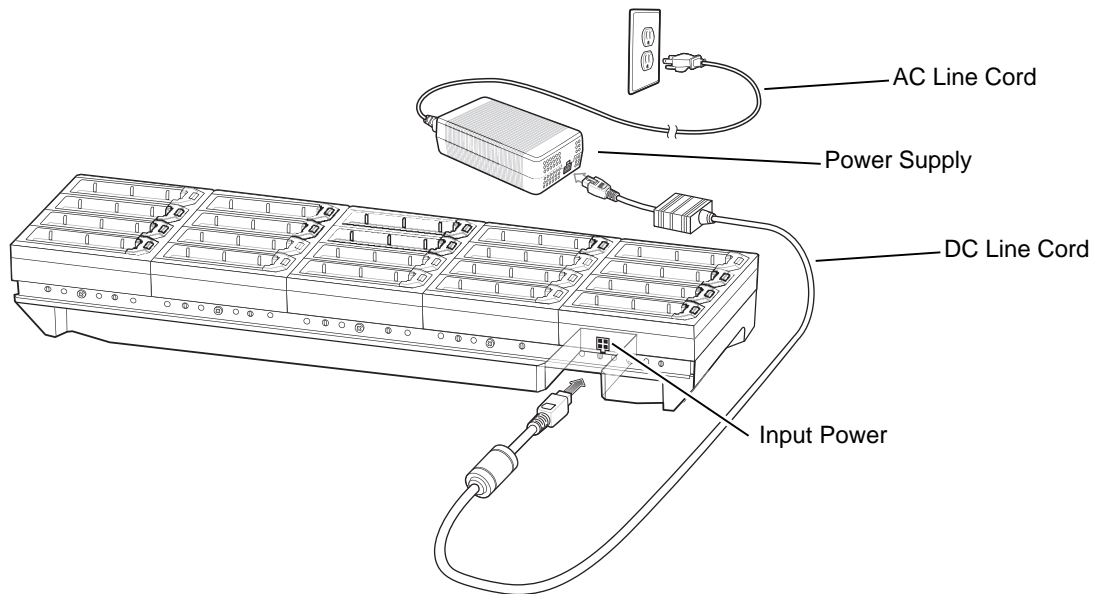
Figure 2-24 *20-Slot Battery Charger*

Battery Installation

To install the battery:

1. Insert the battery into a battery slot.
2. Gently press down on the battery until it snaps into place.
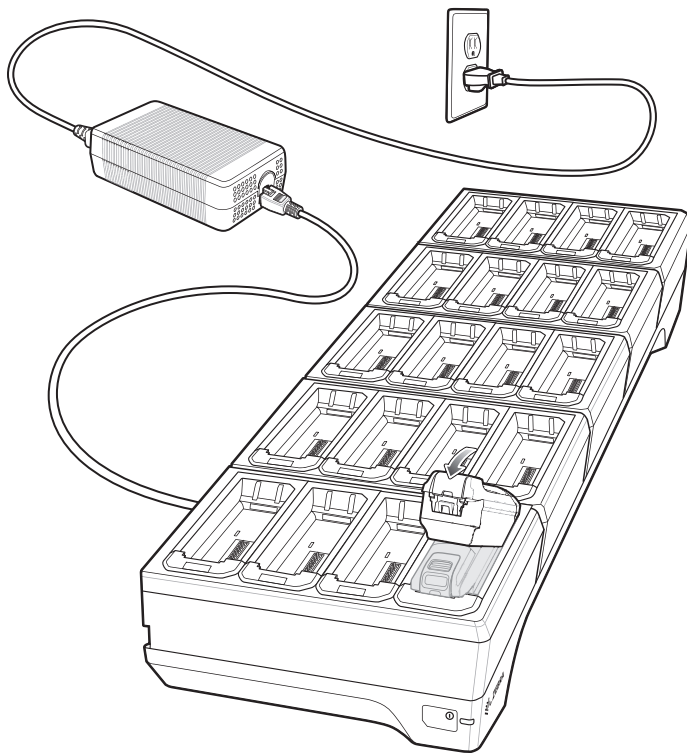
Figure 2-25   *Insert Battery into Slot*

Battery Removal

To remove the battery, press the two release latches on each side of the battery and lift the battery out of the battery slot.

Battery Charging

Each Battery Charging LED indicates the status of the battery charging in each slot. The table below describes the Battery Charging LED status. See *Table 2-2 on page 2-5*. The 3,350 mAh battery fully charges in less than four hours at room temperature.

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

5-Slot Cradle Rack Installation

Use the Rack/Wall Mount Bracket to mount a 5-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.

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 top tray.

5. Route cables through cable slots.
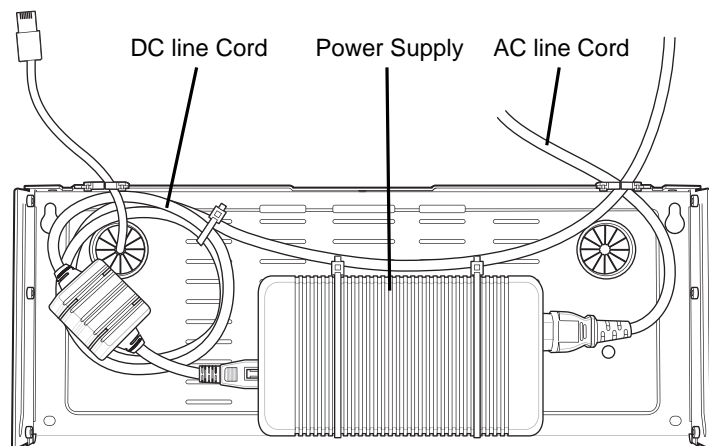
Figure 2-26   *Power Supply in Bottom Tray*

6. Secure four M2.5 studs to top tray as shown.
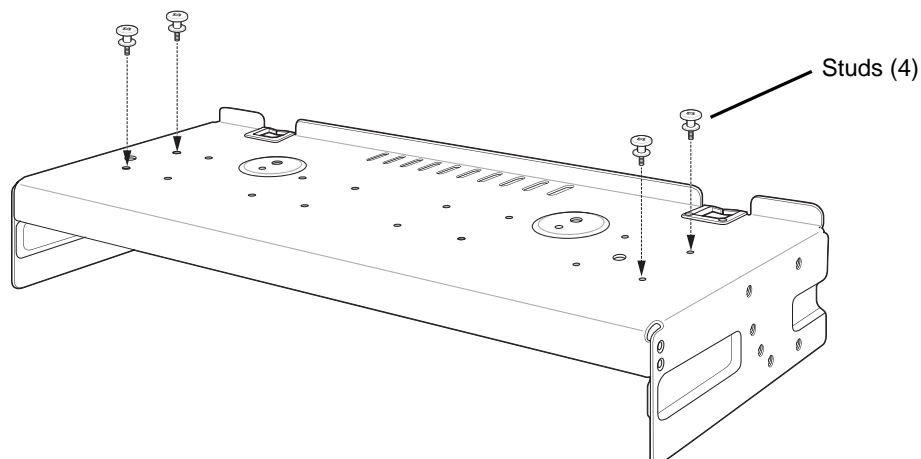
Figure 2-27   *Install Studs*

7. Align and install 5-Slot cradle onto studs of top tray.
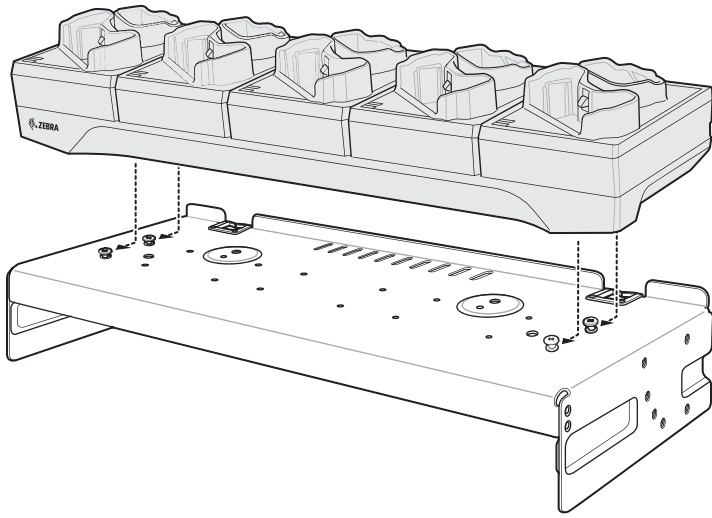
Figure 2-28   *Align Cradle on Studs*

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

Safety Screws(2)
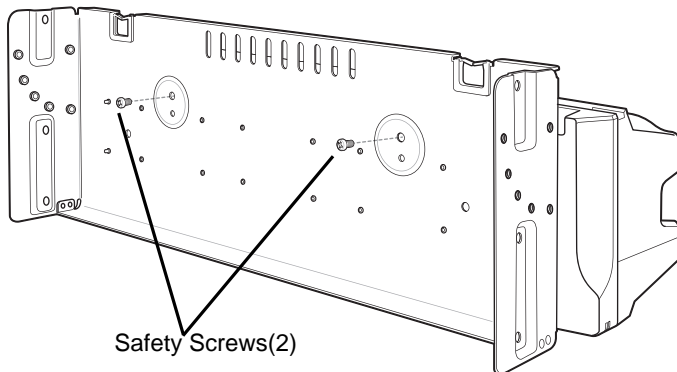
Figure 2-29   *Secure Cradle*

9. Slide top tray onto bottom tray.
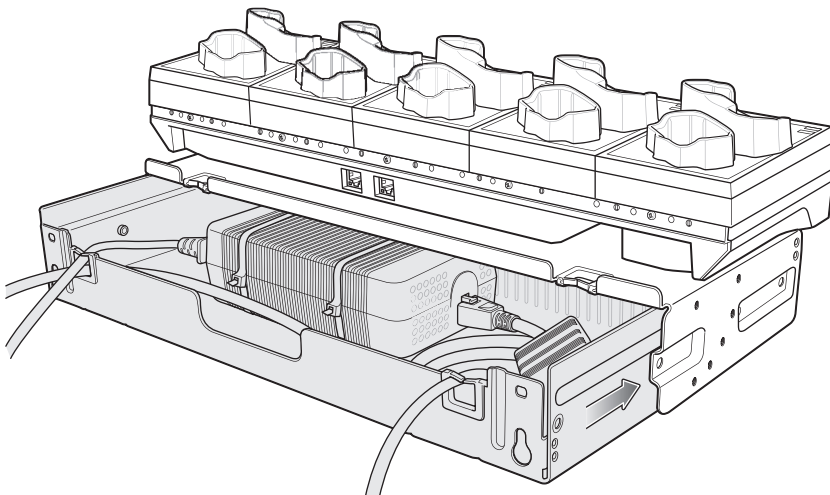
Figure 2-30   *Slide Top Trap onto Bottom Tray*

10. Connect cables to cradle.
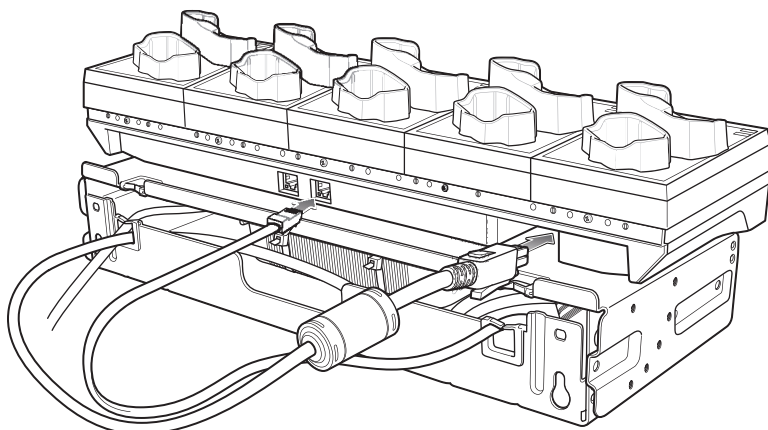
Figure 2-31   *Connect Cables*

11. Secure top tray to bottom tray with 4 M5 screws (two on each side).
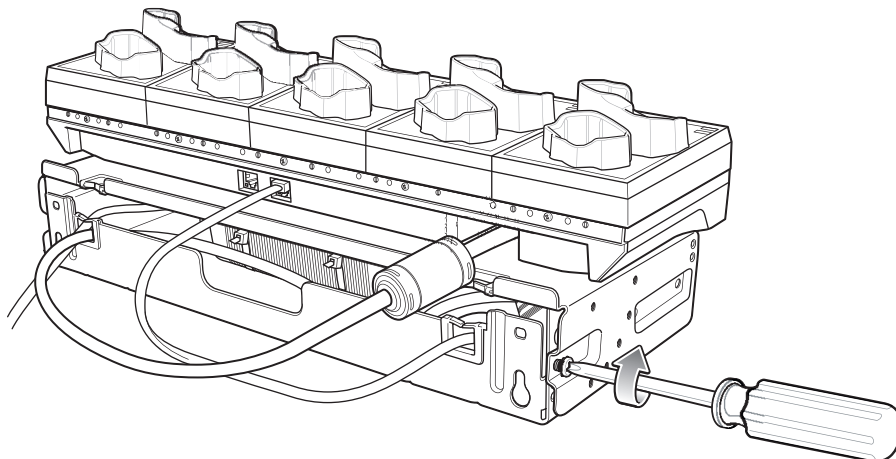
Figure 2-32   *Secure Top and Bottom Tray*

See *Rack Mount Installation on page 2-31* for installing the bracket assembly onto a rack.

4-Slot Battery Chargers Rack Installation

Use the Rack/Wall Mount Bracket to mount four 4-Slot Battery Chargers on a rack. When installing on a rack, first assemble the bracket and chargers and then install the assembly on the rack.

1. Place one power supply horizontally in bottom tray.

2. Place one power supply vertically in bottom tray.

3. Connect AC line cords to power supplies.

4. Connect DC line cords to power supplies.

5. Secure power supplies and cables to bottom tray with tie wraps.

6. Route cables through cable slots.
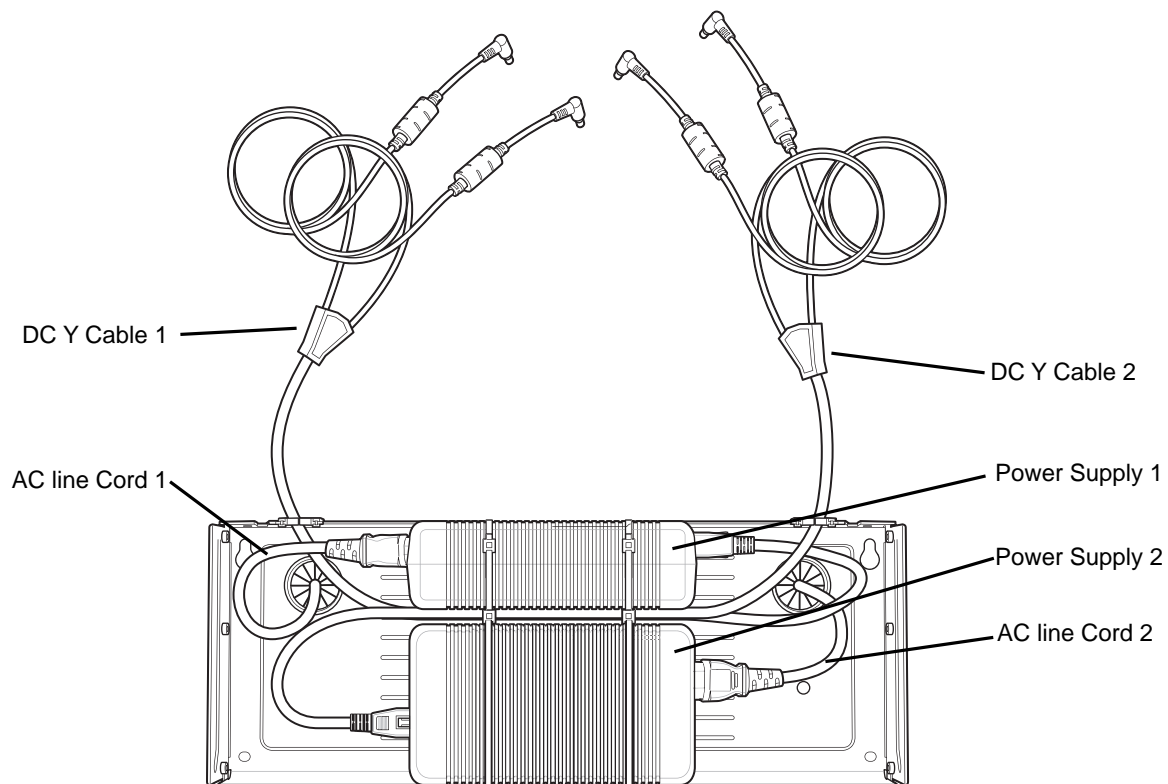
Figure 2-33   *Power Supplies in Bottom Tray*

7. Slide top tray onto bottom tray until top tray touches vertical power supply.
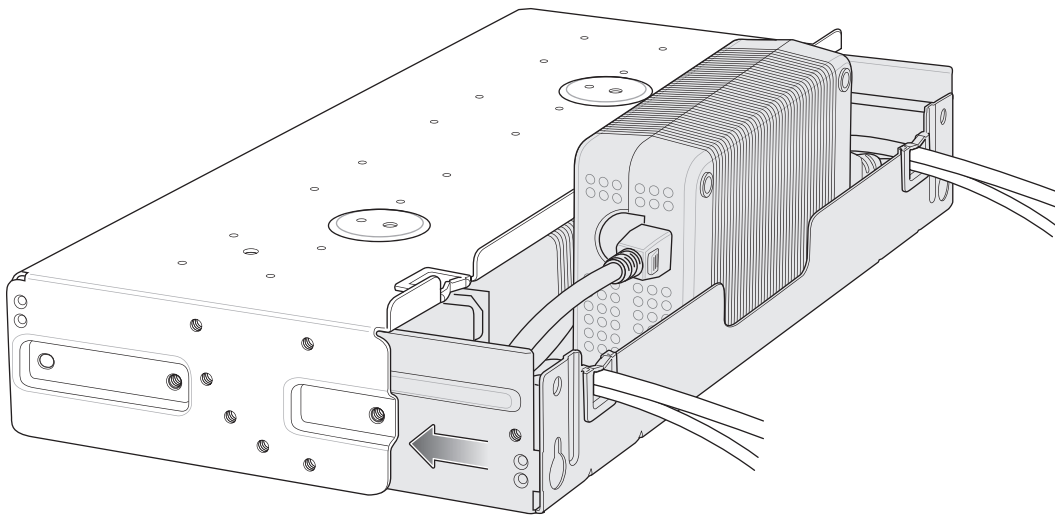
Figure 2-34 *Slide top Tray onto Bottom Tray*

8. Install 16 M2.5 studs onto top tray as shown below.
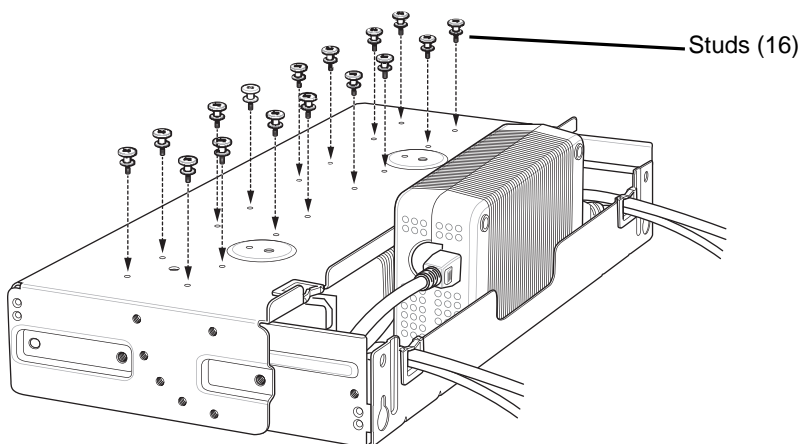
Studs (16)

Figure 2-35 *Install Studs*

9. Align and install 4-Slot Battery Charger onto four studs.
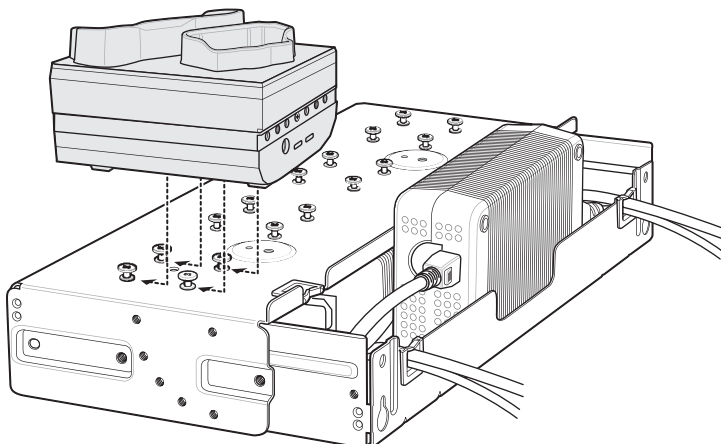
Figure 2-36 *Align Chargers on Studs*

10. Connect DC Y cables to four 4-Slot Battery Chargers.
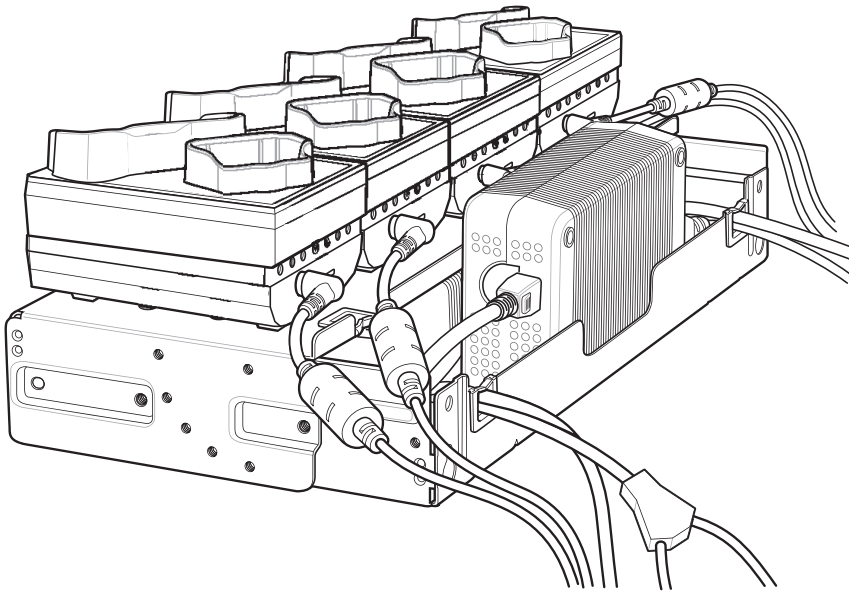
Figure 2-37 *Connect Cables*

11. Secure top tray to bottom tray with four M5 screws (two on each side).
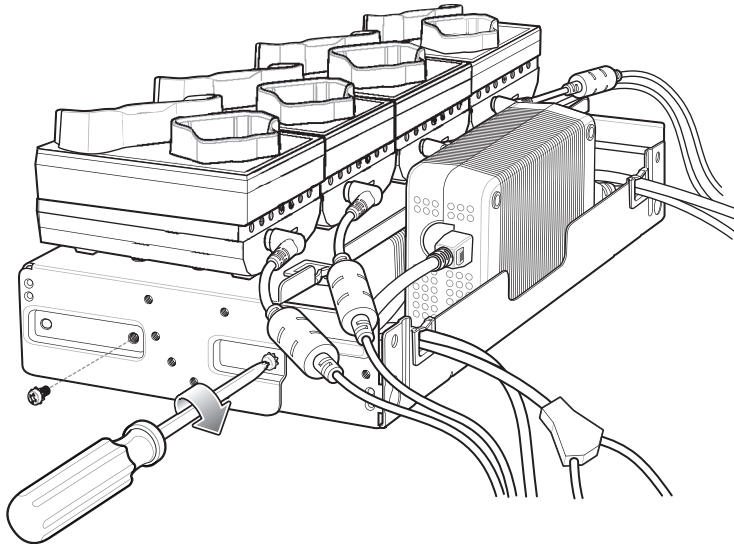
Figure 2-38 *Secure Top Tray to Bottom Tray*

See *Rack Mount Installation on page 2-31* for installing the bracket onto a rack.

Rack Mount Installation

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

1. Secure mounting brackets to both sides of top tray with four M5 screws (two on each side). For 5-Slot cradles, position the flange for vertical installation. For 4-Slot Battery Chargers, position the flange for 25° installation.

Top Screw Hole
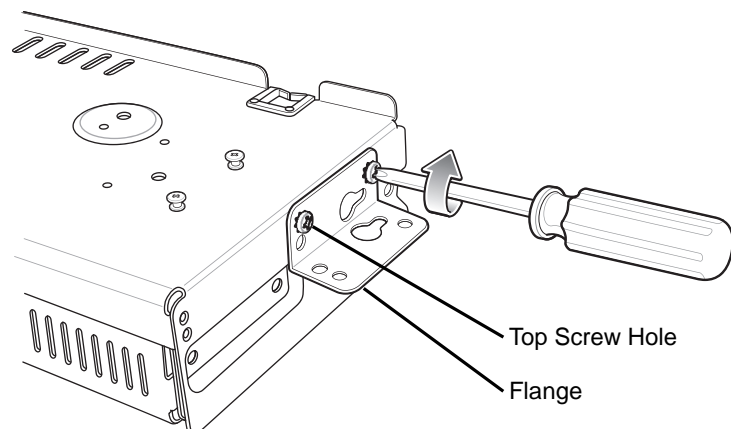
Flange

Figure 2-39 *Flange Vertical Position (5-Slot Cradles)*

Flange

Fourth Screw Hole
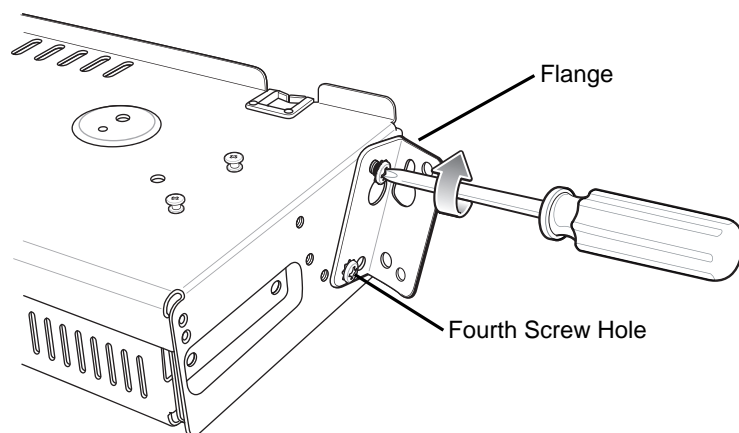
Figure 2-40 *Flange 25° Position (4-Slot Battery Chargers)*

2. Install two rack system screws for top of mounting brackets. The screw heads should protrude half way from the rail.
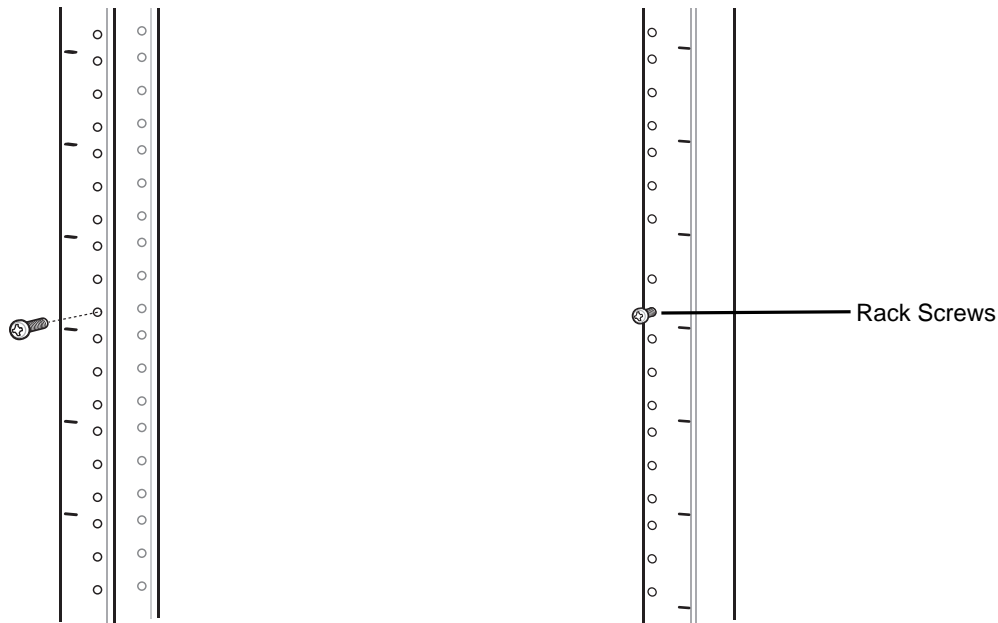
Figure 2-41 *Install Rack System Screws*

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

4. Place the brackets on the screws.
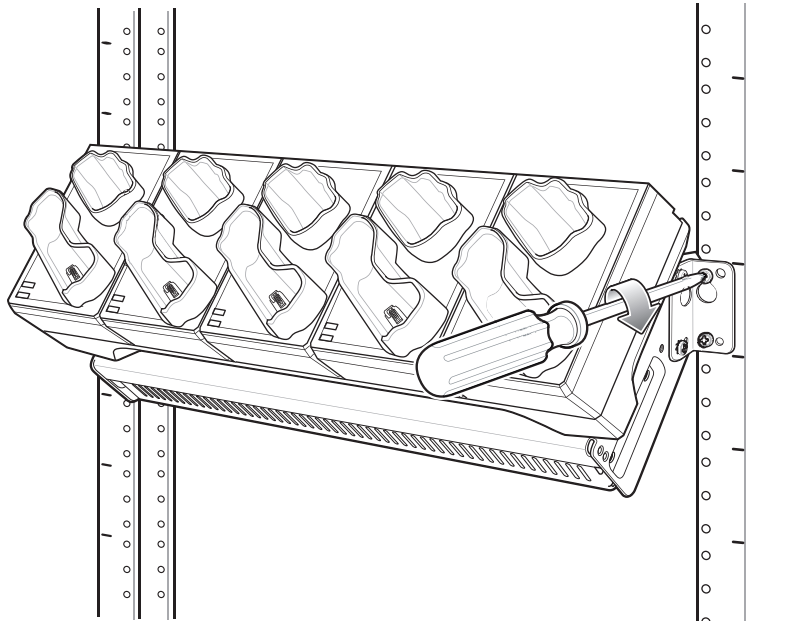
Figure 2-42 *Secure Bracket to Rack (Vertical Position Shown)*

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.

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.

5-Slot Cradle 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 Kg (44 lbs.)

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

Bottom Tray Assembly

See steps 1 through 5 on page 25 for instructions.

Bracket Wall Mounting

1. Drill holes and install anchors according to the template supplied with the bracket.
2. Install two screws for bottom of bracket. The screw heads should protrude 2.5 mm (0.01") from the wall.
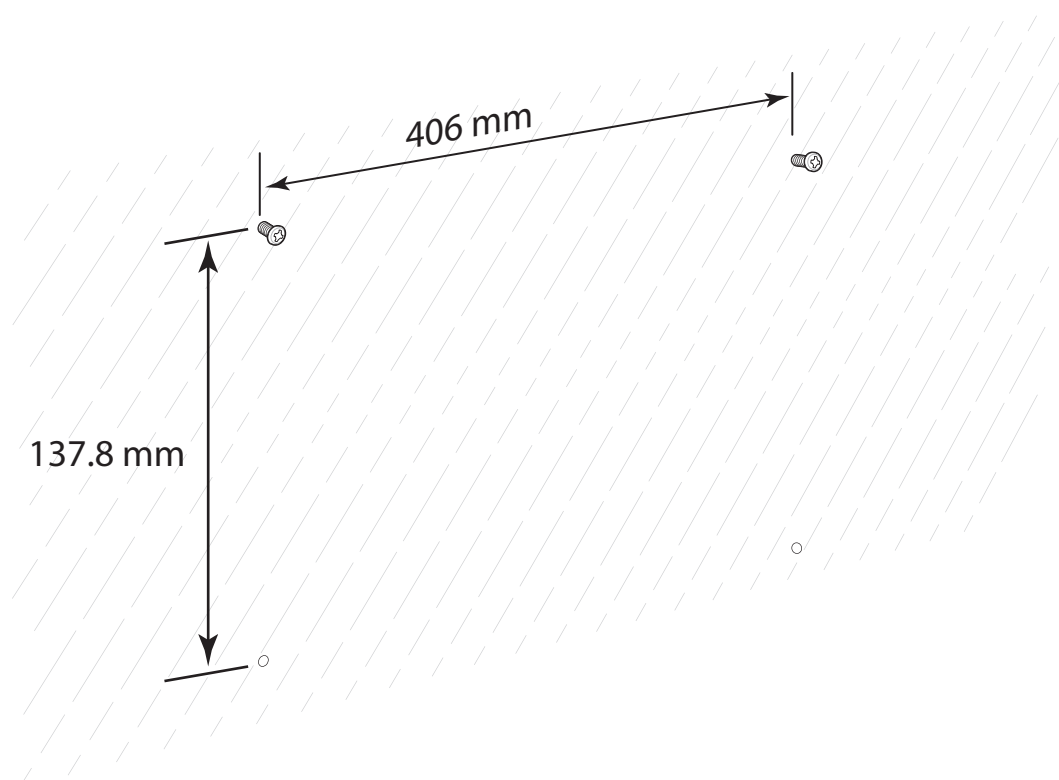
Figure 2-43 *Vertical Wall Mounting Dimensions*

3. Align the mounting bracket's bottom mounting key holes with the screws.
4. Hang the bracket on the screws.
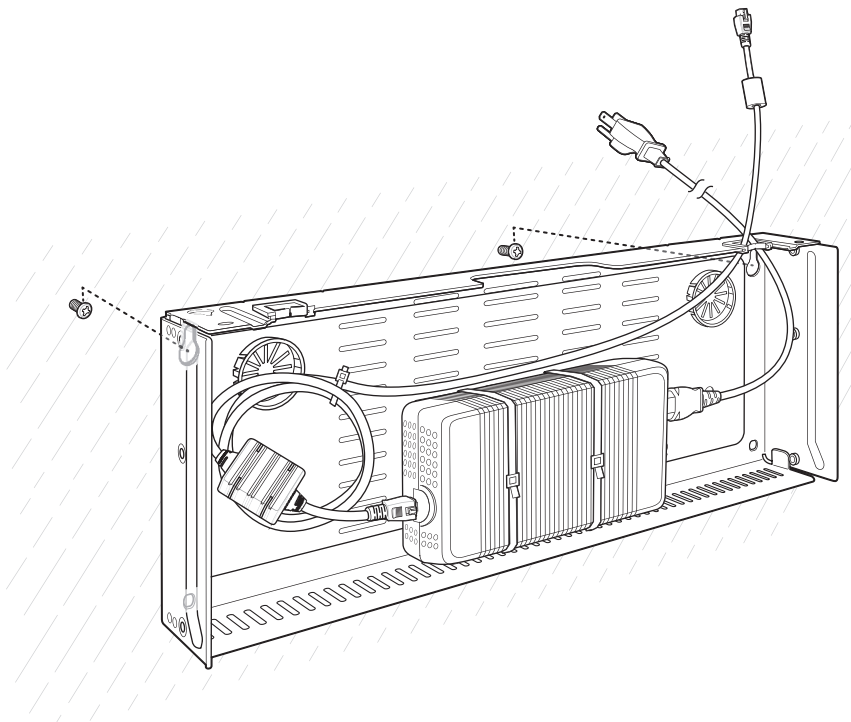
Figure 2-44 *Vertical Installation*

5. Install two top screws.

6. Tighten all screws.
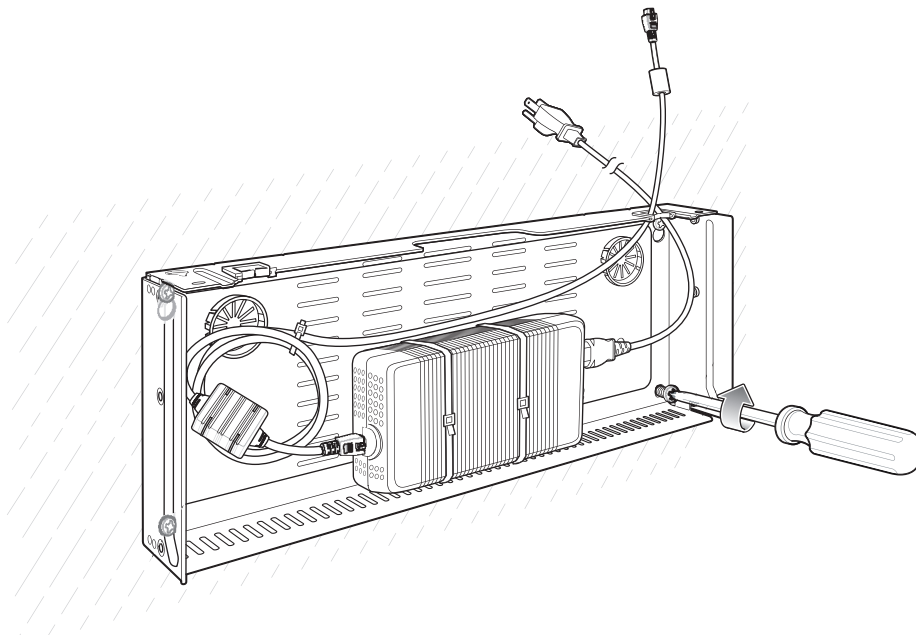
Figure 2-45 *Horizontal Installation - Tighten Screws*

7. Assembly the top tray. See steps 6 through 8 on page 25.

8. Slide the assembled top tray onto bottom tray.

9. Connect cables to cradle.

10. Secure top tray to bottom tray with four M5 screws (two on each side).

11. 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.

While installing the brackets, power supplies and cables:

- Use tie wraps to secure cables to the bracket.
- Coil cables wherever possible.
- Route power cables along wall and secure.

4-Slot Battery Charger Wall Installation

Use the Rack/Wall Mount Bracket to mount four 4-Slot Battery Chargers 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 Kg (44 lbs.)

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

Bottom Tray Assembly

See steps 1 through 5 on page 28 for instructions.

Bracket Wall Mounting

1. Drill holes and install anchors according to the template supplied with the bracket.
2. Install two screws for bottom of bracket. The screw heads should protrude 2.5 mm (0.01") from the wall.
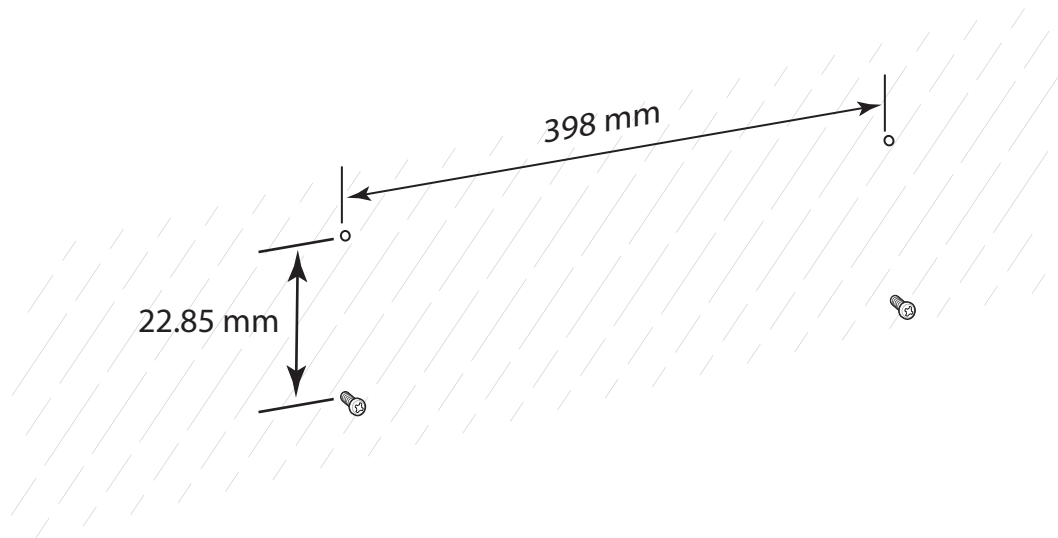
Figure 2-46   *Horizontal Mounting Template*

3. Align the mounting bracket's bottom mounting key holes with the screws.
4. Hang the bracket on the screws.
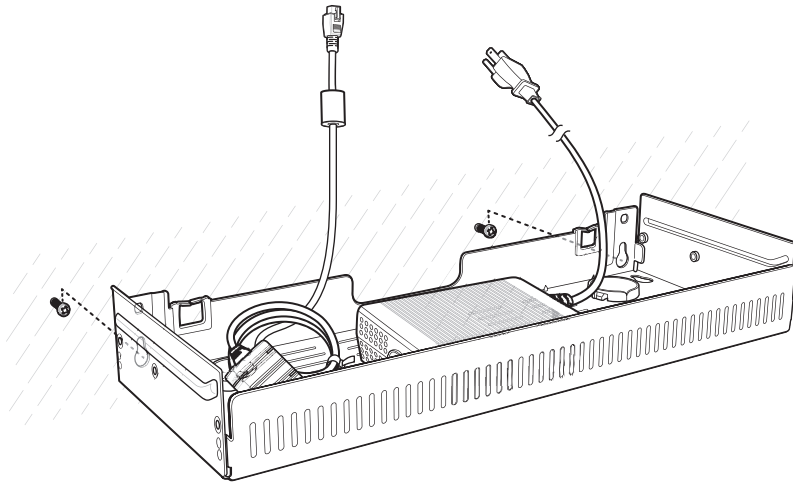
Figure 2-47   *Horizontal Installation*

5. Install two top screws.

6. Tighten all screws.
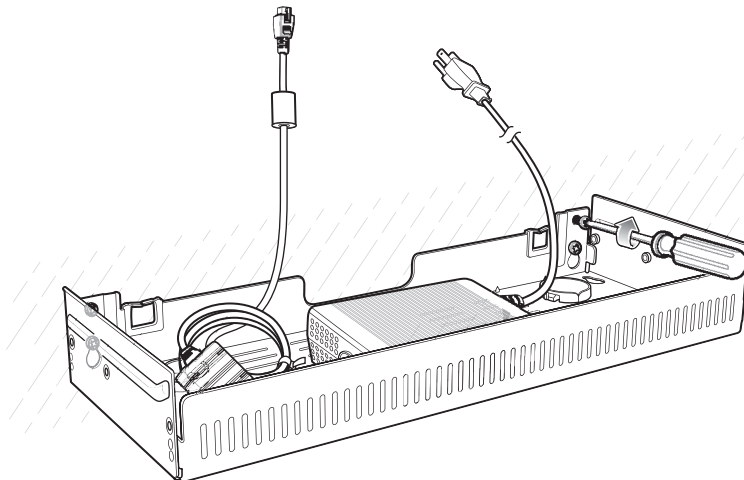
Figure 2-48   *Horizontal Installation - Tighten Screws*

7. Assembly the four 4-Slot Battery Chargers onto the bracket. See steps 7 through 11 on page 28.

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.

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.

CHAPTER 3 USB COMMUNICATION

This chapter provides information for transferring files between the device and a host computer.

Connecting to a Host Computer via USB

Connect the WT6000 to a host computer using the USB and Charging Cable to transfer files between the WT6000 and the host computer.

⚠️ **CAUTION** When connecting the WT6000 to a host computer, follow the host computer's instructions for connecting and disconnecting USB devices, to avoid damaging or corrupting files.

Connecting to the WT6000 as a Media Device

1. Connect the USB Charge cable to the WT6000 and then to the host computer.
2. On the host computer, open a file explorer application.
3. Locate the **WT6000** as a portable device.
4. Open the **Internal storage** folder.
5. Copy or delete files as required.

Disconnect from the Host Computer

⚠️ **CAUTION** Carefully follow the host computer's instructions to unmount the device and disconnect USB devices correctly to avoid losing information.

6. On the host computer, unmount the device.
7. Remove the USB and Charging Cable from the device.

CHAPTER 4 DATAWEDGE CONFIGURATION

DataWedge Configuration

This chapter applies to DataWedge on Android devices. DataWedge is an application that reads data, processes the data and sends the data to an application.

Basic Scanning

Scanning can be performed using the laser scanner or imager.

To capture bar code data:

1. Ensure that an application is open on the WT6000 and a text field is in focus (text cursor in text field).
2. Aim the exit window at a bar code.
3. Press the trigger button. Ensure the red scan beam covers the entire bar code. The Charging/Scan LED Indicators illuminate green and a beep sounds to indicate a successful decode.

Profiles

DataWedge is based on profiles and plug-ins. A profile contains information on how DataWedge should behave with different applications.

Profile information consists of:

- Associated application
- data capture plus configurations
- Input plug-in configurations
- Output plug-in configurations
- Process plug-in configurations.

Using profiles, each application can have a specific DataWedge configuration. For example, each user application can have a profile which outputs scanned data in the required format when that application comes to the

foreground. DataWedge can be configured to process the same set of captured data differently based on the requirements of each application.

DataWedge includes the following visible and hidden pre-configured profiles which support specific built-in applications:

- **Profile0** - created automatically the first time DataWedge runs. Generic profile used when there are no user created profiles associated with an application.
- **Launcher** - enables scanning when the Launcher is in foreground. Note: to save battery power, disable this profile when not required.
- **DWDemo** - provides support for the DWDemo application.

Some Zebra applications are capable of capturing data by scanning. DataWedge is pre-loaded with private and hidden profiles for this purpose. There is no option to modify these private profiles.

Profile0

Profile0 can be edited but cannot be associated with an application. That is, **DataWedge** allows manipulation of plug-in settings for **Profile0** but it does not allow assignment of a foreground application. This configuration allows **DataWedge** to send output data to any foreground application other than applications associated with user-defined profiles when **Profile0** is enabled.

Profile0 can be disabled to allow **DataWedge** to only send output data to those applications which are associated in user-defined profiles. For example, create a profile associating a specific application, disable **Profile0** and then scan. **DataWedge** only sends data to the application specified in the user-created profile. This adds additional security to **DataWedge** enabling the sending of data only to specified applications.

Plug-ins

A plug-in is a software module utilized in DataWedge to extend its functionality to encompass technologies such as bar code scanning. The plug-ins can be categorized into three types based on their operations:

- Input Plug-ins
- Output Plug-ins
- Process Plug-ins.

Input Plug-ins

An Input Plug-in supports an input device, such as a bar code scanner contained in, or attached to the device. **DataWedge** contains base plug-ins for these input devices.

- **Bar Code Scanner Input Plug-in** – The Bar Code Scanner Input Plug-in is responsible for reading data from the integrated bar code scanner and supports different types of bar code readers including laser, imager and internal camera. Raw data read from the bar code scanner can be processed or formatted using Process Plug-ins as required. **DataWedge** has built-in feedback functionality for the bar code scanner to issue user alerts. The feedback settings can be configured according to user requirement.

Process Plug-ins

Process Plug-ins are used in **DataWedge** to manipulate the received data according to the requirement, before sending to the foreground application via the Output Plug-in.

- **Basic Data Formatting Process Plug-in** – The Basic Data Formatting Plug-in allows **DataWedge** to add a prefix and/or a suffix to the captured data before passing it to an Output Plug-in.

- **Advanced Data Formatting Process Plug-in** – The Advanced Data Formatting Plug-in allows **DataWedge** to apply rules (actions to be performed based on defined criteria) to the data received via an input plug-in before passing it to an Output Plug-in.

Output Plug-ins

Output Plug-ins are responsible for sending the data from Input Plug-ins to a foreground application on the device.

- **Keystroke Output Plug-in** – The Keystroke Output Plug-in collects and sends data received from the Input Plug-in to the foreground applications by emulating keystrokes.
- **Intent Output Plug-in** – The Intent Output Plug-in collects and sends data received from the Input Plug-ins to foreground applications using the Android Intent mechanism.
- **IP Output Plug-in** – The IP Output Plug-in collects and sends data received from the Input Plug-ins to a host computer via a network connection. Captured data can be sent over an IP network to a specified IP address and port using either TCP or UDP transport protocols.

Profiles Screen

To launch DataWedge, touch > . By default, three profiles appear:

- **Profile0**
- **Launcher**
- **DWDemo.**

Profile0 is the default profile and is used when no other profile can be applied.
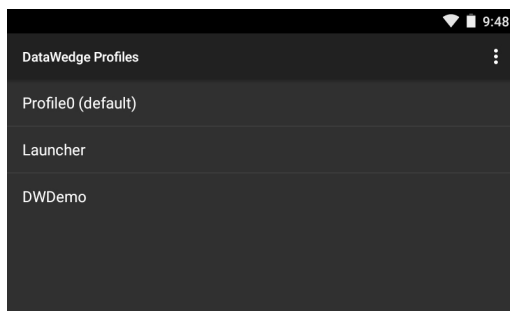
Figure 4-1   *DataWedge Profiles Screen*

Profile names are color coded. Enabled profiles are white and disabled profiles are gray.

To configure a profile touch the profile name.

Profile Context Menu

Touch and hold a profile to open a context menu that allows additional actions to be performed on the selected profile.
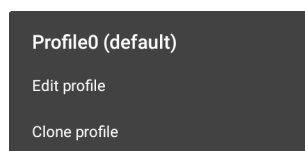
Figure 4-2   *Profile Context Menu*

The profile context menu allows the profile to be edited (same as just tapping on a profile), renamed or deleted.

Options Menu

Touch : to open the options menu.
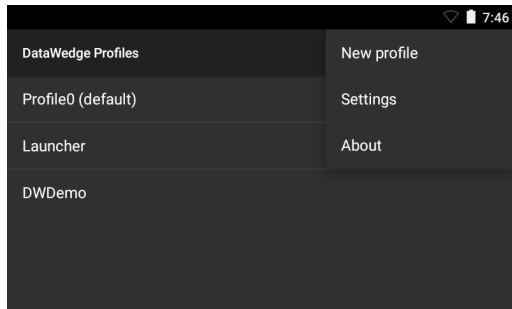
Figure 4-3   *DataWedge Options Menu*

The menu provides options to create a new profiles, access to general DataWedge settings and DataWedge version information.

Disabling DataWedge

1. Touch ⊞ > ▍▍ .
2. Touch : .
3. Touch **Settings**.
4. Touch **DataWedge enabled**.

   The blue check disappears from the checkbox indicating that DataWedge is disabled.

Creating a New Profile

1. Touch ⊞ > ▍▍ .
2. Touch : .
3. Touch **New profile**.
4. In the **New profile** dialog box, enter a name for the new profile. It is recommended that profile names be unique and made up of only alpha-numeric characters (A-Z, a-z, 0-9).
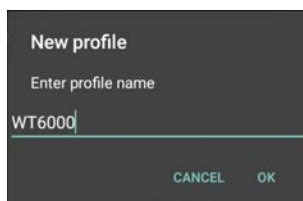
Figure 4-4   *New Profile Name Dialog Box*

5. Touch **OK**.

   The new profile name appears in the **DataWedge profile** screen.

Profile Configuration

To configure the Profile0 or a user-created profile, touch the profile name.
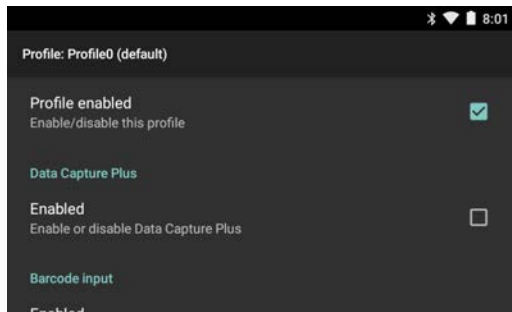
Figure 4-5   *Profile Configuration Screen*

The configuration screen lists the following sections:

- Profile enabled
- Applications
- Data Capture Plus (DCP)
- Barcode Input
- Keystroke output
- Intent Output
- IP Output.

Associating Applications

Use Applications option to associate applications with this profile. User created profiles should be associated with one or more applications and its activities.

1. Touch **Associated apps**. A list of applications/activities associated with the profile displays. Initially the list does not contain any applications/activities.
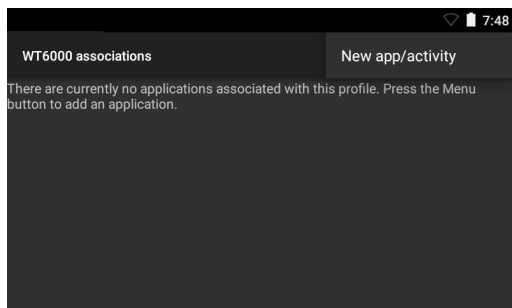
Figure 4-6   *Associated Apps Screen*

2. Touch ⋮ .
3. Touch **New app/activity**.
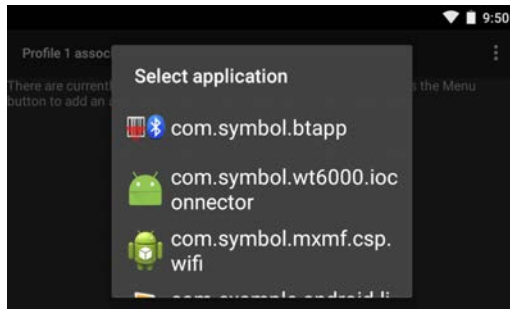
Figure 4-7   *Select Application Menu*

4.   In the **Select application** screen, select the desired application from the list.
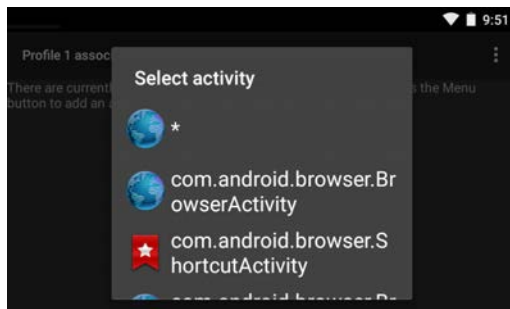
Figure 4-8   *Select Activity Menu*

5.   In the **Select activity** menu, selecting the activity adds that application/activity combination to the associated application list for that profile. Selecting * as the activity results in all activities within that application being associated to the profile. During operation, DataWedge tries to match the specific application/activity combinations with the foreground application/activity before trying to match the general application/* combinations.

6.   Touch ◁.
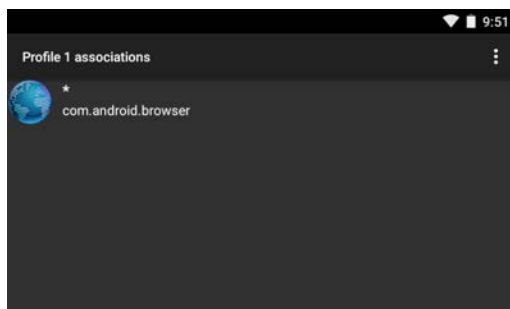
Figure 4-9   *Selected Application/Activity*

Data Capture Plus

The Data Capture Plus (DCP) is a DataWedge feature that enables the user to initiate data capture by touching an area on the screen. A button or screen overlay acts like a scan button.

DCP Button
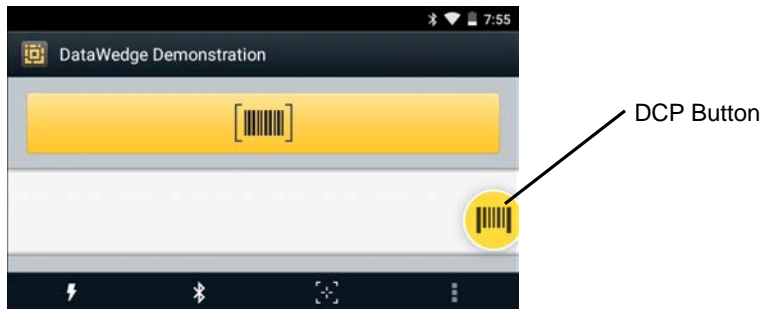
Figure 4-10   *Data Capture Plus Dock Button*

The DataWedge profile configuration screen allows the user to configure how the DCP appears on the screen once the particular profile is enabled. The DCP is hidden by default. Enabling DCP option displays additional configuration parameters.
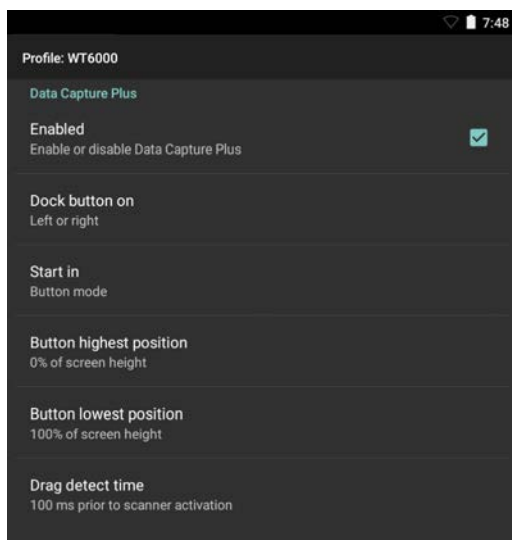
Figure 4-11   *Data Capture Plus Settings*

- **Enable** - Select to enable Data Capture Plus (default - disabled).
- **Dock button on** - Select position of the button.
    - **Left or right** - Allows user to place the button on either the right or left edge of the screen.
    - **Left only** - Places the button on left edge of the screen.
    - **Right only** - Places the button on the right edge of the screen.
- **Start in** - Select the initial DCP state.
    - **Fullscreen mode** - DCP covers the whole screen.
    - **Button mode** - DCP displays as a circular button on the screen and can be switched to fullscreen mode.
    - **Button only mode** - DCP displays as a circular button on the screen and cannot be switched to fullscreen mode.
- **Button highest position** - Select the top of the range the user is allowed to move the DCP, given as a percent of the screen height (default - 0).
- **Button lowest position** - Select the bottom of the range the user is allowed to move the DCP, given as a percent of the screen height (default - 100).

- **Drag detect time** - Select the time in milliseconds that the scanner waits before activating scanner. This allows the user to drag the button without initiating scanner (default - 100 ms, maximum 1000 ms).

✓ *NOTE* The DCP does not appear if the scanner is disabled in the profile even though the **Enabled** option is set.

In Button mode, the user can place DCP in full screen mode by dragging the button over **Fullscreen mode**. The overlay covers the screen.
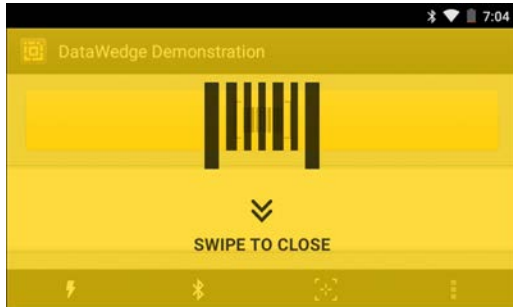
Figure 4-12   *Fullscreen Mode*

Swipe down to return to button mode.

Bar Code Input

Use the **Bar Code Input** options to configure the Bar Code Scanner Input Plug-in for the profile.

Enabled

Enables or disables this plug-in. A check in the checkbox indicates that the plug-in is enabled.

Scanner Selection

Configures which scanning device to use for bar code data capture when the profile is active.

- **Auto** - The software automatically selects the best scanner.
- **Plugable Serial SSI Scanner** - Scanning is performed using the RS4000 laser scanner or RS5000 imager.
- **Bluetooth Scanner** - Scanning is performed using the optional RS507 or RS6000 Hands-free Bluetooth scanner.

Decoders

Configures which bar code decoders are enabled or disabled. For best performance disable all unnecessary decoders.

Touch **Decoders**. The **Barcode input** screen appears. A check in the checkbox indicates that the decoder is enabled. By default the most commonly used decoders are enabled (shown below with an asterisk). The supported decoders are:

✓ *NOTE* DataWedge supports the decoders listed below but not all are validated on this device.

Touch ◁ to return to the previous screen.

Table 4-1   *Supported Decoders*

Symbology	RS507	RS4000	RS5000	RS6000
Australian Postal	Disabled	N/A	Disabled	Disabled
Aztec	Enabled	N/A	Enabled	Enabled
Canadian Postal	N/A	N/A	N/A	Disabled
Chinese 2 of 5	Disabled	Disabled	Disabled	Disabled
Codabar	Enabled	Enabled	Enabled	Disabled
Code 11	Disabled	Disabled	Disabled	Disabled
Code 128	Enabled	Enabled	Enabled	Enabled
Code 39	Enabled	Enabled	Enabled	Enabled
Code 93	Disabled	Disabled	Disabled	Disabled
Composite AB	Disabled	N/A	Disabled	Disabled
Composite C	Disabled	N/A	Disabled	Disabled
Datamatrix	Enabled	N/A	Enabled	Enabled
Decoder Signature	Disabled	N/A	Disabled	Disabled
Discrete 2 of 5	Disabled	Disabled	Disabled	Disabled
Dutch Postal	Disabled	N/A	Disabled	Disabled
EAN13	Enabled	Enabled	Enabled	Enabled
EAN8	Enabled	Enabled	Enabled	Enabled
GS1 DataBar	Enabled	Enabled	Enabled	Enabled
GS1 DataBar Expanded	Enabled	Enabled	Enabled	Enabled
GS1 DataBar Limited	Disabled	Disabled	Disabled	Disabled
HAN XIN	N/A	N/A	Disabled	Disabled
Interleaved 2 of 5	Disabled	Disabled	Disabled	Disabled
Japanese Postal	Disabled	N/A	Disabled	Disabled
Korean 2 of 5	Disabled	Disabled	Disabled	Disabled
MAIL MARK	N/A	N/A	Enabled	Enabled
Matrix 2 of 5	Disabled	Disabled	Disabled	Disabled
Maxicode	Enabled	N/A	Enabled	Enabled
MicroPDF	Disabled	N/A	Disabled	Disabled
MicroQR	Disabled	N/A	Disabled	Disabled
MSI	Disabled	Disabled	Disabled	Disabled

Table 4-1 *Supported Decoders (Continued)*

Symbology	RS507	RS4000	RS5000	RS6000
PDF417	Enabled	Enabled	Enabled	Enabled
QRCode	Enabled	N/A	Enabled	Enabled
TLC39	Disabled	Disabled	Disabled	Disabled
Trioptic 39	Disabled	Disabled	Disabled	Disabled
UK Postal	Disabled	N/A	Disabled	Disabled
UPCA	Enabled	Enabled	Enabled	Enabled
UPCE0	Enabled	Enabled	Enabled	Enabled
UPCE1	Disabled	Disabled	Disabled	Disabled
US4state	N/A	N/A	Disabled	N/A
US4state FCIS	N/A	N/A	Disabled	N/A
US Planet	Disabled	N/A	Disabled	Disabled
US Postnet	Disabled	N/A	Disabled	Disabled

Decoder Params

Use **Decode Params** to configure individual decoder parameters.

Codabar

- **Length1** - Use to set decode lengths (default - 6). See *Decode Lengths on page 4-15* for more information.
- **Length2** - Use to set decode lengths (default - 55). See *Decode Lengths on page 4-15* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).
- **CLSI Editing** - Enable this parameter to strip the start and stop characters and insert a space after the first, fifth, and tenth characters of a 14-character Codabar symbol. Enable this feature if the host system requires this data format (default - disabled).
- **NOTIS Editing** - Enable this parameter to strip the start and stop characters from a decoded Codabar symbol. Enable this feature if the host system requires this data format (default - disabled).
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).

Code 11

- **Length1** - Use to set decode lengths (default - 4). See *Decode Lengths on page 4-15* for more information.
- **Length2** - Use to set decode lengths (default - 55). See *Decode Lengths on page 4-15* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).
- **Report Check Digit** - Transmit Code 11 data with or without the check digit. A check in the checkbox indicates to send Code 11 data with check digit (default - disabled).

- **Verify Check Digit** - Check the integrity of all Code 11 symbols to verify that the data complies with the specified check digit algorithm. This selects the check digit mechanism for the decoded Code 11 bar code.

    - **No Check Digit** - Do not verify check digit.

    - **1 Check Digit** - Bar code contains one check digit (default).

    - **2 Check Digits** - Bar code contains two check digits.

Code128

- **Check ISBT Table** - The ISBT specification includes a table that lists several types of ISBT bar codes that are commonly used in pairs. If ISBT128 Concat Mode is set, enable Check ISBT Table to concatenate only those pairs found in this table. Other types of ISBT codes are not concatenated. A check in the checkbox indicates that redundancy is enabled (default - disabled).

- **Enable GS1-128** - Set the GS1 128 subtype. A check in the checkbox indicates that the option is enabled (default - enabled).

- **Enable ISBT128** - Set the ISBT128 subtype. A check in the checkbox indicates that the option is enabled (default - enabled).

- **ISBT128 Concatenation Mode** - Select an option for concatenating pairs of ISBT code types:

    - **Concat Mode Never** - Do not concatenate pairs of ISBT codes encountered (default).

    - **Concat Mode Always** - There must be two ISBT codes in order to decode and perform concatenation. Does not decode single ISBT symbols.

    - **Concat Mode Auto** - Decodes and concatenates pairs of ISBT codes immediately. If only a single ISBT symbol is present, the device must decode the symbol the number of times set via DataWedge Configuration 4 - 11 Redundancy - Code128 before transmitting its data to confirm that there is no additional ISBT symbol.

- **Length1** - Use to set decode lengths (default - 0). See *Decode Lengths on page 4-15* for more information.

- **Length2**- Use to set decode lengths (default - 55). See *Decode Lengths on page 4-15* for more information.

- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - disabled).

- **Security Level** - The scanner offers four levels of decode security for Code 128 bar codes. Select increasing levels of security for decreasing levels of bar code quality. There is an inverse relationship between security and scanner aggressiveness, so choose only that level of security necessary for any given application.

    - **Security Level 0** - This setting allows the scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.

    - **Security Level 1** - This setting eliminates most misdecodes (default).

    - **Security Level 2** - Select this option if Security level 1 fails to eliminate misdecodes.

    - **Security Level 3** - If Security Level 2 is selected and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the scanner. If this level of security is needed, try to improve the quality of the bar codes.

- **Code128 Reduced Quiet Zone** - Enables decoding of margin-less Code 128 bar codes.

- **Ignore Code128 FCN4** - When enabled, and a Code 128 bar code has an embedded FNC4 character, it will be removed from the data and the following characters will not be changed. When the feature is disabled, the FNC4 character will not be transmitted but the following character will have 128 added to it.

Code39

- **Length1** - Use to set decode lengths (default - 0). See *Decode Lengths on page 4-15* for more information.

- **Length2** - Use to set decode lengths 4 (default - 55). See *Decode Lengths on page 4-15* for more information.
- **Verify Check Digit** - Enable this feature to check the integrity of all Code 39 symbols to verify that the data complies with a specified check digit algorithm. The digital scanner decodes only those Code 39 symbols that include a modulo 43 check digit. Enable this feature only if the Code 39 symbols contain a modulo 43 check digit (default - disabled).
- **Report Check Digit** - Transmit Code 39 data with or without the check digit. A check in the checkbox indicates to send Code 39 data with check digit (default - disabled).
- **Full ASCII**- Code 39 Full ASCII is a variant of Code 39 that pairs characters to encode the full ASCII character set. To enable or disable Code 39 Full ASCII (default - disabled),
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - disabled).
- **Convert Code39 To Code32** - Code 32 is a variant of Code 39 used by the Italian pharmaceutical industry. Scan the appropriate bar code below to enable or disable converting Code 39 to Code 32 (default - disabled).
- **Report Code32 Prefix** - Scan the appropriate bar code to enable or disable adding the prefix character "A" to all Code 32 bar codes (default - disabled).
- **Security Level** - Options: **Security level 0**, **Security Level 1**, **Security Level 2** and **Security Level 3** (default - Security level 1).
  - **Security Level 0** - This setting allows the scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
  - **Security Level 1** - This setting eliminates most misdecodes (default).
  - **Security Level 2** - Select this option if Security level 1 fails to eliminate misdecodes.
  - **Security Level 3** - If Security Level 2 is selected and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the scanner. If this level of security is needed, try to improve the quality of the bar codes.
- **Code39 Reduced Quiet Zone** - Enables decoding of margin-less Code 39 bar codes.

Code93

- **Length1** - Use to set decode lengths (default - 0). See *Decode Lengths on page 4-15* for more information.
- **Length2** - Use to set decode lengths (default - 55). See *Decode Lengths on page 4-15* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - disabled).

Composite AB (RS507, RS5000 and RS6000 only)

- **UCC Link Mode**
  - **Link Flag ignored** - 1D component is transmitted regardless of whether a 2D component is detected.
  - **Always Linked** - 1D and the 2D components are transmitted. If 2D is not present, the 1D component is not transmitted.
  - **Auto Discriminate** - the digital scanner determines if there is a 2D portion, then transmits the 1D component, as well as the 2D portion if present. (default).

Discrete 2 of 5

- **Length1** - Use to set decode lengths (default - 0). See *Decode Lengths on page 4-15* for more information.
- **Length2** - Use to set decode lengths (default - 14). See *Decode Lengths on page 4-15* for more information.

- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).

GS1 DataBar Limited

- **GS1 Limited Security Level** -
    - **Security Level 0** - This setting allows the scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
    - **Security Level 1** - This setting eliminates most misdecodes (default).
    - **Security Level 2** - Select this option if Security level 1 fails to eliminate misdecodes.
    - **Security Level 3** - If Security Level 2 is selected and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the scanner. If this level of security is needed, try to improve the quality of the bar codes.

Interleaved 2 of 5

- **Length1** - Use to set decode lengths (default - 14). See *Decode Lengths on page 4-15* for more information.
- **Length2** - Use to set decode lengths (default - 10). See *Decode Lengths on page 4-15* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).
- **Check Digit**
    - **No Check Digit** - A check digit is not used. (default)
    - **USS Check Digit** - Select to check the integrity of all Interleaved 2 of 5 symbols to verify the data complies with either the Uniform Symbology Specification (USS) check digit algorithm.
    - **OPCC Check Digit** - Select to check the integrity of all Interleaved 2 of 5 symbols to verify the data complies with either the Optical Product Code Council (OPCC) check digit algorithm.
- **Report Check Digit** - Transmit Interleaved 2 of 5 data with or without the check digit. A check in the checkbox indicates to send Interleaved 2 of 5 data with check digit (default - disabled).
- **Convert ITF-14 To EAN13** - Convert 14-character Interleaved 2 of 5 bar codes to EAN-13, and transmit as EAN-13. The Interleaved 2 of 5 bar code must be enabled and must have a leading zero and a valid EAN-13 check digit. A check in the checkbox indicates that the option is enabled (default - disabled).
- **I2of5 Security Level** - Options: **I2of5 Security level 0**, **I2of5 Security Level 1**, **I2of5 Security Level 2** and **I2of5 Security Level 3** (default - I2of5 Security level 1).
- **I2of5 Reduced Quiet Zone** - Enables decoding of margin-less I2of5 bar codes.

Matrix 2 of 5

- **Length1** - Use to set decode lengths (default - 10). See *Decode Lengths on page 4-15* for more information.
- **Length2** - Use to set decode lengths (default - 0). See *Decode Lengths on page 4-15* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - disabled).
- **Report Check Digit** - Transmit Matrix 2 of 5 data with or without the check digit. A check in the checkbox indicates to send Matrix 2 of 5 data with check digit (default - enabled).
- **Verify Check Digit** - Enable this feature to check the integrity of all Matrix 2 of 5 symbols to verify that the data complies with a specified check digit algorithm (default - enabled).

MSI

- **Length 1** - Use to set decode lengths (default - 4). See *Decode Lengths on page 4-15* for more information.

- **Length 2** - Use to set decode lengths (default - 55). See *Decode Lengths on page 4-15* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).
- **Check Digit** - With MSI symbols, one check digit is mandatory and always verified by the reader. The second check digit is optional.
    - **One Check Digit** - Verify one check digit (default).
    - **Two Check Digits** - Verify two check digits.
- **Check Digit Scheme** - Two algorithms are possible for the verification of the second MSI check digit. Select the algorithm used to encode the check digit.
    - **Mod-11-10** - First check digit is MOD 11 and second check digit is MOD 10 (default).
    - **Mod-10-10** - Both check digits are MOD 10.
- **Report Check Digit** - Transmit MSI data with or without the check digit. A check in the checkbox indicates to send MSI data with check digit (default - disabled).

Trioptic 39

- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).

UK Postal (RS507, RS5000 and RS6000 only)

- **Report Check Digit** - Transmit UK Postal data with or without the check digit. A check in the checkbox indicates to send UK Postal data with check digit (default - disabled).

UPCA

- **Report Check Digit** - The check digit is the last character of the symbol used to verify the integrity of the data. Enables or disables this option. A check in the checkbox indicates that the option is enabled (default - enabled).
- **Preamble** - Preamble characters are part of the UPC symbol consisting of Country Code and System Character. Select the appropriate option to match the host system.

    There are three options for transmitting a UPCA preamble:
    - **Preamble None** - Transmit no preamble.
    - **Preamble Sys Char** - Transmit System Character only (default).
    - **Preamble Country and Sys Char** - Transmit System Character and Country Code ("0" for USA). Select the appropriate option to match the host system.

UPCE0

- **Report Check Digit** - The check digit is the last character of the symbol used to verify the integrity of the data. Enables or disables this option. A check in the checkbox indicates that the option is enabled (default - disabled).
- **Preamble** - Preamble characters are part of the UPC symbol consisting of Country Code and System Character. Select the appropriate option to match the host system.

    There are three options for transmitting a UPCE0 preamble:
    - **Preamble Sys Char** - Transmit System Character only.
    - **Preamble Country and Sys Char** - Transmit System Character and Country Code ("0" for USA).
    - **Preamble None** - Transmit no preamble (default).

- **Convert UPCE0 To UPCA** - Enable to convert UPCE0 (zero suppressed) decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections. Disable to transmit UPCE0 decoded data as UPCE0 data, without conversion (default - disabled).

UPCE1

- **Report Check Digit** - The check digit is the last character of the symbol used to verify the integrity of the data. Enables or disables this option. A check in the checkbox indicates that the option is enabled (default - disabled).
- **Preamble** - Preamble characters are part of the UPC symbol consisting of Country Code and System Character. Select the appropriate option to match the host system.

  There are three options for transmitting a UPCE1 preamble:

  - **Preamble Sys Char** - Transmit System Character only.
  - **Preamble Country and Sys Char** - Transmit System Character and Country Code ("0" for USA).
  - **Preamble None** - Transmit no preamble (default).

- **Convert UPCE1 To UPCA** - Enable this to convert UPCE1 decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections. Disable this to transmit UPCE1 decoded data as UPCE1 data, without conversion (default - disabled).

US Planet (RS507, RS5000 and RS6000 only)

- **Report Check Digit** - The check digit is the last character of the symbol used to verify the integrity of the data. Enables or disables this option. A check in the checkbox indicates that the option is enabled (default - disabled).

Decode Lengths

- The allowable decode lengths are specified by options **Length1** and **Length2** as follows:
- Variable length: Decode symbols containing any number of characters.
  - Set both **Length1** and **Length2** to 0.
- Range: Decode a symbol with a specific length range (from *a* to *b*, including *a* and *b*).
  - Set **Length1** to *a* and set **Length2** to *b*.
- Two Discrete Lengths: Decode only symbols containing either of two selected lengths.
  - Set both **Length1** or **Length2** to the specific lengths. **Length1** must be greater than **Length2**.
- One Discrete Length: Decode only symbols containing a specific length.
  - Set both **Length1** and **Length2** to the specific length.

UPC EAN Params

Allows the configuration of the parameters that apply to more than one UPC or EAN decoder.

- **Convert DataBar To UPC EAN** - If this is set it converts DataBar bar codes to UPC/EAN format. For this setting to work UPC/EAN symbologies must be enabled. A check in the checkbox indicates that the option is enabled.
- **UPC Reduced Quiet Zone** - Enables decoding of margin-less UPC bar codes.
- **Bookland** - Enable Bookland decoding. A check in the checkbox indicates that the option is enabled.

- **Bookland Format** - If Bookland EAN is enabled, select one of the following formats for Bookland data (RS5000 only):
    - **Format ISBN-10** - The decoder reports Bookland data starting with 978 in traditional 10-digit format with the special Bookland check digit for backward-compatibility. Data starting with 979 is not considered Bookland in this mode. (default)
    - **Format ISBN-13** - The decoder reports Bookland data (starting with either 978 or 979) as EAN-13 in 13-digit format to meet the 2007 ISBN-13 protocol.
- **Coupon** - Enables Coupon code decoding. Note that in order to successfully decode Coupon codes, all of the correct decoders must be enabled. A check in the checkbox indicates that the option is enabled.
- **Coupon Report Mode** - Traditional coupon symbols are composed of two bar code: UPC/EAN and Code 128. A new coupon symbol is composed of a single Data Expanded bar code. The new format offers more options for purchase values (up to $999.999) and supports complex discount offers as a second purchase requirement. An interim coupon symbol also exists that contain both types of bar codes: UPC/EAN and Databar Expanded. This format accommodates both retailers that do not recognize or use the additional information included in the new coupon symbol, as well as those who can process new coupon symbols.
    - **Old Coupon Report Mode** - Scanning an old coupon symbol reports both UPC and Code 128, scanning is interim coupon symbol reports UPC, and scanning a new coupon symbol reports nothing (no decode).
    - **New Coupon Report Mode** - Scanning an old coupon symbol reports either UPC or Code 128, and scanning an interim coupon symbol or a new coupon symbol reports Databar Expanded.
    - **Both Coupon Report Modes** - Scanning an old coupon symbol reports both UPC and Code 128, and scanning an interim coupon symbol or a new coupon symbol reports Databar Expanded.
- **Ean Zero Extended** – Enable this parameter to add five leading zeros to decoded EAN-8 symbols to make them compatible in format to EAN-13 symbols. Disable this to transmit EAN-8 symbols as is. Default – disabled.
- **Linear Decode** - This option applies to code types containing two adjacent blocks (e.g., UPC-A, EAN-8, EAN-13). Enable this parameter to transmit a bar code only when both the left and right blocks are successfully decoded within one laser scan. Enable this option when bar codes are in proximity to each other.
- **Retry Count** - Retry count for auto-discriminating for supplementals. Possible values are 2 to 20 inclusive. Note that this flag is only considered if Supplemental Mode - UPC EAN is set to one of the following values: **Supplementals Auto**, **Supplementals Smart**, **Supplementals 378-379**, **Supplementals 978-979**, **Supplementals 977** or **Supplementals 414-419-434-439** (2 to 20, default 10).
- **Security Level** - The scanner offers four levels of decode security for UPC/EAN bar codes. Select higher security levels for lower quality bar codes. There is an inverse relationship between security and decode speed, so be sure to choose only that level of security necessary for the application.
    - **Level 0** - This default setting allows the scanner to operate fastest, while providing sufficient security in decoding "in-spec" UPC/EAN bar codes (default).
    - **Level 1** - As bar code quality levels diminish, certain characters become prone to misdecodes before others (i.e., 1, 2, 7, 8). If the scanner is misdecoding poorly printed bar codes, and the misdecodes are limited to these characters, select this security level.
    - **Level 2** - If the scanner is misdecoding poorly printed bar codes, and the misdecodes are not limited to characters 1, 2, 7, and 8, select this security level.
    - **Level 3** - If the scanner is still misdecoding, select this security level. Be advised, selecting this option is an extreme measure against misdecoding severely out of spec bar codes. Selecting this level of security can significantly impair the decoding ability of the scanner. If this level of security is necessary, try to improve the quality of the bar codes.
- **Supplemental2** - Enables or disables this option. A check in the checkbox indicates that the option is enabled.

- **Supplemental5** - Enables or disables this option. A check in the checkbox indicates that the option is enabled.

- **Supplemental Mode**

    - **No Supplementals** - the scanner is presented with a UPC/EAN plus supplemental symbol, the scanner decodes UPC/EAN and ignores the supplemental characters (default).

    - **Supplemental Always** - the scanner only decodes UPC/EAN symbols with supplemental characters, and ignores symbols without supplementals.

    - **Supplements Auto** - the scanner decodes UPC/EAN symbols with supplemental characters immediately. If the symbol does not have a supplemental, the scanner must decode the bar code the number of times set via UPC/EAN Supplemental Redundancy before transmitting its data to confirm that there is no supplemental.

    - **Supplemental Smart** - Enables smart supplementals. In this mode the decoder returns the decoded value of the main block right away if it does not belong to one of the following supplemental types: 378, 379, 977, 978, 979, 414, 419, 434 or 439. If the bar code starts with one of the prefixes it searches the image more aggressively for a supplemental. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

    - **Supplemental 378-379** - Enables (auto-discriminate) supplemental for UPC/EAN codes starting with 378 or 379. Disables reading of supplementals for any other UPC/EAN bar code not starting with 378 or 379. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

    - **Supplemental 978-979** - Enables (auto-discriminate) supplemental for UPC/EAN codes starting with 978 or 979. Disables reading of supplementals for another UPC/EAN bar code not starting with 978 or 979. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

    - **Supplemental 414-419-434-439** - Enables (auto-discriminate) supplemental for UPC/EAN codes starting with 414, 419, 434 or 439. Disables reading of supplementals for another UPC/EAN bar code 4 - 16 not starting with 414, 419, 434 or 439. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

    - **Supplemental 977** - Enables (auto-discriminate) supplemental for UPC/EAN codes starting with 977. Disables reading of supplementals for another UPC/EAN bar code not starting with 977. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

Reader Params

Allows the configuration of parameters specific to the selected bar code reader.

- **Adaptive Scanning** - The RS4000 contains the adaptive scanning feature that automatically adjusts the scan beam width for rapid and easy scanning of bar codes from near contact to more than 200 inches away. When the user presses the trigger, the RS4000 determines the distance from the bar code. For close bar codes the RS4000 sets a wide beam width and for far bar codes it sets a narrow beam width. The RS4000 uses distance, bar code type and material to determine the correct scan beam width. Options: **Enable** or **Disable**. (RS4000 only).

- **Beam Width** - Selects the beam width of the scanner. Options: **Narrow**, **Normal** or **Wide** (RS4000 only).

- **1D Quiet Zone Level** - Sets the level of aggressiveness in decoding bar codes with a reduced quiet zone (the area in front of and at the end of a bar code), and applies to symbologies enabled by a Reduced Quiet Zone parameter. Because higher levels increase the decoding time and risk of misdecodes, Zebra strongly

recommends enabling only the symbologies which require higher quiet zone levels, and leaving Reduced Quiet Zone disabled for all other symbologies (RS5000 and RS6000 only). Options are:

- **0** - The scanner performs normally in terms of quiet zone.
- **1** - The scanner performs more aggressively in terms of quiet zone (default).
- **2** - The scanner only requires one side EB (end of bar code) for decoding.
- **3** - The scanner decodes anything in terms of quiet zone or end of bar code.

- **Aim mode** - Turns the scanner cross-hairs on or off (RS507, RS5000 and RS6000 only).
  - **On** - Cross-hair is on (default).
  - **Off** - Cross-hair is off.

- **Character Set Selection** -
  - ISO-88959-1 - part of the ISO/IEC 8859 series of ASCII-based standard character encodings. It is generally intended for Western European languages.
  - Shift_JIS - Shift Japanese Industrial Standards (JIS) is a character encoding for the Japanese language.
  - UTF-8 - A character encoding capable of encoding all possible characters, or code points, defined by Unicode (default).

- **Time Delay to Low Power** - Sets the time the decoder remains active after decoding. After a scan session, the decoder waits this amount of time before entering Low Power Mode. Options: **1 Second** (default), **30 Seconds**, **1 Minute** or **5 Minutes**.

- **Illumination Brightness** - Sets the brightness of the illumination by altering LED power. The default is 10, which is maximum LED brightness. For values from 1 to 10, LED brightness varies from lowest to highest level of brightness (RS507/RS6000 only).

- **Illumination mode** - Turns imager illumination on and off. This option is only available when **Bluetooth Scanner** is selected in the **Barcode input**, **Scanner selection** option (RS507, RS5000 and RS6000 only).
  - **On** - Illumination is on.
  - **Off** - Illumination is off (default).

- **Inverse 1D Mode** - This parameter allows the user to select decoding on inverse 1D bar codes (RS507, RS5000 and RS6000 only).
  - **Disable** - Disables decoding of inverse 1D bar codes (default).
  - **Enable** - Enables decoding of only inverse 1D bar codes.
  - **Auto** - Allows decoding of both twice positive and inverse 1D bar codes.

- **LCD Mode** - Enables or disables LCD mode. LCD mode enhances the ability of the imager to read bar codes from LCD displays such as cellphones (RS507, RS5000 and RS6000 only).
  - **Disable** - Disables the LCD mode (default).
  - **Enable** - Enables LCD mode.

- **Picklist** - Allows the imager to decode only the bar code that is directly under the cross-hair/reticle (+) part of the pattern. This feature is useful in applications where multiple bar codes may appear in the field of view during a decode session and only one of them is targeted for decode (RS507, RS5000 and RS6000 only).
  - **Disabled** – Disables Picklist mode. Any bar code within the field of view can be decoded (default).
  - **Enabled** – Enables Picklist mode so that only the bar code under the projected reticle can be decoded.

- **Poor Quality Decode Effort** - Enable poor quality bar code decoding enhancement feature (RS5000 only).

- **Aim Timer** - Sets the maximum amount of time that aiming remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the aim to stay on indefinitely (default - 500) (RS5000 only).

- **Aim Type** - Set the aiming usage (RS507, RS5000 and RS6000 only).
  - **Trigger** - A trigger event activates decode processing, which continues until the trigger event ends or a valid decode occurs.
  - **Continuous** - When the imager detects an object in its field of view, it triggers and attempt to decode.
- **Beam Timer** - Sets the maximum amount of time that the reader remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the reader to stay on indefinitely (default -15000).
- **Different Symbol Timeout** - Controls the time the scanner is inactive between decoding different symbols. Programmable in 500 msec increments from 0 to 5 seconds. The default is 500 msec.
- **Power Mode** - Select whether or not the decoder enters Low Power consumption mode after a decode attempt.
  - **Optimized Power Mode** - Power level adjusts with scanning usage.
  - **High Power Mode** - High power, and excellent performance.
  - **Always On** - Highest power, fastest performance.
- **Same Symbol Timeout** - Controls the time the scanner is inactive between decoding same symbols. Programmable in 500 msec increments from 0 to 5 seconds. The default is 500 msec.

Scan Params

Allows the configuration of Code ID and decode feedback options.

- **Code ID Type** - A Code ID character identifies the code type of a scanned bar code. This is useful when the reader is decoding more than one code type. Select a code ID character to insert between the prefix and the decoded symbol.
  - **Code ID Type None** - No prefix.
  - **Code ID Type AIM** - Insert AIM Character prefix.
  - **Code ID Type Symbol** - Insert Symbol character prefix.
  - **Code ID Type None (Auto)** - No prefix. (default).
  - **Code ID Type Symbol (Auto)** - Insert Symbol character prefix.
- **Engine Decode LED** - Use to turn on scanner red LED when the scan beam is emitting either by scanner trigger or using soft scan button (RS507 and RS5000 only).
- **BT Disconnect On Exit** - Bluetooth connection is disconnected when data capture application is closed. (RS507 and RS6000 only).
- **Connection Idle Time** - Set connection idle time. The Bluetooth connection disconnects after being idle for set time (RS507 and RS6000 only).
- **Decode Haptic Feedback** - Enable the device to vibrate upon a good decode (default - enabled).
- **Display BT Address Barcode** - Enable or disable displaying Bluetooth Address bar code if there is no Bluetooth scanner being paired when application tries to enable the Bluetooth scanner (RS507 and RS6000 only).
- **Establish Connection Time** - The timeout which the WT6000 will try to enable or reconnect to the Bluetooth scanner when the Bluetooth scanner is not in the vicinity or not paired (RS507 and RS6000 only).
- **Audio Feedback Mode** - Select good decode audio indication.
  - **Local Audio Feedback** - Good decode audio indication on WT6000 only.
  - **Remote Audio Feedback** - Good decode audio indication on scanner only.
  - **Both** - Good decode audio indication on WT6000 and scanner.
  - **Disable** - No good decode audio indication on either WT6000 or scanner (default).

- **LED Feedback Mode** - Select good decode LED indication.
    - **Local LED Feedback -** Good decode LED indication on WT6000 only.
    - **Remote LED Feedback** - Good decode LED indication on scanner only.
    - **Both** Good decode LED indication on WT6000 and scanner (default).
    - **Disable** - No good decode LED indication on either WT6000 or scanner.
- **Decode Audio Feedback** - Select an audio tone to sound upon a good decode.
- **Decoding LED Notification** - Enable the device to light the red Data Capture LED when data capture is in progress. (default - disabled).
- **Decode Feedback LED Timer** - Set the amount of time (in milliseconds) that the green Data Capture LED stays lit after a good decode. (default - 75 msec.)
- **Beep Volume Control** - Set the good decode beep to a system or other sound. This allows for independent control of the good beep volume.

> ✓ **NOTE** Not all ringtones are fully supported as decode tones and those of longer length may be truncated when used as a decode tone. The recommendation is to test the selected tone for operation before deployment to a customer site.

- **Ringer** - Set the good decode beep to the ringer sound.
- **Notifications** - Set the good decode beep to the notification sound (default).
- **Alarms** - Set the good decode beep to the alarm sound.

Keystroke Output

Use to configure the Keystroke Output Plug-in for the profile.

- **Enabled** — Enables or disables this plug-in. A check in the checkbox indicates that the plug-in is enabled (default - enabled).
- **Action key character** - Enables decoding of a special character embedded within a bar code data for use in native Android applications. This feature is helpful when populating or executing a form.
    - **None** - Action key character feature is disabled (default).
    - **Tab** - Tab character code in a bar code is processed. When DataWedge detects this character code in a bar code, move the focus to the next field.
    - **Line feed** - Line feed character code in a bar code is processed. When DataWedge detects this character code in a bar code, move the focus to the next field.
    - **Carriage return** - Carriage return character code in a bar code is processed. When DataWedge detects this character code in a bar code, move the focus to the next field.
- **Multi byte character delay** - Set the inter-character delay for multi-byte characters (in milliseconds).
- **Advanced data formatting** - is a way to customizing data before transmission. Use advanced data formatting (ADF) to edit scan data to suit requirements.
    - **Enable** - Enables or disables ADF. A check in the checkbox indicates that ADF is enabled (default - disabled).
    - **Rules** - ADF uses rules to customize data. These rules perform detailed actions when the data meets certain criteria. One rule may consist of single or multiple criteria applied to single or multiple actions. See *Generating Advanced Data Formatting Rules on page 4-26* for more information.

- **Basic data formatting** - Allows the configuration of any data formatting for the related Output Plug-in. When the plug-in is disabled, any data is passed on without modification.

    - **Enabled** - Enables or disables Basic Data Formatting. A check in the checkbox indicates that it is enabled (default - enabled).

    - **Prefix to data** - Add characters to the beginning of the data when sent.

    - **Suffix to data** - Add characters to the end of the data when sent.

    - **Send data** - Set to transfer the captured data to the foreground application. Disabling this option prevents the actual data from being transmitted. However, the prefix and suffix strings, if present, are still transmitted even when this option is disabled (default - enabled).

    - **Send as hex** - Set to send the data in hexadecimal format. A check in the checkbox indicates that the plug-in is enabled (default - disabled).

    - **Send TAB key** - Set to append a tab character to the end of the processed data. A check in the checkbox indicates that the plug-in is enabled (default - disabled).

    - **Send ENTER key** - Set to append an Enter character to the end of the processed data. A check in the checkbox indicates that the plug-in is enabled (default - disabled).

Intent Output

Allows configuration of the Intent Output Plug-in for the profile. The Intent Output Plug-in allows the captured data to be sent to an application in the form of an implicit Intent. Refer to the Android Developer web site for more information, http://developer.android.com.

- **Enabled** - Enables or disables this plug-in. A check in the checkbox indicates that the plug-in is enabled (default - disabled).

- **Intent action** - Enter the Intent Action name (required).

- **Intent category** - Enter the Intent Category name (required).

- **Intent delivery** - Select the method by which the intent is delivered:

    - Send via StartActivity

    - Send via startService (default)

    - Broadcast intent

- **Receiver foreground flag** - Set flag in broadcast event.

- **Advanced data formatting** - is a way to customizing data before transmission. Use advanced data formatting (ADF) to edit scan data to suit requirements.

    - **Enable** - Enables or disables ADF. A check in the checkbox indicates that ADF is enabled (default - disabled).

    - **Rules** - ADF uses rules to customize data. These rules perform detailed actions when the data meets certain criteria. One rule may consist of single or multiple criteria applied to single or multiple actions. See *Generating Advanced Data Formatting Rules on page 4-26* for more information.

- **Basic data formatting** - Allows configuration of any data formatting for the related Output Plug-in. When the plug-in is disabled any data is passed on without modification.
  - **Enabled** - Enables or disables Basic Data Formatting. A check in the checkbox indicates that it is enabled (default - enabled).
  - **Prefix to data** - Add characters to the beginning of the data when sent.
  - **Suffix to data** - Add characters to the end of the data when sent.
  - **Send data** - Set to transfer the captured data to the foreground application. Disabling this option prevents the actual data from being transmitted. However, the prefix and suffix strings, if present, are still transmitted even when this option is disabled (default - enabled).
  - **Send as hex** - Set to send the data in hexadecimal format. A check in the checkbox indicates that the plug-in is enabled (default - disabled).
  - **Send TAB key** - Set to append a tab character to the end of the processed data. A check in the checkbox indicates that the plug-in is enabled (default - disabled).
  - **Send ENTER key** - Set to append an Enter character to the end of the processed data. A check in the checkbox indicates that the plug-in is enabled (default - disabled).

Intent Overview

The core components of an Android application (its activities, services, and broadcast receivers) are activated by intents. An intent is a bundle of information (an Intent object) describing a desired action - including the data to be acted upon, the category of component that should perform the action, and other pertinent instructions. Android locates an appropriate component to respond to the intent, launches a new instance of the component if one is needed, and passes it the Intent object.

Components advertise their capabilities, the kinds of intents they can respond to, through intent filters. Since the system must learn which intents a component can handle before it launches the component, intent filters are specified in the manifest as <intent-filter> elements. A component may have any number of filters, each one describing a different capability. For example, if the manifest contains the following:

<intent-filter . . . >

<action android:name="android.intent.action.DEFAULT" />

<category android:name="android.intent.category.MAIN" />

</intent-filter>

In the Intent output plug-in configuration, the **Intent action** would be:

android.intent.category.DEFAULT

and the Intent category would be:

android.intent.category.MAIN.

The **Intent delivery** option allows the method by which the intent is delivered to be specified. The delivery mechanisms are **Send via startActivity**, **Send via startService** or **Broadcast intent**.

The decode related data added to the Intent's bundle can be retrieved using the Intent.getStringExtra() and Intent.getSerializableExtra() calls, using the following String tags:

- String LABEL_TYPE_TAG = "com.symbol.emdk.datawedge.label_type";
    - String contains the label type of the bar code.
- String DATA_STRING_TAG = "com.symbol.emdk.datawedge.data_string";
    - String contains the output data as a String. In the case of concatenated bar codes, the decode data is concatenated and sent out as a single string.
- String DECODE_DATA_TAG = "com.symbol.emdk.datawedge.decode_data";
    - Decode data is returned as a list of byte arrays. In most cases there will be one byte array per decode. For bar code symbologies that support concatenation e.g. Codabar, Code128, MicroPDF, etc., the decoded data is stored in multiple byte arrays (one byte array per bar code). Clients can get data in each byte array by passing an index.

Most scanning applications might want the user to be able to decode data and for that decode data to be sent to the ***current*** activity but not necessarily displayed. If this is the case, then the activity needs to be marked as 'singleTop' in its AndroidManifest.xml file. If your activity is not defined as singleTop, then on every decode, the system will create another copy of your Activity and send the decode data to this second copy.

Finally there will be a configuration option for each process plug-in so that the process plug-in can be configured specifically for the intent output, which in this case is the basic data formatting process plug-in.

IP Output

> ✓ **NOTE** IPWedge application is required on a host computer. Download the IPWedge application from the Support Central web site: http://www.zebra.com/support.

IP Output allows DataWedge to send captured data to a host computer via a network connection. Captured data can be sent over an IP network to a specified IP address and port using either TCP or UDP transport protocols.

- **Enabled** - Enables or disables this plug-in. A check in the checkbox indicates that the plug-in is enabled (default - disabled).
- **Remote Wedge** - Enable or disable the Remote Wedge option (default - enabled). Remote Wedge is used with the IPWedge application.
- **Protocol** - Select the protocol used by the remote application. Options: **TCP** (default) or **UDP**.
- **IP address** - Enter the IP address used by the remote application (default - 0.0.0.0).
- **Port** - Enter the port number used by the remote application (default - 58627).
- **Advanced data formatting** - is a way of customizing data before transmission. Use advanced data formatting (ADF) to edit scan data to suit requirements.
    - **Enable** - Enables or disables ADF. A check in the checkbox indicates that ADF is enabled (default - disabled).
    - **Rules** - ADF uses rules to customize data. These rules perform detailed actions when the data meets certain criteria. One rule may consist of single or multiple criteria applied to single or multiple actions. See *Generating Advanced Data Formatting Rules on page 4-26* for more information.

- **Basic data formatting** - Allows configuration of any data formatting for the related Output Plug-in. When the plug-in is disabled any data is passed on without modification.
  - **Enabled** - Enables or disables Basic Data Formatting. A check in the checkbox indicates that it is enabled (default - enabled).
  - **Prefix to data** - Add characters to the beginning of the data when sent.
  - **Suffix to data** - Add characters to the end of the data when sent.
  - **Send data** - Set to transfer the captured data to the foreground application. Disabling this option prevents the actual data from being transmitted. However, the prefix and suffix strings, if present, are still transmitted even when this option is disabled (default - enabled).
  - **Send as hex** - Set to send the data in hexadecimal format. A check in the checkbox indicates that the plug-in is enabled (default - disabled).
  - **Send TAB key** - Set to append a tab character to the end of the processed data. A check in the checkbox indicates that the plug-in is enabled (default - disabled).
  - **Send ENTER key** - Set to append an Enter character to the end of the processed data. A check in the checkbox indicates that the plug-in is enabled (default - disabled).

Usage

This section provides information on how to configure IP Output using the DataWedge configuration user interface. To use IP Output in a particular DataWedge profile (for example: **Profile0**), scroll downward on **IP Output**.
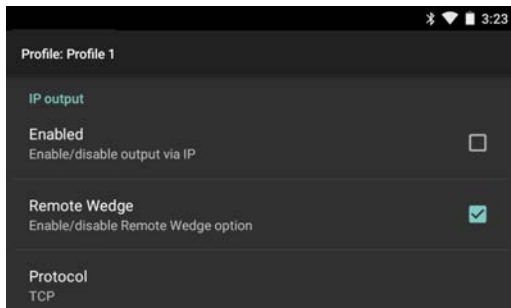
Figure 4-13   *IP Output Screen*

Using IP Output with IPWedge

IPWedge is a computer application that can be easily configured to retrieve data sent over network by DataWedge IP Output. Refer to the *IPWedge User Manual* on how to install and configure in a host computer. To enable IP Output to send captured data to a remote computer that is installed with IPWedge:

1. In **IP Output**, touch **Enabled**.

   A check appears in the checkbox.

2. Ensure **Remote Wedge** option is enabled.

3. Touch **Protocol**.

4. In the **Choose protocol** dialog box, touch the same protocol selected for the IPWedge computer application. (TCP is the default).
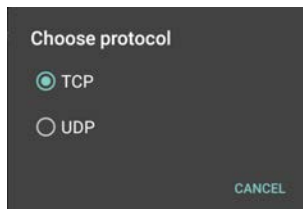
Figure 4-14   *Protocol Selection*

5.   Touch **IP Address**.

6.   In the **Enter IP Address** dialog box, enter the IP address of host computer to send data to.
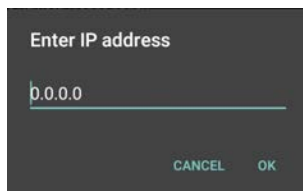
Figure 4-15   *IP Address Entry*

7.   Touch **Port**.

8.   In the **Enter port number** dialog box, enter same port number selected for IPWedge computer application.
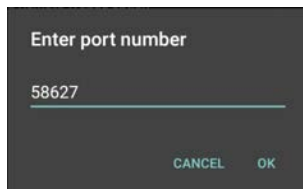
Figure 4-16   *Port Number Entry*

9.   Configure **Advanced data formatting** and **Basic data formatting** Plug-in if any required modification to be done to captured data before sending to remote computer.

Using IP Output without IPWedge

IP Output Plug-in can be used to send captured data from DataWedge to a remote device or host computer without using IPWedge. At the data receiving end, the host computer or mobile device should have an application, that listens to TCP or UDP data coming from a configured port and IP address in the IP Output plug-in. To enable IP Output to send captured data to a remote computer:

1.   In **IP Output**, touch **Enabled**.

2.   A check appears in the checkbox.

3.   Ensure **Remote Wedge** option is disabled.

4.   Touch **Protocol**.

5.   In the **Choose protocol** dialog box, touch the same protocol selected in the client application. (TCP is the default).

Figure 4-17 *Protocol Selection*

**6.** Touch **IP Address**.

7. In the **Enter IP address** dialog box, enter the IP address of host computer to send data to.

Figure 4-18 *IP Address Entry*

8. Touch **Port**.

9. In the **Enter port number** dialog box, enter the port number that the host computer application is listening on.
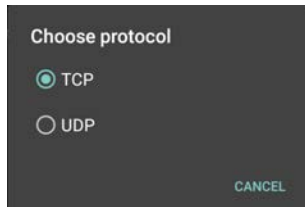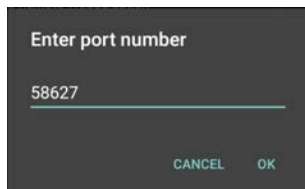

Figure 4-19 *Port Number Entry*

10. Configure **Advanced Data Formatting** and **Basic Data Formatting** Plug-in if any required modification to be done to captured data before sending to remote computer.
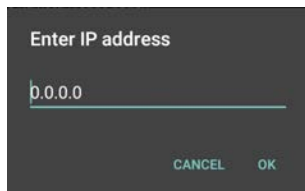
Generating Advanced Data Formatting Rules

The ADF plug-in applies rules (actions to be performed based on defined criteria) to the data received via an input plug-in before sending it to the output plug-in.

- Rules - The ADF process plug-in consists of one or more rules. DataWedge formats the output data according to the first matching rule. A rule is a combination of criteria and a set of actions to be performed, upon fulfillment of the criteria set in the rule.

- Criteria - Criteria can be set according to Input plug-in, symbology, matching string within the data (at the specified position) and/or data length. Received data must match the defined criteria in order for the data to be processed.

- Actions - A set of procedures defined to format data. There are four types of actions which are for formatting cursor movement, data modification, data sending and delay specifications. An action can be defined to send the first number of characters to the Output plug-in, pad the output data with spaces or zeros, remove spaces in data, etc.

Configuring ADF Plug-in

Configuring the ADF plug-in consists of creating a rule, defining the criteria and defining the actions.

1. Touch ⊞ > 📊 .
2. Touch a DataWedge profile.
3. In **Keystroke Output**, touch **Advanced data formatting**.
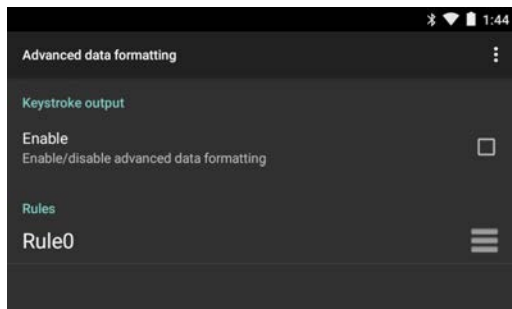
Figure 4-20 *Advanced Data Formatting Screen*

4. Touch the **Enable** checkbox to enable ADF.

Creating a Rule

✓ *NOTE* By default, Rule0, is the only rule in the Rules list.

1. Touch ⋮ .
2. Touch **New rule**.
3. Touch the **Enter rule name** text box.
4. In the text box, enter a name for the new rule.
5. Touch **OK**.

Deleting a Rule

1. Touch and hold on a rule until the context menu appears.
2. Touch **Delete** to delete the rule from the **Rules** list.

✓ *NOTE* When there is no rule available for ADF plug-in or all rules are disabled, DataWedge passes decoded data to the output plug-in without processing the data.

Defining Criteria

1. Touch **Criteria**.
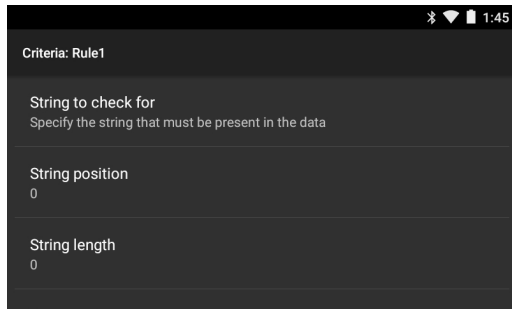
Figure 4-21 *Criteria Screen*

2. Touch **String to check for** option to specify the string that must be present in the data.

3. In the **Enter the string to check for** dialog box, enter the string.

4. Touch **OK**.

5. Touch **String position** option to specify the position of the string specified in the **String to check for** option. The ADF rule is only applied if the specific string in **String to check** for is found at the specified **String position** location (zero for the start of the string).

6. Touch the **+** or **-** to change the value.

7. Touch **OK**.

8. Touch **String length option** to specify a length for the received data. The ADF rule only applies to the bar code data with that specified length.

9. Touch the **+** or **-** to change the value.

10. Touch **OK**.

11. Touch **Source criteria** option to associate an input device to an ADF rule. The ADF rule only applies to data received from associated input devices.

12. Touch **Barcode input**.

13. Touch the **Source enabled** checkbox to accept data from this source.
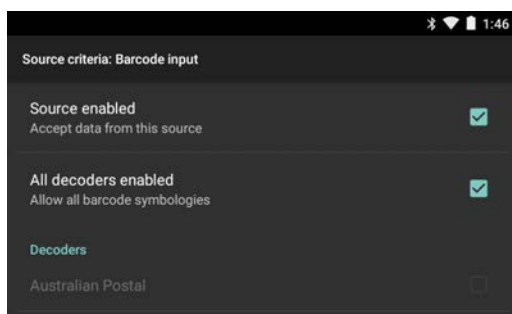
Figure 4-22 *Barcode Input Screen*

14. For **Barcode inputs**, touch the **All decoders enabled** checkbox to select all bar code symbologies. Deselect the **All decoders enabled** checkbox to individually select the symbologies.

15. Touch ◁ until the **Rule** screen appears.

16. If required, repeat steps to create another rule.

17. Touch ◁ until the Rule screen appears.

Defining an Action

NOTE By default the Send remaining action is in the Actions list.

1. Touch ⋮ .
2. Touch **New action**.
3. In the **New action** menu, select an action to add to the **Actions** list. See *Table 4-2 on page 4-29* for a list of supported ADF actions.
4. Some Actions require additional information. Touch the Action to display additional information fields.
5. Repeat steps to create more actions.
6. Touch ◁.
7. Touch ◁.

Deleting a Rule

1. Touch and hold on a rule until the context menu appears.
2. Touch **Delete** to delete the rule from the **Rules** list.

NOTE When there is no rule available for ADF plug-in or all rules are disabled, DataWedge passes decoded data to the output plug-in without processing the data.

Order Rules List

NOTE When there are no rules defined, ADF passes the captured data through as is. In contrast, when rules are defined but all are disabled, ADF does not pass any captured data through.

Rules are processed in top-down order. The rules that are on top of the list are processed first. Use the icon next to the rule to move it to another position in the list.

Table 4-2 *ADF Supported Actions*

Type	Actions	Description
Cursor Movement	Skip ahead	Moves the cursor forward by a specified number of characters. Enter the number of characters to move the cursor ahead.
	Skip back	Moves the cursor back by a specified number of characters. Enter the number of characters to move the cursor back.
	Skip to start	Moves the cursor to the beginning of the data.
	Move to	Moves the cursor forward until the specified string is found. Enter the string in the data field.
	Move past a	Moves the cursor forward past the specified string. Enter the string in the data field.

Table 4-2   *ADF Supported Actions (Continued)*

Type	Actions	Description
Data Modification	Crunch spaces	Remove spaces between words to one and remove all spaces at the beginning and end of the data.
	Stop space crunch	Stops space crunching. This disables the last **Crunch spaces** action.
	Remove all spaces	Remove all spaces in the data.
	Stop space removal	Stop removing spaces. This disables the last **Remove all spaces** action.
	Remove leading zeros	Remove all zeros at the beginning of data.
	Stop zero removal	Stop removing zeros at the beginning of data. This disables the previous **Remove leading zeros** action.
	Pad with zeros	Left pad data with zeros to meet the specified length. Enter the number zeros to pad.
	Stop pad zeros	Stop padding with zeros. This disables the previous **Pad with zeros** action.
	Pad with spaces	Left pad data with spaces to meet the specified length. Enter the number spaces to pad.
	Stop pad spaces	Stop padding with spaces. This disables the previous **Pad with spaces** action.
	Replace string	Replaces a specified string with a new string. Enter the string to replace and the string to replace it with.
	Stop all replace string	Stop all **Replace string** actions.
Data Sending	Send next	Sends the specified number of characters from the current cursor position. Enter the number of characters to send.
	Send remaining	Sends all data that remains from the current cursor position.
	Send up to	Sends all data up to a specified string. Enter the string.
	Send pause	Pauses the specified number of milliseconds before continuing the next action. Enter the amount of time in milliseconds.
	Send string	Sends a specified string. Enter the string to send.
	Send char	Sends a specified ASCII/ Unicode character. Enter a character value. The maximum Unicode character value can be entered is U-10FFFF (= 1114111 in decimal).

Deleting an Action

1. Touch and hold the action name.
2. Select **Delete action** from the context menu.

ADF Example

The following illustrates an example of creating Advanced Data Formatting:

When a user scans a bar code with the following criteria:

- Code 39 bar code.
- length of 12 characters.
- contains 129 at the start position.

Modify the data as follows:

- Pad all sends with zeros to length 8.
- send all data up to character X.
- send a space character.

To create an ADF rule for the above example:

1. Touch 🌐 > **DataWedge** > **Profile0**.
2. Under **Keystroke Output**, touch **Advanced data formatting**.
3. Touch **Enable**.
4. Touch **Rule0**.
5. Touch **Criteria**.
6. Touch **String to check for**.
7. In the **Enter the string to check for** text box, enter 129 and then touch **OK**.
8. Touch **String position**.
9. Change the value to 0.
10. Touch **OK**.
11. Touch **String length**.
12. Change value to 12.
13. Touch **OK**.
14. Touch **Source criteria**.
15. Touch **Barcode input**.
16. Touch **All decoders enabled** to disable all decoders.
17. Touch **Code 39**.
18. Touch ◁ three times.
19. Touch and hold on the **Send remaining rule** until a menu appears.
20. Touch **Delete action**.
21. Touch ⋮ .
22. Touch **New action**.
23. Select **Pad with zeros**.
24. Touch the **Pad with zeros** rule.
25. Touch **How many**.
26. Change value to 8 and then touch **OK**.

27. Touch ◁.

28. Touch ⋮ .

29. Touch **New action**.

30. Select **Send up to**.

31. Touch **Send up to** rule.

32. Touch **String**.

33. In the **Enter a string** text box, enter X.

34. Touch **OK**.

35. Touch ◁.

36. Touch ⋮ .

37. Touch **New action**.

38. Select **Send char**.

39. Touch **Send char** rule.

40. Touch **Character code**.

41. In the **Enter character code** text box, enter 32.

42. Touch **OK**.

43. Touch ◁.
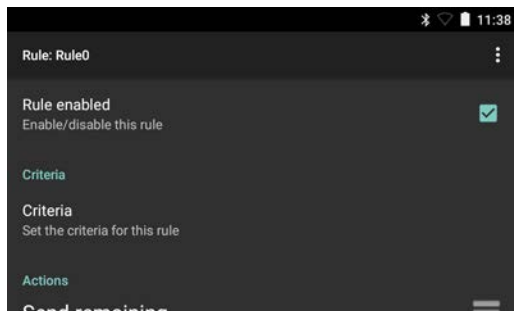
Figure 4-23 *ADF Sample Screen*

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

45. Aim the exit window at the bar code.

1299X1559828

Figure 4-24 *Sample Bar Code*

46. Press and hold the scan key.

The red laser aiming pattern turns on to assist in aiming. Ensure that the bar code is within the area formed by the aiming pattern. The LED light red to indicate that data capture is in process.

47. The LED lights green, a beep sounds and the device vibrates, by default, to indicate the bar code was decoded successfully.The LED lights green and a beep sounds, by default, to indicate the bar code was decoded successfully. The formatted data 000129X<space>appears in the text field.

Scanning a Code 39 bar code of 1299X15598 does not transmit data (rule is ignored) because the bar code data did not meet the length criteria.
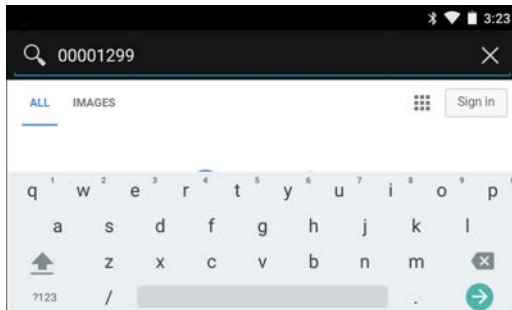
Figure 4-25 *Formatted Data*

DataWedge Settings

The DataWedge Settings screen provides access to general, non-profile related options. Touch ⋮ > **Settings**.
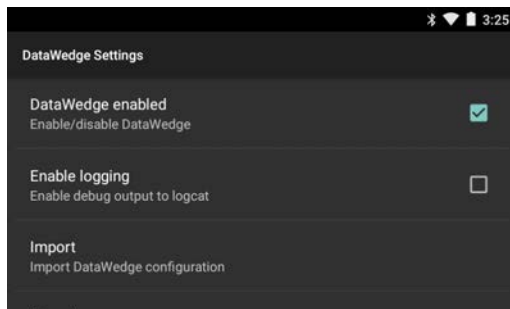
Figure 4-26 *DataWedge Settings Window*

- **DataWedge enabled** - Enables or disables DataWedge. To disable DataWedge uncheck this option.
- **Enable logging** - Enables or disables debug output file to logcat. To enable logging check this option.
- **Import** - allows import of a DataWedge configuration file. The imported configuration replaces the current configuration.
- **Export** - allows export of the current DataWedge configuration.
- **Import Profile** - allows import of a DataWedge profile file.
- **Export Profile** - allows export of a DataWedge profile.
- **Restore** - return the current configuration back to factory defaults.

Importing a Configuration File

1. Copy the configuration file to the Internal Storage `/Android/data/com.symbol.datawedge/files` folder.
2. Touch ⊕ > ▮▮ .
3. Touch ⋮ .
4. Touch **Settings**.
5. Touch **Import**.

6.   Touch **filename to import**.

7.   Touch **Import**. The configuration file (*datawedge.db*) is imported and replaces the current configuration.

Exporting a Configuration File

1.   Touch ⊞ > ▥ .

2.   Touch ⋮ .

3.   Touch **Settings**.

4.   Touch **Export**.

5.   In the **Export to** dialog box, select the location to save the file.

6.   Touch **Export**. The configuration file (*datawedge.db*) is saved to the selected location.

Importing a Profile File

> ✓ *NOTE* Do not change the filename of the of the profile file. If the filename is changed, the file will not be imported.

1.   Copy the profile file to the Internal Storage **/Android/data/com.symbol.datawedge/files** folder.

2.   Touch ⊞ > ▥ .

3.   Touch ⋮ .

4.   Touch **Settings**.

5.   Touch **Import Profile**.

6.   Touch the profile file to import.

7.   Touch **Import**. The profile file (*dwprofile_x.db*, where x = the name of the profile) is imported and appears in the profile list.

Exporting a Profile

1.   Touch ⊞ > ▥ .

2.   Touch ⋮ .

3.   Touch **Settings**.

4.   Touch **Export Profile**.

5.   Touch the profile to export.

6.   Touch **Export**.

     The profile file (*dwprofile_x.db*, where x = name of the profile) is saved to the selected location.

Restoring DataWedge

To restore DataWedge to the factory default configuration:

1.   Touch ⊞ > ▥ .

2.   Touch ⋮ .

3.   Touch **Settings**.

4. Touch **Restore**.

5. Touch **Yes**.

Configuration and Profile File Management

The configuration or profile settings for DataWedge can be saved to a file for distribution to other devices.

After making configuration or profile changes, export the new configuration or profile to the root of the Internal Storage. The configuration file created is automatically named *datawedge.db*. The profile file created is automatically named *dwprofile_x.db*, where *x* is the profile name. The files can then the copied to the Internal Storage of other devices and imported into DataWedge on those devices. Importing a configuration or profile replaces the existing settings.

Enterprise Folder

Internal storage contains the Enterprise folder (*/enterprise*). The Enterprise folder is persistent and maintains data after an Enterprise reset. After an Enterprise Reset, DataWedge checks folder */enterprise/device/settings/datawedge/enterprisereset/*for a configuration file, *datawedge.db* or a profile file, *dwprofile_x.db*. If the file is found, it imports the file to replace any existing configuration or profile.

✓ *NOTE* A Factory Reset deletes all files in the Enterprise folder.

Auto Import

DataWedge supports remote deployment of a configuration to a device, using tools such as MSP. DataWedge monitors the */enterprise/device/settings/datawedge/autoimport* folder for the DataWedge configuration file (*datawedge.db*) or a profile file (*dwprofile_x.db*). When DataWedge launches it checks the folder. If a configuration or profile file is found, it imports the file to replace any existing configuration or profile. Once the file has been imported it is deleted from the folder.

While DataWedge is running it receives a notification from the system that a file has been placed into the */enterprise/device/settings/datawedge/autoimport* folder. When this occurs, DataWedge imports this new configuration or profile, replacing the existing one and delete the file. DataWedge begins using the imported configuration immediately.

✓ *NOTE* A Factory Reset deletes all files in the Enterprise folder.

It is strongly recommended that the user exits DataWedge before remotely deploying any configuration or profile. It is required that the file permissions are set to 666.

Programming Notes

The following paragraphs provide specific programming information when using DataWedge.

Overriding Trigger Key in an Application

To override the trigger key in an application, create a profile for the application that disables the Barcode input. In the application, use standard APIs, such as onKeyDown() to listen for the KEYCODE_BUTTON_L1 and KEYCODE_BUTTON_R1 presses.

Capture Data and Taking a Photo in the Same Application

To be able to capture bar code data and take a photo in the same application:

- Create a Datawedge profile pertaining to the picture taking Activity in your application that disables scanning and use standard Android SDK APIs to control the Camera.
- The default Datawedge profile takes care of the scanning in the application. You might want to create another DataWedge profile that caters to any specific scanning needs, associated to your Application's Activity pertaining to scanning.

Disable DataWedge on Device and Mass Deploy

To disable DataWedge and deploy onto multiple devices:

1. Touch ⊞ > ▥ .
2. Touch ⋮ .
3. Touch **Settings**.
4. Unselect the **DataWedge enabled** check box.
5. Export the DataWedge configuration. See *Exporting a Configuration File on page 4-34* for instructions. See *Configuration and Profile File Management on page 4-35* for instructions for using the auto import feature.

Soft Scan Feature

DataWedge allows a native Android application to programmatically start, stop, or toggle the scan trigger state. The application can issue an Android Broadcast Intent, to control the scanner, without requiring the scan key to be pressed. The active DataWedge profile is required to control all the parameters during a scan operation.

The structure of the broadcast intent that resolves to the soft scan is:

action: "com.symbol.emdk.datawedge.api.ACTION_SOFTSCANTRIGGER"

extras: This is a String name/value pair that contains trigger state details.

name: "com.symbol.emdk.datawedge.api.EXTRA_PARAMETER"

value: "START_SCANNING" or "STOP_SCANNING" or "TOGGLE_SCANNING"

Sample

```
Intent sendIntent = new Intent();
sendIntent.setAction("com.symbol.emdk.datawedge.api.ACTION_SOFTSCANTRIGGER");
sendIntent.putExtra("com.symbol.emdk.datawedge.api.EXTRA_PARAMETER",
"TOGGLE_SCANNING");
sendBroadcast(sendIntent);
```

Scanner Input Plugin

The ScannerInputPlugin API command can be used to enable/disable the scanner plug-in being used by the currently active Profile. Disabling the scanner plug-in effectively disables scanning in that Profile, regardless of whether the Profile is associated or unassociated. Valid only when Barcode Input is enabled in the active Profile.

> **NOTE** Use of this API changes only the runtime status of the scanner; it does not make persistent changes to the Profile.

Function Prototype

```
Intent i = new Intent();
i.setAction(ACTION);
i.putExtra(EXTRA_DATA, "<parameter>");
```

Parameters

action: String "com.symbol.datawedge.api.ACTION_SCANNERINPUTPLUGIN"

extra_data: String "com.symbol.datawedge.api.EXTRA_PARAMETER"

<parameter>: The parameter as a string, using either of the following:

- "ENABLE_PLUGIN" - enables the plug-in
- "DISABLE_PLUGIN" - disables the plug-in

Return Values

None.

Error and debug messages will be logged to the Android logging system which then can be viewed and filtered by the logcat command. You can use logcat from an ADB shell to view the log messages, e.g.

```
$ adb logcat -s DWAPI
```

Error messages will be logged for invalid actions and parameters.

Example

```
// define action and data strings
String scannerInputPlugin =
"com.symbol.datawedge.api.ACTION_SCANNERINPUTPLUGIN";
String extraData = "com.symbol.datawedge.api.EXTRA_PARAMETER";


public void onResume() {
   // create the intent
   Intent i = new Intent();
   // set the action to perform
   i.setAction(scannerInputPlugin);
   // add additional info
   i.putExtra(extraData, "DISABLE_PLUGIN");
   // send the intent to DataWedge
   context.this.sendBroadcast(i);
}
```

Comments

This Data Capture API intent allows the scanner plug-in for the current Profile to be enabled or disabled. For example, activity A launches and uses the Data Capture API intent to switch to ProfileA in which the scanner plug-in is enabled, then at some point it uses the Data Capture API to disable the scanner plug-in. Activity B is launched. In DataWedge, ProfileB is associated with activity B. DataWedge switches to ProfileB. When activity A comes back to the foreground, in the **onResume** method, activity A needs to use the Data Capture API intent to switch back to ProfileA, then use the Data Capture API intent again to disable the scanner plug-in, to return back to the state it was in.

✓ *NOTE* Use of this API changes only the runtime status of the scanner; it does not make persistent changes to the Profile.

The above assumes that ProfileA is not associated with any applications/activities, therefore when focus switches back to activity A, DataWedge will not automatically switch to ProfileA therefore activity A must switch back to ProfileA in its onResume method. Because DataWedge will automatically switch Profile when an activity is paused, it is recommended that this API function be called from the onResume method of the activity.

Enumerate Scanners

Use the enumerateScanners API command to get a list of scanners available on the device.

Function Prototype

```
Intent i = new Intent();
i.setAction(ACTION);
```

Parameters

action: String "com.symbol.datawedge.api.ACTION_ENUMERATESCANNERS"

Return Values

The enumerated list of scanners will be returned via a broadcast Intent. The broadcast Intent action is "com.symbol.datawedge.api.ACTION_ENUMERATEDSCANNERLIST" and the list of scanners is returned as a string array (see the example below).

Error and debug messages will be logged to the Android logging system which then can be viewed and filtered by the logcat command. You can use logcat from an ADB shell to view the log messages, e.g.

```
$ adb logcat -s DWAPI
```

Error messages will be logged for invalid actions and parameters

Example

```
// first send the intent to enumerate the available scanners on the device
// define action string
String enumerateScanners = "com.symbol.datawedge.api.ACTION_ENUMERATESCANNERS";
// create the intent
Intent i = new Intent();
// set the action to perform
i.setAction(enumerateScanners);
// send the intent to DataWedge
context.this.sendBroadcast(i);


// now we need to be able to receive the enumerate list of available scanners
String enumeratedList = "com.symbol.datawedge.api.ACTION_ENUMERATEDSCANNERLIST";
String KEY_ENUMERATEDSCANNERLIST = "DataWedgeAPI_KEY_ENUMERATEDSCANNERLIST";
// Create a filter for the broadcast intent
IntentFilter filter = new IntentFilter();
filter.addAction(enumeratedList);
registerReceiver(myBroadcastReceiver, filter);


// now we need a broadcast receiver
private BroadcastReceiver myBroadcastReceiver = new BroadcastReceiver() {
    @Override
    public void onReceive(Context context, Intent intent) {
        String action = intent.getAction();
        if (action.equals(enumeratedList)) {
            Bundle b = intent.getExtras();
            String[] scanner_list = b.getStringArray(KEY_ENUMERATEDSCANNERLIST);
        }
    }
};
```

Comments

The scanner and its parameters are set based on the currently active Profile.

Set Default Profile

Use the setDefaultProfile API function to set the specified Profile as the default Profile.

Default Profile Recap

Profile0 is the generic Profile used when there are no user created Profiles associated with an application.

Profile0 can be edited but cannot be associated with an application. That is, DataWedge allows manipulation of plug-in settings for Profile0 but it does not allow assignment of a foreground application. This configuration allows DataWedge to send output data to any foreground application other than applications associated with user-defined Profiles when Profile0 is enabled.

Profile0 can be disabled to allow DataWedge to only send output data to those applications which are associated in user-defined Profiles. For example, create a Profile associating a specific application, disable Profile0 and then scan. DataWedge only sends data to the application specified in the user-created Profile. This adds additional security to DataWedge enabling the sending of data only to specified applications.

Usage Scenario

A launcher application has a list of apps that a user can launch and that none of the listed apps has an associated DataWedge Profile. Once the user has selected an app, the launcher needs to set the appropriate DataWedge Profile for the selected app. This could be done by using **setDefaultProfile** to set the default Profile to the required Profile. Then when the user launches the selected app, DataWedge auto Profile switching switches to the default Profile (which is now the required Profile for that app).

If, for some reason, the launched app has an associated DataWedge Profile then that will override the set default Profile.

When control is returned to the launcher application, **resetDefaultProfile** can be used to reset the default Profile.

Function Prototype

```
Intent i = new Intent();

i.setAction(ACTION);

i.putExtra(EXTRA_DATA, "<profile name>");
```

Parameters

action: String "com.symbol.datawedge.api.ACTION_SETDEFAULTPROFILE"

extra_data: String "com.symbol.datawedge.api.EXTRA_PROFILENAME"

<profile name>: The Profile name to set as the default Profile as a string (case-sensitive).

Return Values

None.

Error and debug messages will be logged to the Android logging system which then can be viewed and filtered by the logcat command. You can use logcat from an ADB shell to view the log messages, e.g.

```
$ adb logcat -s DWAPI
```

Error messages will be logged for invalid actions, parameters and failures (e.g. Profile not found or associated with an application).

Example

```
// define action and data strings
String setDefaultProfile = "com.symbol.datawedge.api.ACTION_SETDEFAULTPROFILE";
String extraData = "com.symbol.datawedge.api.EXTRA_PROFILENAME";

public void onResume() {
    // create the intent
    Intent i = new Intent();
    // set the action to perform
    i.setAction(setDefaultProfile);
    // add additional info
    i.putExtra(extraData, "myProfile");
    // send the intent to DataWedge
    context.this.sendBroadcast(i);
}
```

Comments

The API command will have no effect if the specified Profile does not exist or if the specified Profile is already associated with an application. DataWedge will automatically switch Profiles when the activity is paused, so it is recommended that this API function be called from the onResume method of the activity.

Zebra recommends that this Profile be created to cater to all applications/activities that would otherwise default to using Profile0. This will ensure that these applications/activities continue to work with a consistent configuration. For example, let's say that initially Profile0 is the default Profile using the camera as the barcode scanner. Using the Browser application and scanning a barcode with the camera, DataWedge enters the data into the Browser. Now launch an application that changes the default Profile to a Profile using the blockbuster as the barcode scanner. When returning to the Browser application, since it is using the default Profile, scanning will now be via the blockbuster not the camera as previously. To ensure that the Browser continues to use the camera as the barcode scanner a Profile should be created and associated with the Browser that specifies the camera as the barcode scanner.

Reset Default Profile

Use the resetDefaultProfile API function to reset the default Profile back to Profile0.

Function Prototype

```
Intent i = new Intent();


i.setAction(ACTION);
i.putExtra(EXTRA_DATA, "<Profile name>");
```

Parameters

action: String "com.symbol.datawedge.api.ACTION_RESETDEFAULTPROFILE"

extra_data: String "com.symbol.datawedge.api.EXTRA_PROFILENAME"

<Profile name>: The Profile name to set as the default Profile as a string (case-sensitive).

Return Values

None.

Error and debug messages will be logged to the Android logging system which then can be viewed and filtered by the logcat command. You can use logcat from an ADB shell to view the log messages, e.g.

```
$ adb logcat -s DWAPI
```

Error messages will be logged for invalid actions, parameters and failures (e.g. Profile not found or associated with an application).

Example

```
// define action string
String resetDefaultProfile =
"com.symbol.datawedge.api.ACTION_RESETDEFAULTPROFILE";

public void onResume() {
    // create the intent
    Intent i = new Intent();
    // set the action to perform
    i.setAction(resetDefaultProfile);
    context.this.sendBroadcast(i);
}
```

Comments

None.

Switch To Profile

Use the SwitchToProfile API action to switch to the specified Profile.

Profiles Recap

DataWedge is based on Profiles and plug-ins. A Profile contains information on how DataWedge should behave with different applications.

Profile information consists of:

- Associated application
- Input plug-in configurations
- Output plug-in configurations
- Process plug-in configurations

DataWedge includes a default Profile, Profile0, that is created automatically the first time DataWedge runs.

Using Profiles, each application can have a specific DataWedge configuration. For example, each user application can have a Profile which outputs scanned data in the required format when that application comes to the foreground. DataWedge can be configured to process the same set of captured data differently based on the requirements of each application.

✓ **NOTE** Use of this API changes only the runtime status of the scanner; it does not make persistent changes to the Profile.

NOTE

A single Profile may be associated with one or many activities/apps, however, given an activity, only one Profile may be associated with it.

Usage Scenario

An application has two activities. Activity A only requires EAN13 bar codes to be scanned. Activity B only requires MSR card data. Profile B is configured to only scan EAN13 bar codes and is left unassociated. Profile M is configured to only accept MSR input and is left unassociated. When Activity A launches it uses SwitchToProfile to activate Profile B. Similarly, when Activity B launches it uses switchToProfile to activate Profile M.

If another activity/app comes to the foreground, DataWedge auto Profile switching will set the DataWedge Profile accordingly either to the default Profile or to an associated Profile.

When Activity A (or Activity B) comes back to the foreground it will use switchToProfile to reset the Profile back to Profile B (or Profile M).

Function Prototype

```
Intent i = new Intent();
i.setAction(ACTION);
i.putExtra(EXTRA_DATA, "<profile name>");
```

Parameters

action: String "com.symbol.datawedge.api.ACTION_SWITCHTOPROFILE"

extra_data: String "com.symbol.datawedge.api.EXTRA_PROFILENAME"

<profile name>: The Profile name to switch to as a string (case-sensitive).

Return Values

None.

Error and debug messages will be logged to the Android logging system which then can be viewed and filtered by the logcat command. You can use logcat from an ADB shell to view the log messages, e.g.

```
$ adb logcat -s DWAPI
```

Error messages will be logged for invalid actions, parameters and failures (e.g. Profile not found or associated with an application).

Example

```
// define action and data strings
String switchToProfile = "com.symbol.datawedge.api.ACTION_SWITCHTOPROFILE";
String extraData = "com.symbol.datawedge.api.EXTRA_PROFILENAME";


public void onResume() {
        super.onResume();
        // create the intent
        Intent i = new Intent();
        // set the action to perform
        i.setAction(switchToProfile);
        // add additional info
        i.putExtra(extraData, "myProfile");
        // send the intent to DataWedge
        context.this.sendBroadcast(i);
}
```

Comments

This API function will have no effect if the specified Profile does not exist or is already associated with an application.

DataWedge has a one-to-one relationship between Profiles and activities; a Profile can be associated only with a single activity. When a Profile is first created, it's not associated with any application, and will not be activated until associated. This makes it possible to create multiple unassociated Profiles.

This API function activates such Profiles.

For example, Profile A is unassociated and Profile B is associated with activity B. If activity A is launched and uses **SwitchToProfile** function to switch to Profile A, then Profile A will be active ehenever activity A is in the foreground. When activity B comes to the foreground, DataWedge will automatically switch to Profile B.

When activity A returns to the foreground, the app must use `SwitchToProfile` again to switch back to Profile A. This would be done in the `onResume` method of activity A.

> ✓ **NOTE** Use of this API changes only the runtime status of the scanner; it does not make persistent changes to the Profile.

Notes

Because DataWedge will automatically switch Profile when the activity is paused, Zebra recommends that this API function be called from the onResume method of the activity.

After switching to a Profile, this unassociated Profile does not get assigned to the application/activity and is available to be used in the future with a different app/activity.

For backward compatibility, DataWedge's automatic Profile switching is not affected by the above API commands. This why the commands work only with unassociated Profiles and apps.

DataWedge auto Profile switching works as follows:

Every second…

- Sets newProfileId to the associated Profile ID of the current foreground activity.
- If no associated Profile is found, sets newProfileId to the associated Profile ID of the current foreground app.
- If no associated Profile is found, sets newProfileId to the current default Profile (which MAY NOT be Profile0).
- Checks the newProfileId against the currentProfileId. If they are different:
    - deactivates current Profile
    - activates new Profile (newProfileId)
    - sets currentProfileId = newProfileId

CHAPTER 5 SETTINGS

This chapter describes settings available for configuring the device.

Screen Unlock Settings

Use the **Security settings** to set preferences for locking the screen. Touch ⚙ > 🔒 **Security**.

> ✓ *NOTE* Options vary depending upon the application's policy, for example, email.

- **Screen lock** - Touch to configure the device to require a slide, pattern, PIN, or password to unlock the screen.
    - **None** - Disable screen unlock security.
    - **Slide** - Slide the lock icon to unlock the screen.
    - **Pattern** - Draw a pattern to unlock screen. See Set Screen Unlock Using Pattern for more information.
    - **PIN** - Enter a numeric PIN to unlock screen. See Set Screen Unlock Using PIN for more information.
    - **Password** - Enter a password to unlock screen. See Set Screen Unlock Using Password for more information.

Lock the screen to protect access to data on the device. Some email accounts require locking the screen. The Locking feature functions differently in Single-user versus Multiple-user mode.

When locked, a slide, pattern, PIN or password is required to unlock the device. Press the Power button to lock the screen. The device also locks after a pre-defined time-out.

Press and release the Power button to wake the device. The Lock screen displays.

Slide up to unlock the screen.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.

Set Screen Unlock Using PIN

1. Touch ⚙ > 🔒 **Security** > **Screen lock**.

2. Touch **PIN**.

3. Touch in the text field.

4. Enter a PIN (between 4 and 16 characters) then touch **Next**.

5. Re-enter PIN and then touch **Next**.

6. Touch ◯. The next time the device goes into suspend mode a PIN is required upon waking.
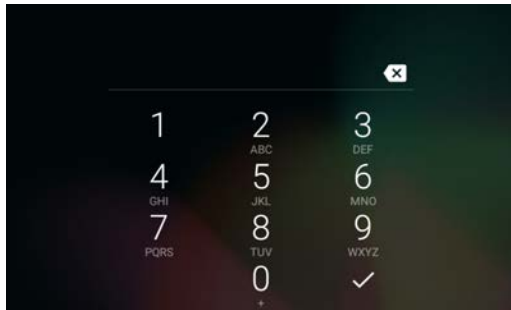
Figure 5-1   *PIN Screen*

Set Screen Unlock Using Password

1. Touch 🔧 > 🔒 **Security** > **Screen lock**.

2. Touch **Password**.

3. Touch in the text field.

4. Enter a password (between 4 and 16 characters) then touch **Next**.

5. Re-enter the password and then touch **Next**.

6. Touch ◯. The next time the device goes into suspend mode a PIN is required upon waking.
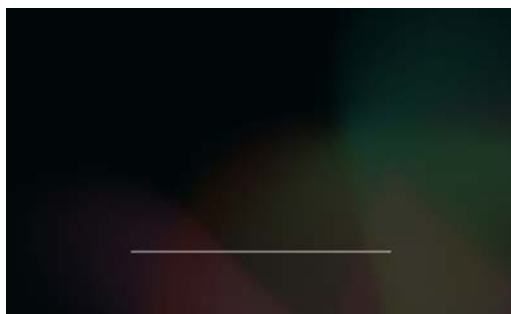
Figure 5-2   *Password Screen*

Set Screen Unlock Using Pattern

1. Touch 🔧 > 🔒 **Security** > **Screen lock**.

2. Touch **Pattern**.

3. Draw a pattern connecting at least four dots.

4. Touch **Continue**.

5. Re-draw the pattern.

6. Touch **Confirm**.

7. On the **Security** screen, touch **Make pattern visible** to show pattern when you draw the pattern.

8. Touch ○. The next time the device goes into suspend mode a PIN is required upon waking.
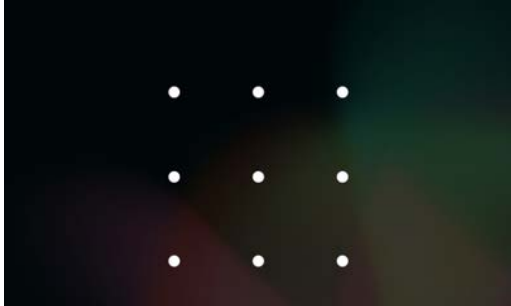
Figure 5-3 *Choose Your Pattern Screen*

Passwords

To set the device to briefly show password characters as the user types, set this option. Touch 🔧 > 🔒 **Security**. Touch **Make passwords visible**. A check in the checkbox indicates that the option is enabled.

Button Remapping

The WT6000's buttons can be programmed to perform different functions or shortcuts to installed applications.

- P1 - Volume down button
- P2 - Volume up button
- P3 - Button_L2
- ◁ Back: Back button
- ○ Home: Home button
- ☐ Recent - App Switch
- Left External Trigger - Symbol trigger 7
- Right External Trigger - Symbol trigger 8.

Remapping a Button

1. Touch 🔧.
2. Touch ⊞ **Key Programmer**.
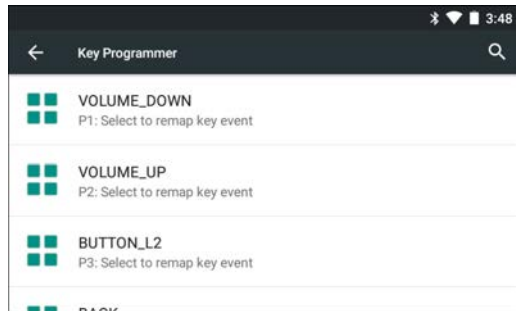
Figure 5-4   *Key Programmer Screen*

3. Select the button to remap.

4. Touch the **BUTTON REMAPPING** tab, **SHORTCUT** tab or **Trigger** that lists the available functions and applications.

5. Touch a function or application shortcut to map to the button.

   If you select an application shortcut, the application icon appears next to the button on the **Key Programmer** screen.
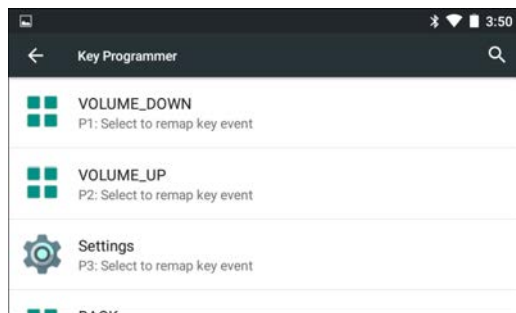
Figure 5-5   *Remapped Button*

6. Touch ○.

Accounts

Use the **Accounts** to add, remove, and manage accounts. Use these settings to control how applications send, receive, and sync data on their own schedules, and whether applications can synchronize user data automatically.

Applications may also have their own settings to control how they synchronize data; see the documentation for those applications for details.

Language Usage

Use the Language & input settings to change the language that display for the text and including words added to its dictionary.

Changing the Language Setting

1. Touch **Language**.

2. In the **Language** screen, select a language from the list of available languages.

The operating system text changes to the selected language.

Adding Words to the Dictionary

1. In the **Language & input** screen, touch **Personal dictionary**.
2. Touch **+** to add a new word or phrase to the dictionary.
3. In the **Phrase** text box, enter the word or phrase.
4. In the **Shortcut** text box, enter a shortcut for the word or phrase.
5. In the **Language** drop-down list, select the language that this word or phase is stored.
6. Touch **Add to dictionary** in the top left corner of the screen to add the new word.

Keyboard Settings

Use the Language & input settings for configuring the on-screen keyboards. The device contains the following keyboard settings:

- Android Keyboard
- Japanese IME
- Chinese keyboard

About Device

Use About phone settings to view information about the WT6000. Touch 🔧 > ⓘ **About device**.

- **Status** - Touch to display the following:
    - **Battery status** - Indicates if the battery is charging (on AC power) or discharging (on battery power).
    - **Battery level** - Indicates the battery charge level.
    - **IP address** - Displays the IP address of the device.
    - **Wi-Fi MAC address** - Displays the Wi-Fi radio MAC address.
    - **Bluetooth address** - Displays the Bluetooth radio Bluetooth address.
    - **Serial number** - Displays the serial number of the device.
    - **Up time** - Displays the time that the WT6000 has been running since being turned on.
- **SW components** - Lists filenames and versions for various software on the WT6000.
- **Hardware config** - Lists part number for various hardware on the WT6000.
- **Legal information** - Opens a screen to view legal information about the software included on the WT6000.
- **Model number** - Displays the devices model number.
- **Build tags** - Displays the key used to sign the build.
- **Android version** - Displays the operating system version.
- **Android security patch level** - Displays the security patch level date.
- **Kernel version** - Displays the kernel version.
- **Build number** - Displays the software build number.
- **Finger print** - Display unique build information.

CHAPTER 6 APPLICATION DEPLOYMENT

Security

The device implements a set of security policies that determine whether an application is allowed to run and, if allowed, with what level of trust. To develop an application, you must know the security configuration of the device, and how to sign an application with the appropriate certificate to allow the application to run (and to run with the needed level of trust).

✓ **NOTE** Ensure the date is set correctly before installing certificates or when accessing secure web sites.

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

1. Copy the certificate from the host computer to the root of the On-device Storage. See Chapter 3, USB Communication for information about connecting the device to a host computer and copying files.

2. Touch ⚙ > 🔒 **Security**.

3. Touch **Install from On-device Storage**.

4. Navigate to the location of the certificate file.

5. Touch the filename of the certificate to install. Only the names of certificates not already installed display.

6. If prompted, enter the certificate's password and touch **OK**.

7. Enter a name for the certificate and touch **OK**. If a password has not been set for the credential storage, enter a password for it twice and then touch **OK**.

    The certificate can now be used when connecting to a secure network. For security, the certificate is deleted from the On-device Storage.

Development Tools

Android development tools are available at http://developer.android.com.

To start developing applications for the device, download the development SDK and the Eclipse IDE. Development can take place on a Microsoft® Windows®, Mac® OS X®, or Linux® operating system.

Applications are written in the Java language, but compiled and executed in the Dalvik VM (a non-Java virtual machine). Once the Java code is compiled cleanly, the developer tools make sure the application is packaged properly, including the AndroidManifest.xml file.

The development SDK is distributed as a ZIP file that unpacks to a directory on the host computer hard drive. The SDK includes:

- android.jar
  - Java archive file containing all of the development SDK classes necessary to build an application.
- documention.html and docs directory
  - The SDK documentation is provided locally and on the Web. It's largely in the form of JavaDocs, making it easy to navigate the many packages in the SDK. The documentation also includes a high-level Development Guide and links to the broader community.
- Samples directory
  - The samples subdirectory contains full source code for a variety of applications, including ApiDemo, which exercises many APIs. The sample application is a great place to explore when starting application development.
- Tools directory
  - Contains all of the command-line tools to build applications. The most commonly employed and useful tool is the adb utility.
- usb_driver
  - Directory containing the necessary drivers to connect the development environment to an enabled device. These files are only required for developers using the Windows platform.

Open the Developer options screen to set development related settings.

By default, the Developer Options are hidden. To un-hide the developer options, touch ⚙ > ⓘ **About device**. Scroll down to **Build number**. Tap **Build number** seven times until **You are now a developer** appears.

Touch ⚙ > { } **Developer options**. Slide the switch to the **ON** position to enable developer options.

ADB USB Setup

ADB driver for Windows and Linux are available on the Zebra Support Central web site at http://www.zebra.com/support. Download the ADB and USB Driver Setup package. Following the instructions with the package to install the ADB and USB drivers for Windows and Linux.

Application Installation

After an application is developed, install the application onto the device using one of the following methods:

- USB connection, see *Installing Applications Using the USB Connection on page 6-3*.
- Android Debug Bridge, see *Installing Applications Using the Android Debug Bridge on page 6-4*.
- Mobile device management (MDM) platforms that have application provisioning. Refer to the MDM software documentation for details.

Installing Applications Using the USB Connection

> ⚠️ **CAUTION** When connecting the device to a host computer and mounting its microSD card, follow the host computer's instructions for connecting and disconnecting USB devices, to avoid damaging or corrupting files.

1. Connect the device to a host computer using USB. See Chapter 3, USB Communication.
2. On the host computer, copy the application `.apk` file from the host computer to the device.
3. Disconnect the device from the host computer. See Chapter 3, USB Communication.
4. On the device, touch ⊞ .

> ✓ **NOTE** In **File Browser**, Internal storage path is `/storage/sdcard0` or `/sdcard`.

5. Touch 🗔 to view files on the Internal Storage.
6. Locate the application `.apk` file.
7. Touch the application file to begin the installation process.
8. To confirm installation and accept what the application affects, touch **Install** otherwise touch **Cancel**.
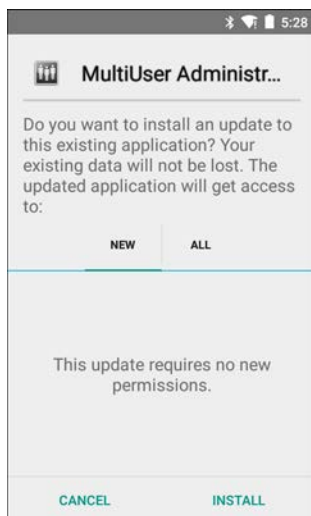
Figure 6-1   *Accept Installation Screen*

9. Touch **Open** to open the application or **Close** to exit the installation process. The application appears in the App list.

Installing Applications Using the Android Debug Bridge

Use ADB commands to install application onto the device.

⚠️ **CAUTION** When connecting the device to a host computer and mounting its microSD card, follow the host computer's instructions for connecting and disconnecting USB devices, to avoid damaging or corrupting files.

Ensure that the ADB drivers are installed on the host computer. See *ADB USB Setup on page 6-2*.

1. Connect the device to a host computer using USB. See Chapter 3, USB Communication.

2. Touch 🔧 > { } **Developer options**.

3. Slide the switch to the **ON** position.

4. Touch **USB Debugging**. A check appears in the check box. The **Allow USB debugging?** dialog box appears.

5. Touch **OK**.

6. On the host computer, open a command prompt window and use the adb command:

    `adb install <application>`

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

7. Disconnect the device from the host computer. See Chapter 3, USB Communication.

Uninstalling an Application

To uninstall an application:

1. Touch 🔧 > 🤖 **Apps**.

2. Swipe left or right until the **Downloaded** screen displays.
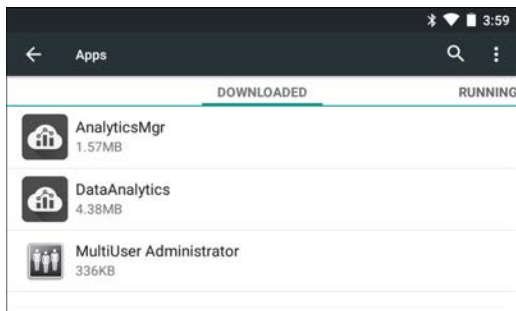
Figure 6-2 *Downloaded Screen*

3. Touch the application to uninstall.

4. Touch **Uninstall**.

5. Touch **OK** to confirm.

System Update

System Update packages can contain either partial or complete updates for the operating system. We distribute the System Update packages on the Support Central web site.

1. Download the system update package:

   a. Go to the Support Central web site, http://www.zebra.com/support.

   b. Download the appropriate System Update package to a host computer.

2. Copy the System Update file to the root directory of internal storage. See Chapter 3, USB Communication for more information.

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

4. Touch **Power off**.

5. Touch **OK**. The device turns off.

6. Press and hold the Power button and the P1 button.

7. When the Zebra splash screen appears, release the buttons.

   The System Recovery screen appears.

8. Press the P1 and P1 buttons to navigate to the **apply update from SD card** or **apply update from internal storage** option.

9. Press the P3 button.

10. Press the P1 and P2 buttons to navigate to the System Update file.

11. Press the P3. The System Update installs and then the WT6000 resets.

Storage

The device contains four 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.

To view the amount of free and used memory, touch 🔧 > 🤖 **Apps**. Swipe the screen until the **Running** screen appears.
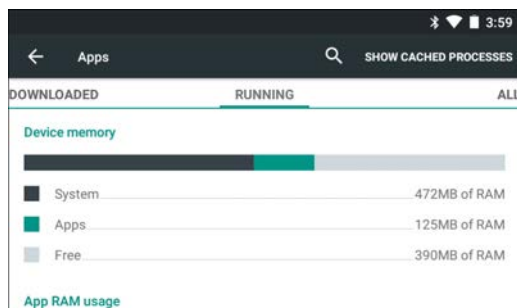
Figure 6-3   *Running Screen*

The bars at the top of the screen displays the amount of used and free RAM.

Internal Storage

The WT6000 has internal storage. The internal storage content can be viewed and files copied to and from when the WT6000 is connected to a host computer. Some applications are designed to be stored on the internal storage rather than in internal memory.

To view the used and available space on the internal storage, touch ⚙ > ☰ **Storage**.
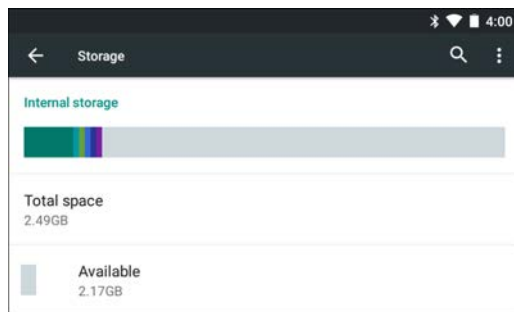
Figure 6-4   *Internal Storage Screen*

- Internal Storage
    - **Total space** - Displays the total amount of space on internal storage.
    - **Available** - Displays the available space on internal storage.
    - **Apps** - Displays the available space used for applications and media content on internal storage.
    - **Cached data** - Displays the amount of cached data on internal storage.

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.

Application Management

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

From the Home screen touch ⚙ > 🤖 **Apps**.
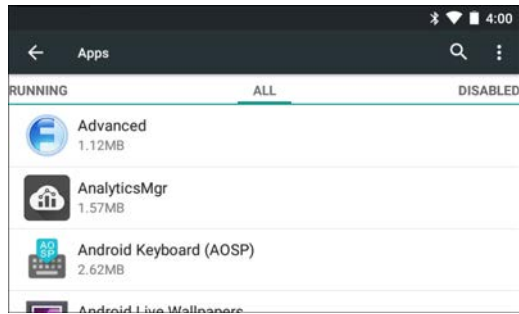
Figure 6-5   *Apps Screen*

The **Apps** screen has three tabs, with lists of applications and their components in each. At the bottom of each tab is a graph of the memory used by the items in the list and amount of free memory.

Touch an application, process, or service in a list to open a screen with details about it and, depending on the item, to change its settings, stop it or uninstall it

- Slide the screen to the **Downloaded** tab to view the applications downloaded to the device.
- Touch the **Running** tab to view the applications and their processes and services that are running or cached
- Slide the screen to the **All** tab to view all the applications installed on the device, including factory installed applications and downloaded applications.

When on the **Downloaded** or **All** tab, press ⋮ > **Sort by size** to switch the order of the list.

Viewing Application Details

Applications have different kinds of information and controls, but commonly include:

- Touch **Force stop** to stop an application.
- Touch **Uninstall** to remove the application and all of its data and settings from the device. See *Uninstalling an Application on page 6-4* for information about uninstalling applications.
- Touch **Clear data** to delete an application's settings and associated data.
- Cache If the application stores data in a temporary area, lists how much information is stored, and includes a button for clearing it.
- **Launch by default** clears If you have configured an application to launch certain file types by default, you can clear that setting here.
- **Permissions** lists the areas on the device that the application has access to.

Stopping an Application

To monitor how much RAM running applications and cached processes are using and if necessary, stop them.

1.   Touch ⚙ > 🤖 **Apps**.

2.   Swipe the screen to display the **Running** tab.
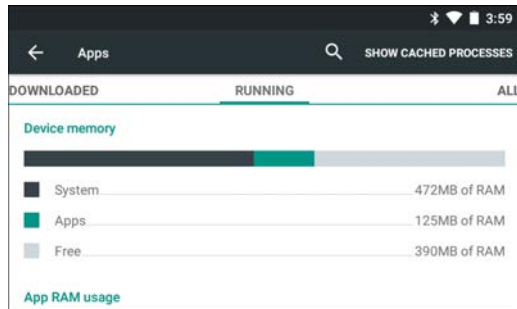
Figure 6-6   *Running Applications*

3. Touch **Show cached processes** or **Show running services** to switch back and forth. The **Running** tab lists the applications, processes, and services that are currently running or that have cached processes and how much RAM they are using.

4. The graph at the bottom of the screen displays the total RAM in use and the amount free. Touch an application, process, or service.

> **NOTE** Stopping an application or operating system processes and services disables one or more dependent functions on the device. The device may need to be reset to restore full functionality.

5. Touch **Stop**.

Managing Downloads

Files and applications downloaded using the Browser or Email are stored on On–device Storage in the Download directory. Use the Downloads application to view, open, or delete downloaded items.

1. Touch 🔵 > 🔵.

2. Touch an item to open it.

3. Touch headings for earlier downloads to view them.

4. Check items to delete; then touch 🗑. The item is deleted from storage.

5. Touch **Sort by size** or **Sort by time** to switch back and forth.

When an application is opened, the other applications being used do not stop. The operating system and applications work together to ensure that applications not being used do not consume resources unnecessarily, stopping and starting them as needed. For this reason, there's no need to stop applications unless it is not functioning properly.

CHAPTER 7 MAINTENANCE AND TROUBLESHOOTING

Introduction

This chapter includes instructions on cleaning and storing the device, battery maintenance and provides troubleshooting solutions for potential problems during device operations.

Maintaining the WT6000

For trouble-free service, observe the following tips when using the WT6000:

- Protect the WT6000 from temperature extremes.
- Do not store or use the WT6000 in any location that is extremely dusty, damp, or wet.
- If the surface of the WT6000 screen becomes soiled, clean it with a soft cloth moistened with a diluted window-cleaning solution. Do not use bleach, ammonia or hydrogen peroxide products.
- Take care not to scratch the screen of the WT6000.
- The display of the WT6000 contains glass. Take care not to drop the WT6000 or subject it to strong impact.

Battery Safety Guidelines

- The area in which the device 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.
- Do not use incompatible batteries and chargers. If you have any questions about the compatibility of a battery or a charger, contact Zebra Support. See *Service Information on page xiii* for contact information.
- Do not crush, puncture, or place a high degree of pressure on the battery.
- Follow battery usage, storage, and charging guidelines found in the device Quick Reference Guide.
- Improper battery use may result in a fire, explosion, or other hazard.
- To charge the mobile device battery, the battery and charger temperatures must be between +32°F and +104°F (0°C and +40°C)
- Do not disassemble or open, crush, bend or deform, puncture, or shred.

- 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 promptly dispose of used re-chargeable 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 large amounts of water and seek medical advice.
- If you suspect damage to your equipment or battery, call Customer Support to arrange for inspection. See *Service Information on page xiii* for contact information.

Cleaning

CAUTION Always wear eye protection.

Read warning label on compressed air and alcohol product before using.

If you have to use any other solution for medical reasons please contact Symbol Technologies 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, or mild dish soap.

Harmful Ingredients

The following chemicals are known to damage the plastics on the device and should not come in contact with the device: ammonia solutions, compounds of amines or ammonia; acetone; ketones; ethers; aromatic and chlorinated hydrocarbons; acqueous or alcoholic alkaline solutions; ethanolamine; toluene; trichloroethylene; benzene;

carbolic acid, TB-lysoform, bleach products and hydrogen peroxide.

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, but gently wipe the unit. Be careful not to let liquid pool around the display window or other

places. Allow the unit to air dry before use.

Special Cleaning Notes

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

Cleaning Materials Required

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

Cleaning the WT6000

Housing

Using the alcohol wipes, wipe the housing.

Display

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

Power Connector

1. Remove the main battery from the WT6000.
2. Dip the cotton portion of the cotton tipped applicator in isopropyl alcohol.
3. Rub the cotton portion of the cotton tipped applicator back-and-forth across the connector inside the handle of the WT6000. Do not leave any cotton residue on the connector.
4. Repeat at least three times.
5. Use the cotton tipped applicator dipped in alcohol to remove any grease and dirt near the connector area.
6. Use a dry cotton tipped applicator and repeat steps 3 through 5.
7. Spray compressed air on the connector area by pointing the tube/nozzle about ½ inch away from the surface.

⚠️ **CAUTION** Do not point nozzle at yourself and others, ensure the nozzle or tube is away from your face.

8. Inspect the area for any grease or dirt, repeat if required.

Cleaning Cradle Connectors

Use this procedure to clean the connectors on a cradle:

1. Remove power 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 let any cotton residue on the connector.

4. All sides of the connector should also be rubbed with the cotton tipped applicator.

5. Spray compressed air in the connector area by pointing the tube/nozzle about ½ inch away from the surface.

⚠️ **CAUTION** Do not point nozzle at yourself and others, ensure the nozzle or tube is pointed away from your face.

6. Ensure that there is no lint left by the cotton tipped applicator, remove lint if found.

7. If grease and other dirt can be found on other areas of the cradle, use lint free cloth and alcohol to remove.

8. 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 dry humidity requires less drying time.

Cleaning Frequency

The cleaning frequency is up to the customer's discretion due to the varied environments in which the device units are used. They may be cleaned as frequently as required. However when used in dirty environments it may be advisable to periodically clean the scanner exit window to ensure optimum scanning performance.

Cleaning the Wrist Mount

It may be necessary to wash the wrist mount strap and replaceable comfort pad when they become soiled.
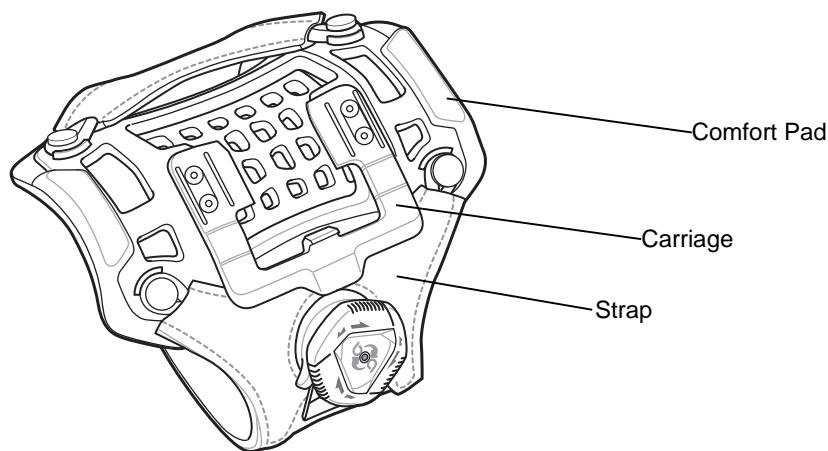
Figure 7-1   *Wrist Mount*

Remove the strap and comfort pad from the wrist mount. Hand wash in cold water with a mild detergent (such as Woolite®). Do not use bleach. Air dry. Do not use a dryer.
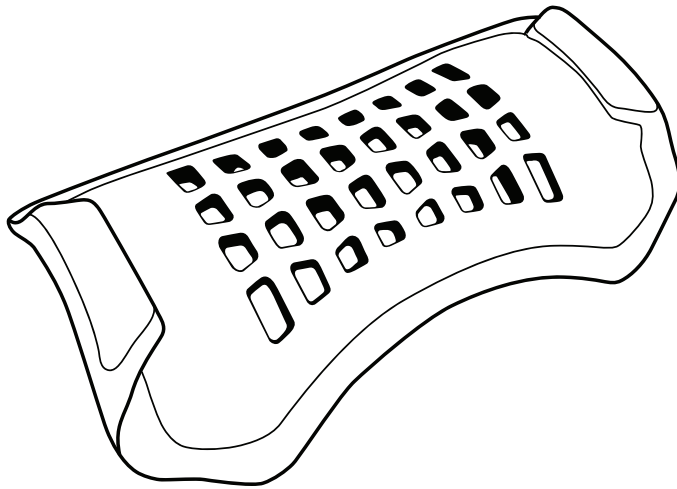
Figure 7-2   *Comfort Pad*
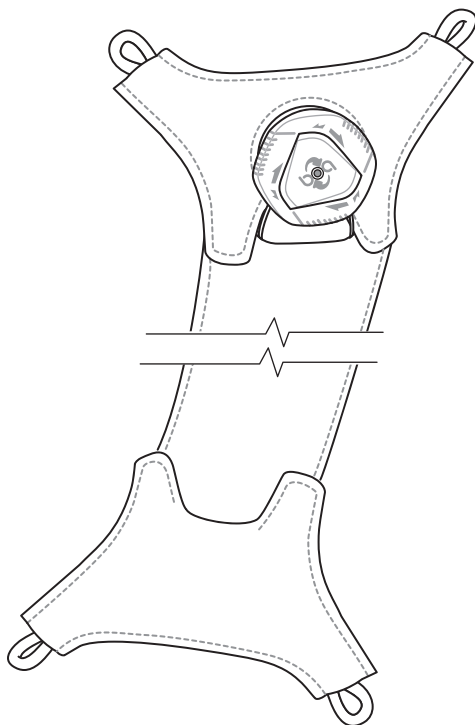
Figure 7-3   *Strap*
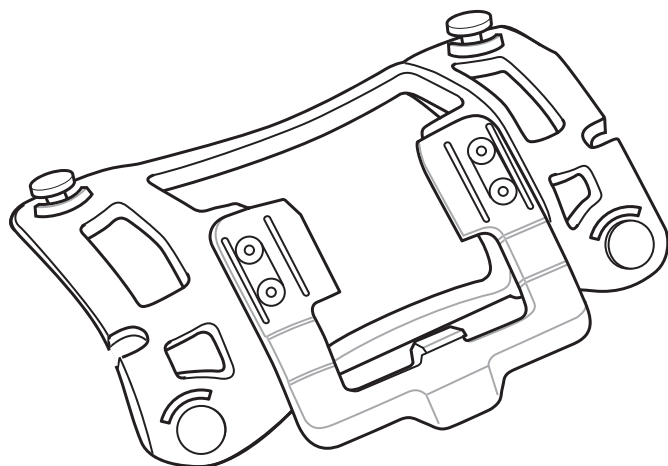
Figure 7-4   *Carriage*

Troubleshooting

Device

Table 7-1   *Troubleshooting the WT6000*

Problem	Cause	Solution
WT6000 does not turn on.	Battery not charged.	Charge or replace the battery in the WT6000.
	Battery not installed properly.	Ensure battery is installed properly. See *Installing the Battery on page 1-3*.
	System crash.	Perform a soft reset. If the WT6000 still does not turn on, perform a hard reset. See *Resetting the WT6000 on page 1-5*.
Battery did not charge.	Battery failed.	Replace battery. If the WT6000 still does not operate, try a soft reset, then a hard reset. See *Resetting the WT6000 on page 1-5*.
	WT6000 removed from cradle before charging completed.	Insert the WT6000 into the cradle and begin charging. The battery fully charges in approximately four hours.
	Ambient temperature of the cradle is too warm or too cold.	The ambient temperature must be between 0°C and 40°C (32 °F and 104°F).
During data communication, no data was transmitted, or transmitted data was incomplete.	WT6000 unplugged from host computer during communication.	Reconnect the programming cable to the host computer and re-transmit.
	Communication software was incorrectly installed or configured.	See system administrator.

Table 7-1   *Troubleshooting the WT6000 (Continued)*

Problem	Cause	Solution
WT6000 turns itself off.	WT6000 is inactive.	The WT6000 turns off after a period of inactivity. If the WT6000 is running on battery power, this period can be set to 15 seconds, 30 seconds, 1 minute, 2 minutes, 5 minutes, 10 minutes, or 30 minutes. Change the setting if you need a longer delay before the automatic shutoff feature activates.
	Battery is depleted.	Place the WT6000 in the cradle to re-charge the battery.
	Battery is not inserted properly.	Insert the battery properly (see *Installing the Battery on page 1-3*).
	The WT6000's battery is low and it powers down to protect memory content.	Place the WT6000 in the cradle to re-charge the battery.
A message appears stating that the WT6000 memory is full.	Too many files stored on the WT6000.	Delete unused memos and records. You can save these records on the host computer.
	Too many applications installed on the WT6000.	If you have installed additional applications on the WT6000, remove them to recover memory. See *Uninstalling an Application on page 6-4*.
The WT6000 does not accept scan input from optional scanner.	Unreadable bar code.	Ensure the symbol is not defaced.
	Distance between scanner exit window and bar code is incorrect.	Move the scanner closer or further from the bar code to the proper scanning range.
	WT6000 is not programmed for the bar code.	Verify that the WT6000 can read the type of bar code being scanned (See Appendix A, Specifications). Ensure that the bar code parameters are set properly for the bar code being scanned.
	WT6000 is not programmed to generate a beep.	Verify that a beep on a good decode is used. See *Bar Code Input on page 4-8* for more information.
During USB data communications, no data was transmitted, or transmitted data was incomplete.	Incorrect cable connection.	See Chapter 2, Accessories.
	Communications software is not installed or configured properly.	Perform setup as described in *Chapter 2, Accessories.*

Cradles

Table 7-2   *Troubleshooting the Cradles*

Symptom	Possible Cause	Solution
Device battery is not charging.	Device was removed from cradle or cradle was unplugged from AC power.	Ensure cradle is receiving power. Ensure device is seated correctly. Confirm main battery is charging. The battery fully charges in approximately four hours.
	Battery is faulty.	Verify that other batteries charge properly. If so, replace the faulty battery (see *Installing the Battery on page 1-3*).
	The device is not fully seated in the cradle.	Remove and re-insert the device into the cradle, ensuring it is firmly seated.
	Ambient temperature of the cradle is too warm or too cold.	Move the cradle to an area where the ambient temperature is between 0°C and 40°C (32°F and 104°F).

APPENDIX A SPECIFICATIONS

Technical Specifications

The following tables summarize the device's intended operating environment and general technical hardware specifications.

WT6000

Table A-1   *Technical Specifications*

Item	Description
Physical and Environmental Characteristics	
Dimensions (H x L x W)	233 mm x 76 mm x 64 mm 9.17 in. x 3.0 in. x 2.52 in.
Weight	Standard: 490 g (17.3 oz) Premium: 500 g (17.6 oz)
Display	Color Transflective LCD, 4 in. diagonal, 480 x 800 pixels, 24 bits (16 million pixels), 400 Nits.
Touch Panel	Multi-Touch projected capacitive; fingertip (bare or gloved) input; conductive stylus supported (sold separately)); Corning® Gorilla® Glass
Backlight	Configurable LED backlight control
Battery	PowerPrecision+ rechargeable 3.7 VDC 3,350 mAh Lithium-Ion battery.
Expansion Port	USB, Serial for ISV developers (optional)
Notification	Audible tone plus multi-color LEDs and vibration
Voice and Audio	Dual Speakers, Bluetooth wireless headset support
Performance Characteristics	
CPU	Dual-Core 1.7 GHz processor

Table A-1   *Technical Specifications (Continued)*

Item	Description
Operating System	Android AOSP 4.4.3 (Lollipop) with Mobility Extensions (Mx), for true enterprise class operating system.
Memory	1 GB RAM 4 GB Flash (pSLC)
Application Development	Zebra Android EMDK
User Environment	
Operating Temperature	-20° C to 50° C (-4° F to 122° F)
Storage Temperature	-40° C to 70° C (-40° F to 158° F)
Battery Charging Temperature	0° C to +40° C (32° F to 104° F) ambient temperature range.
Humidity	5% - 95% non-condensing
Drop Specification	Multiple 8 ft./2.4 m drop to concrete at room temperature per MIL-STD 810G; multiple 6 ft./1.8 m drop to concrete across full operating temperature range
Tumble	2,000 1 m (3.28 ft.) tumbles; meets and exceeds IEC tumble specifications
Sealing	IP65
Vibration	Sine 5-2000 Hz, 4 g peak, 1 hour per axis Random 20-2000 Hz, 6 g RMS or 0.04 g2/Hz, 1 hour per axis
ESD	± 20k VDC air discharge ± 10k VDC contact discharge ± 10k VDC indirect discharge
Wireless LAN Data Communications	
Radio	IEEE® 802.11a/b/g/n/ac/d/h/i
Data Rates	5 GHz: 802.11a/n - up to 150 Mbps; 2.4 GHz: 802.11b/g/n - up to 72.2 Mbps
Operating Channels	Channels 36 - 165 (5180 - 5825 MHz) Channels 1 - 13 (2412 - 2472 MHz) Actual operating channels/frequencies depend on regulatory rules and certification agency
Security and Encryption	WEP, WPA - TKIP, WPA2- TKIP, WPA2-TKIP AES EAP TTLS, PAP, MSCHAP, MSCHAP v2, PEAPv0-MSCHAPv2, PEAPv1- EAP-GTC, EAP-TLS, EAP-FAST, LEAP
Certifications	802.11n, and WMM-PS.
Fast Roam	PMKID Caching, Opportunistic Key Caching (OKC), Cisco CCKM, 802.11r.
Wireless PAN Data Communications	
Bluetooth	Bluetooth 4.0 (Bluetooth Smart Technology)

Table A-1   *Technical Specifications (Continued)*

Item	Description
USB	USB 2.0 Client for service and maintenance.
Data Capture	
Laser Scanning	Optional RS4000 laser scanner.
Imager	Optional RS507, RS5000 and RS6000 ring scanners.
NFC	Multi-Protocol NFC (optional).
Zebra Interactive Sensor Technology (IST)	
Motion Sensor	3-axis accelerometer; 3-axis gyroscope (optional).
Light Sensor	Automatically adjusts display backlight.
Navigation	Digital Compass (optional).
Proximity	Sensor for auto hands-free scanning.

Table A-2   *Data Capture Options*

Item	Description
1D Bar Codes	Chinese 2 of 5, Codabar, Code 11, Code 128, Code 39, Code 93, Discrete 2 of 5, EAN-8, EAN-13, GS1 DataBar, GS1 DataBar 14, GS1 DataBar Expanded GS1, GS1 DataBar Limited, Interleaved 2 of 5, Korean 2 of 5, Matrix 2 of 5, MSI, TLC39, Trioptic 39, UPCA, UPCE, UPCE1
2D Bar Codes	Australian Postal, Aztec, Canadian Postal, Composite AB, Composite C, Data Matrix, Dutch Postal, HAN XIN, Japanese Postal, Mail Mark, Maxi Code, Micro PDF-417, microQR, PDF-417, QR Code, US Planet, UK Postal, US Postnet, USPS 4-state (US4CB), US4state FICS

I/O Connector Pin-Outs
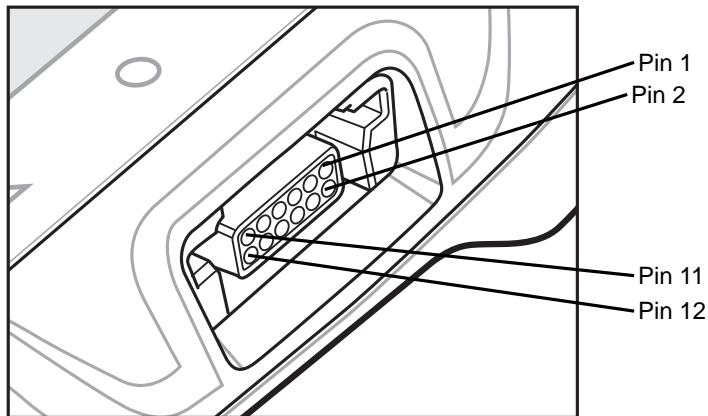
Figure A-1   *I/O Connector*

Table A-3   *I/O Connector Pin-Outs*

Pin	Signal	Description
1	GND	Ground
2	DETECT	Detects connected accessory.
3	RX	UART Rx signal (scanner).
4	PWR_OUT	Power output (scanner).
5	USB_PWR PWR_OUT	USB VBUS Power (cradles). Power output (scanner and vibrator cable).
6	USB_ID UART_CTS MIC	USB ID pin (cradles). UART_CTS (scanner). Microphone input (wired headset).
7	PWR_IN	Input power (cradles).
8	PWR_IN	Input power (cradles).
9	TX SPEAKER VIBRATOR	UART Tx signal (cradles and scanner). Audio out (wired headset). Vibrator control signal (vibrator).
10	USB_D+ HW_TRIG PTT	USB Data D+ (cradles) Scan trigger detect (scanner). Push-to-Talk signal (wired headset).
11	USB_D- UART_RTS	USB Data D- (cradles) UART RTS signal (scanner).
12	GND	Ground

1-Slot WT6000 USB Charging Cradle Technical Specifications

Table A-4   *1-Slot WT6000 USB Charging Cradle Technical Specifications*

Item	Description
Dimensions	Height: 81.8 mm (3.22 in.) Width: 97.5 mm (3.84 in.) Depth: 134.5 mm (5.30 in.)
Weight	424 g (15.0 oz.)
Input Voltage	12 VDC
Power Consumption	11.8 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

2-Slot WT6000/RS6000 Charging Cradle Technical Specifications

Table A-5   *2-Slot WT6000/RS6000 Charging Cradle Technical Specifications*

Item	Description
Dimensions	Height: 81.8 mm (3.22 in.) Width: 97.5 mm (3.84 in.) Depth: 134.5 mm (5.30 in.)
Weight	448 g (15.8 oz.)
Input Voltage	12 VDC
Power Consumption	13.7 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)

Table A-5   *2-Slot WT6000/RS6000 Charging Cradle Technical Specifications (Continued)*

Item	Description
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

5-Slot WT6000 Charge Only Cradle Technical Specifications

Table A-6   *5-Slot WT6000 Charge Only Cradle Technical Specifications*

Item	Description
Dimensions	Height: 86.3 mm (3.39 in.) Width: 489.0 mm (19.25 in.) Depth: 134.5 mm (5.30 in.)
Weight	2,228 g (78.6 oz.)
Input Voltage	12 VDC
Power Consumption	64.0 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	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 WT6000/RS6000 Charge Only Cradle Technical Specifications

Table A-7   *10-Slot WT6000/RS6000 Charge Only Cradle Technical Specifications*

Item	Description
Dimensions	Height: 86.3 mm (3.39 in.) Width: 489.0 mm (19.25 in.) Depth: 134.5 mm (5.30 in.)
Weight	2,164 g (76.33 oz.)
Input Voltage	12 VDC
Power Consumption	65.8 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 +/- 10kV contact +/- 10kV indirect discharge

10-Slot WT6000 Charge Only Cradle Technical Specifications

Table A-8   *10-Slot WT6000 Charge Only Cradle Technical Specifications*

Item	Description
Dimensions	Height: 86.3 mm (3.4 in.) Width: 489 mm (19.25 in.) Depth: 134.5 mm (5.3 in.)
Weight	2.2 kg (78.25 oz.)
Input Voltage	12 VDC
Power Consumption	71 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)

Table A-8   *10-Slot WT6000 Charge Only Cradle Technical Specifications (Continued)*

Item	Description
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 +/- 10kV contact +/- 10kV indirect discharge

5-Slot WT6000 Ethernet Cradle Technical Specifications

Table A-9   *5-Slot WT6000 Ethernet Cradle Technical Specifications*

Item	Description
Dimensions	Height: 86.3 mm (3.4 in.) Width: 489 mm (19.25 in.) Depth: 134.5 mm (5.3 in.)
Weight	2.2 kg (78.6 oz.)
Input Voltage	12 VDC
Power Consumption	65.5 watts
Operating Temperature	0°C to 40°C (32°F to 104°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 +/- 10kV contact +/- 10kV indirect discharge

4-Slot Battery Charger Technical Specifications

Table A-10   *4-Slot Battery Charger Technical Specifications*

Item	Description
Dimensions	Height: 62.4 mm (3.5 in.) Width: 97.5 mm (3.8 in.) Depth: 134.5 mm (5.3 in.)
Weight	422 g (14.9 oz.)
Input Voltage	12 VDC
Power Consumption	16.4 watts
Operating Temperature	0°C to 40°C (32°F to 104°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 +/- 10kV contact +/- 10kV indirect discharge

20-Slot Battery Charger Technical Specifications

Table A-11   *20-Slot Battery Charger Technical Specifications*

Item	Description
Dimensions	Height: 66.9 mm (2.6 in.) Width: 489 mm (19.25 in.) Depth: 134.5 mm (5.3 in.)
Weight	2.2 kg (76.6 oz.)
Input Voltage	12 VDC
Power Consumption	97.8 watts
Operating Temperature	0°C to 40°C (32°F to 104°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)

Table A-11 *20-Slot Battery Charger Technical Specifications*

Item	Description
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 +/- 10kV contact +/- 10kV indirect discharge

USB and Charging Cable Technical Specifications

Table A-12 *USB and Charging Cable Technical Specifications*

Item	Description
Length	160.3 cm (63 in.)
Input Voltage	5.4 VDC (external power supply)
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	10% to 95% non-condensing
Electrostatic Discharge (ESD)	+/- 20kV air +/- 10kV contact

Short Quick Disconnect Headset Adapter Cable Technical Specifications

Table A-13 *Short Quick Disconnect Headset Adapter Cable Technical Specifications*

Item	Description
Length	22.0 cm (8.7 in.)
Input Voltage	5.4 VDC
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	10% to 95% non-condensing
Electrostatic Discharge (ESD)	+/- 20kV air +/- 10kV contact

Long Quick Disconnect Headset Adapter Cable Technical Specifications

Table A-14 *Long Quick Disconnect Headset Adapter Cable Technical Specifications*

Item	Description
Length	47.5 cm (18.7 in.)
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	10% to 95% non-condensing
Electrostatic Discharge (ESD)	+/- 20kV air +/- 10kV contact

Vibrator Cable Technical Specifications

Table A-15 *Vibrator Cable Technical Specifications*

Item	Description
Length	31.8 cm (12.5 in.)
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	10% to 95% non-condensing
Electrostatic Discharge (ESD)	+/- 20kV air +/- 10kV contact

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