ET51/56

Enterprise Tablet

Integrator Guide
for Android ™ 8.1.0 Oreo

ZEBRA

MN-003458-01 Rev. A

Copyright

Terms of Use

- Proprietary Statement

  This manual contains proprietary information of Zebra Technologies Corporation and its subsidiaries ("Zebra Technologies"). It is intended solely for the information and use of parties operating and maintaining the equipment described herein. Such proprietary information may not be used, reproduced, or disclosed to any other parties for any other purpose without the express, written permission of Zebra Technologies.
- Product Improvements

  Continuous improvement of products is a policy of Zebra Technologies. All specifications and designs are subject to change without notice.
- Liability Disclaimer

  Zebra Technologies takes steps to ensure that its published Engineering specifications and manuals are correct; however, errors do occur. Zebra Technologies reserves the right to correct any such errors and disclaims liability resulting therefrom.
- Limitation of Liability

  In no event shall Zebra Technologies or anyone else involved in the creation, production, or delivery of the accompanying product (including hardware and software) be liable for any damages whatsoever (including, without limitation, consequential damages including loss of business profits, business interruption, or loss of business information) arising out of the use of, the results of use of, or inability to use such product, even if Zebra Technologies has been advised of the possibility of such damages. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Revision History

Changes to the original guide are listed below:

Change	Date	Description
-01 Rev A	7/2019	Initial release

Table of Contents

About This Guide

Introduction

This guide provides information about using the device and accessories.

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

Configurations

This guide covers the following configurations:

Table 1 Configurations

Configuration	Operating System	Radios	Display	Memory	Data Capture
ET51CE	8.1.0 Oreo	WLAN: 802.11a/b/g/n/ac/d/h/i/r WPAN: Bluetooth	8.4” color	4 GB RAM/ 32 GB Flash	Optional SE4750 Expansion Back, RS507x
ET51CT	8.1.0 Oreo	WLAN: 802.11a/b/g/n/ac/d/h/i/r WPAN: Bluetooth	10.1” color	4 GB RAM/ 32 GB Flash	Optional SE4750 Expansion Back, RS507x
ET56DE	8.1.0 Oreo	WLAN: 802.11a/b/g/n/ac/d/h/i/r WPAN: Bluetooth WWAN: LTE	8.4” color	4 GB RAM/ 32 GB Flash	Optional SE4750 Expansion Back, RS507x

Software Versions

To determine the current software versions:

1. Swipe down from the Status bar to open the Quick Settings bar.
2. Touch ⚙ > **System**.
3. Touch **About tablet**.

4. Scroll to view the following information:
   - **Model**
   - **Android version**
   - **Android security patch version**
   - **Baseband version**
   - **Kernel version**
   - **Build number**.

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

- **Serial number**

Chapter Descriptions

Topics covered in this guide are as follows:

- Getting Started, provides information on getting the tablet up and running for the first time.
- Accessories, describes the accessories available for the tablet and how to use the accessories with the tablet.
- USB Communication, describes how to connect the tablet to a host computer using USB.
- DataWedge, describes how to use and configure the DataWedge application.
- Settings, provides the settings for configuring the tablet
- Application Deployment, provides information for developing and managing applications.
- Maintenance and Troubleshooting, includes instructions on cleaning and storing the tablet, and provides troubleshooting solutions for potential problems during tablet operation.
- Specifications, includes a table listing the technical specifications for the tablet.

Notational Conventions

The following conventions are used in this document:

- Tablet refers to the Zebra ET51 or ET56 tablet.
- **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 (for example, those that describe step-by-step procedures) appear as numbered lists.

Related Documents and Software

The following documents provide more information about the tablet.

- ET51/56 Quick Reference Guide, p/n MN-003320-xx
- ET51/56 User Guide for Android 8.1.0 Oreo, p/n MN-003416-xx

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

Service Information

If you have a problem with your equipment, contact Customer Support for your region. Contact information is available at: www.zebra.com/support.

When contacting support, please have the following information available:

- Serial number of the unit (found on manufacturing label)
- Model number or product name (found on manufacturing label)
- Software type and version number
- IMEI number.

Customer Support responds to calls by email or telephone within the time limits set forth in support agreements.

If the problem cannot be solved by Customer Support, you may need to return the equipment for servicing and will be given specific directions. We are 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 the device was purchased from a business partner, contact that business partner for support.

Provide Documentation Feedback

If you have comments, questions, or suggestions about this guide, send an email to EVM-Techdocs@zebra.com.

Getting Started

Introduction

This chapter explains how to set the device up for the first time.

Unpacking

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

Verify that you received all equipment listed below:

- Tablet with lithium-ion battery
- Quick Reference Guide.

Inspect the equipment for damage. If you are missing any equipment or if you find any damaged equipment, contact the Zebra Support Center immediately. See Provide Documentation Feedback on page 11 for contact information.

Getting Started

In order to start using the device for the first time:

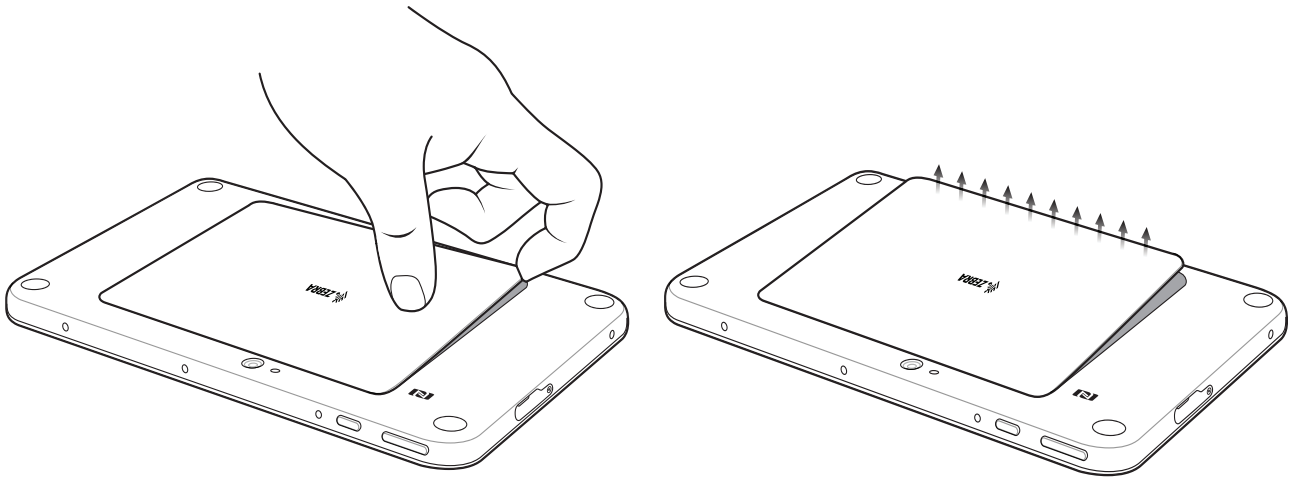
- Install microSD card
- Install nano SIM Card (ET56 only)
- Charge the device
- Perform basic configuration

Installing a microSD Card

To install a microSD card:

1. Press and hold the Power button until the menu appears.
2. Touch **Power off**.
3. Lift the notched corner of the battery cover and carefully lift the battery cover off the device.

Figure 1 Lifting Battery Cover



4. On the 8.4" version, push the two locking tabs up, then pull up on the tab to remove battery.
   On the 10.1” version, push the two locking tabs up (1), then lift the battery up (2).

Figure 2 Removing the Battery - 8.4"

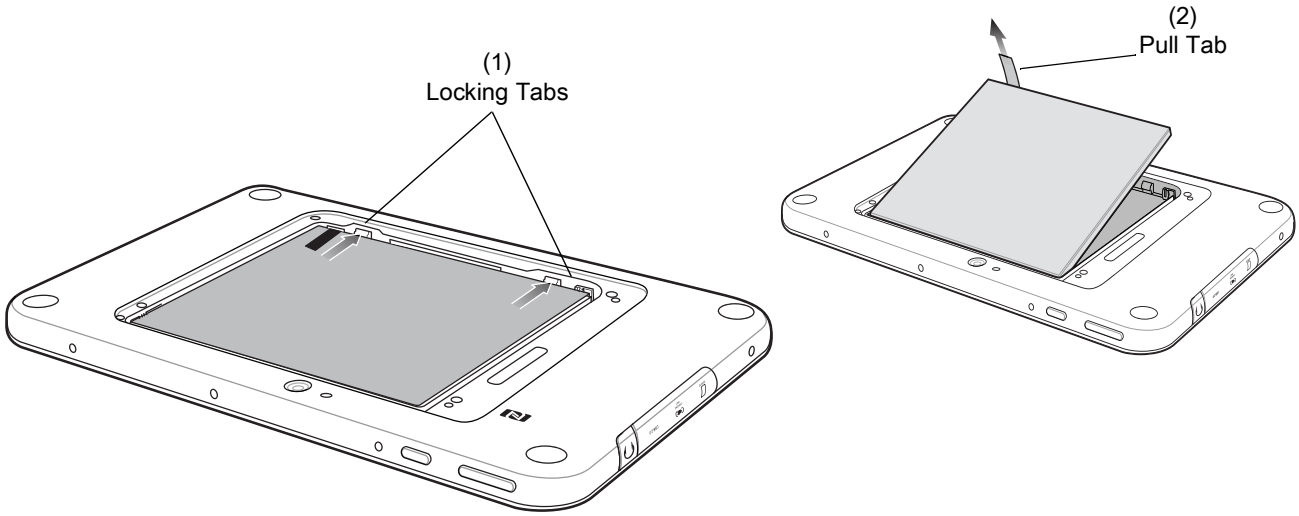
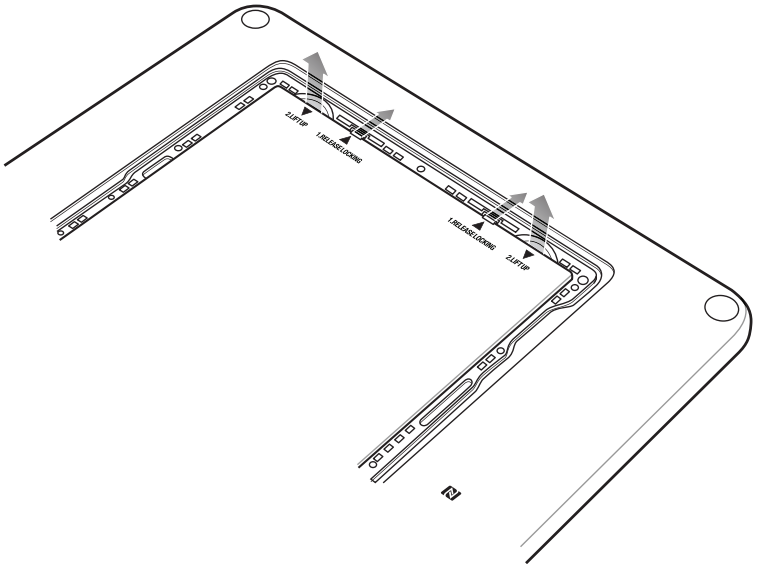


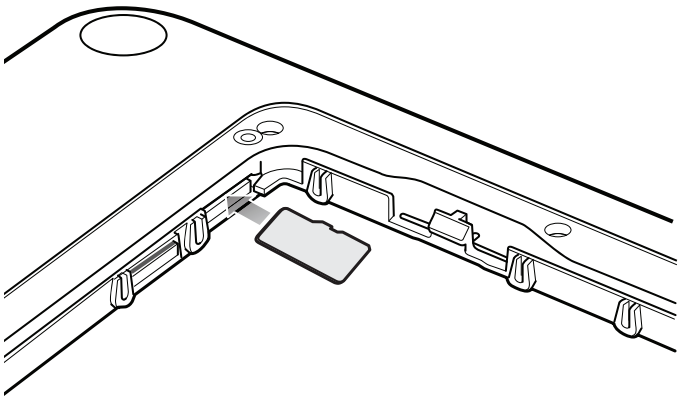
Figure 3 Removing the Battery - 10.1”



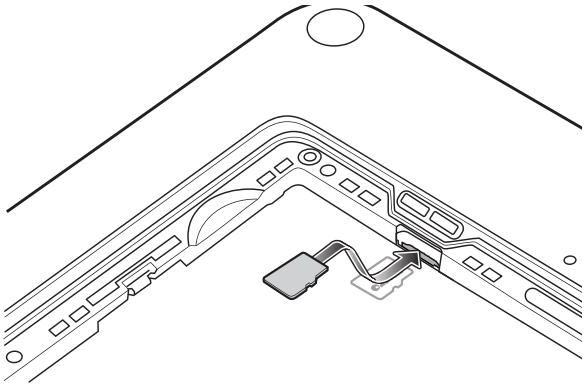
Install the microSD Card

1. Insert the microSD card with contacts facing down; 8.4" version shown here.

Figure 4 Inserting microSD Card



8.4" Version



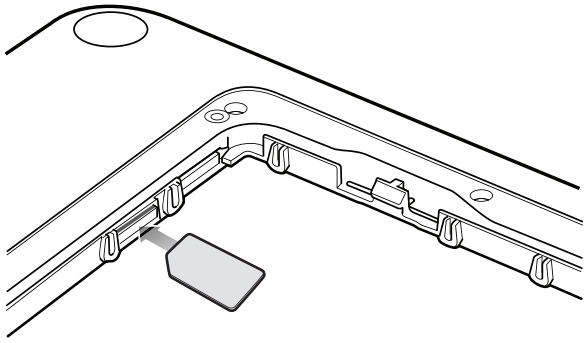
10.1” Version

2. Push the micro SD card in and ensure that it locks into place.

Install the nano SIM Card

1. Insert the nano SIM card with contacts facing down.

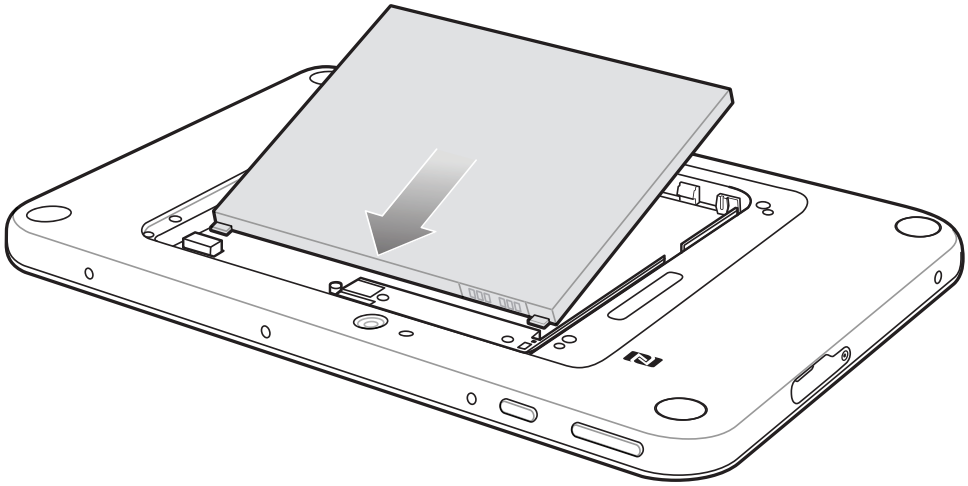
Figure 5 Inserting the nano SIM Card



8.4" Version

2. Push the SIM card in and ensure that it locks into place.
3. Replace the battery.
4. Press the battery down to ensure the two battery latches engage.

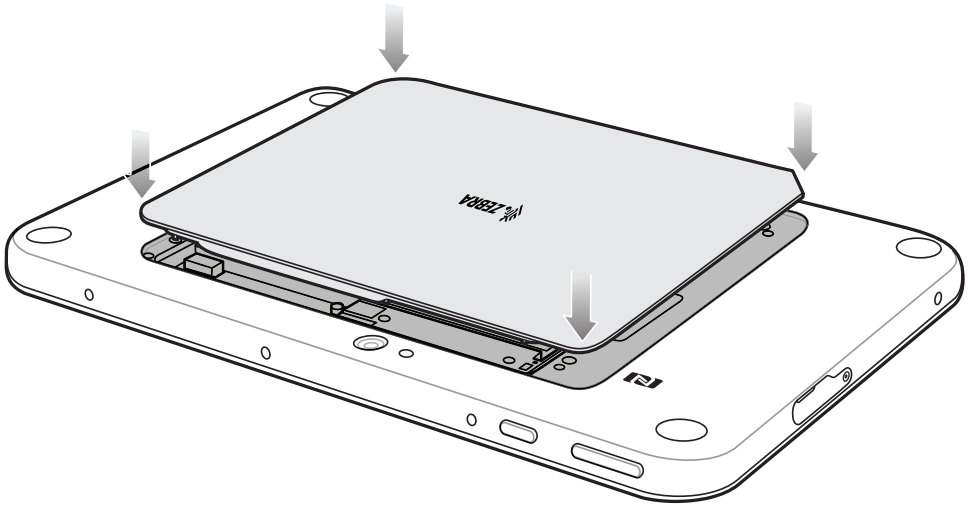
Figure 6 Inserting the Battery



CAUTION: Be aware of the orientation of the battery cover. Failure to replace the battery cover properly may damage the battery cover.

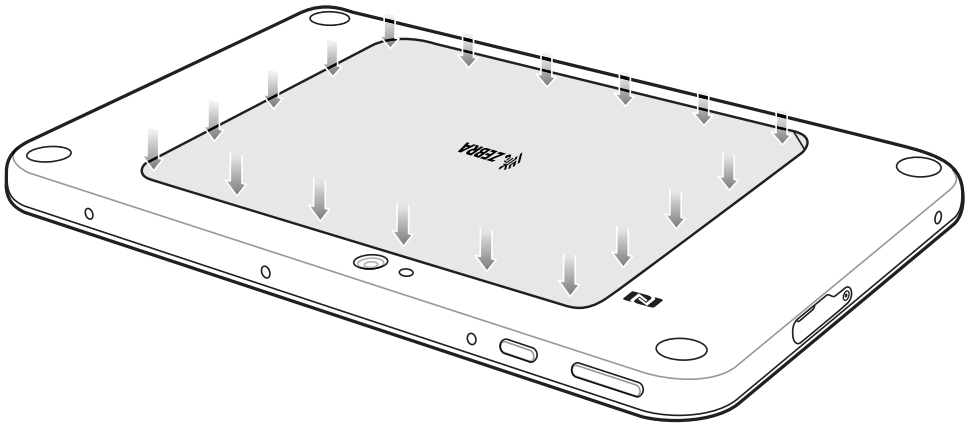
5. Align the tabs on the underside of the cover with the slot around the battery well. Make sure that the notch on the battery cover is at the bottom left cover of the device.

Figure 7 Aligning the Battery Cover



6. Carefully press down around the edge of the cover. Make sure that the cover is seated properly.

Figure 8 Pressing Down on the Battery Cover



7. Press Power button to turn on the device.

Charging the Battery

Use one of the cradles to charge the main battery installed in the device. See the chapter Accessories for charging accessories. See the ET51 or 56 User Guide for information about battery management.

The 8.4" tablet main battery charges from fully depleted to 90% in approximately 2.5 hours and from fully depleted to 100% in approximately 3.5 hours.

The 10.1" tablet main battery charges from fully depleted to 90% in approximately three hours and from fully depleted to 100% in approximately four hours.

NOTE: The Charging indicator only illuminates when the tablet is connected to AC power.

Table 2 Charging Indicator

LED	Indication
Off	Tablet is not in cradle. Tablet is not seated properly. Cradle is not powered.
Orange	Tablet is charging.
Green	Charging complete. Note: When the battery is initially inserted in the tablet, the amber LED flashes once if the battery power is low or the battery is not fully inserted.
Red	Error in charging; check placement of the tablet.

Resetting the Device

The reset functions include the following:

- Soft reset
- Hard reset
- Enterprise reset - Performing an Enterprise Reset on page 127.
- Factory reset - Performing a Factory Reset on page 129.

Performing a Soft Reset

Perform a soft reset if applications stop working.

1. Press and hold the Power button until the menu appears.
2. Touch **Restart**.
   The device reboots.

Performing a Hard Reset

CAUTION: Performing a hard reset with a microSD card installed in the device may cause damage or data corruption to the microSD card. All un-saved data is lost after performing a hard reset.

Perform a hard reset if the device stops responding.

1. Press and hold the power button and the volume up button.

2. When the screen turns off, release the buttons.
   The device reboots.

Accessories

Introduction

The device accessories provide a variety of product support capabilities.

Table 3 *Device Accessories*

Accessory	Part Number	Description
Cradles		
Charge Only Cradle	CRD-ET5X-1SCG1	Charges the main battery and optional Power Pack installed in the Expansion Back. Requires power supply PWR-BGA12V50W0WW, DC line cord CBL-DC-388A1-01 and country-specific AC line cord.
Communication and Charging Cradle	CRD-ET5X-1SCOM1	Charges the main battery and optional Power Pack installed in the Expansion Back. Requires power supply PWR-BGA12V50W0WW, DC line cord CBL-DC-388A1-01, and country-specific AC line cord.
Rugged Communication and Charging Cradle	CRD-ET5X-1SCOM1R	Charges the main battery and optional Power Pack installed in the Expansion Back. Supports rugged frame and rugged IO Adapter. Requires power supply PWR-BGA12V50W0WW, DC line cord CBL-DC-388A1-01, and country-specific AC line cord.
4-Slot Charge Only Cradle	CRD-ET5X-SE4CO1-01	Charges up to four main batteries and optional Power Pack installed in the Expansion Back and up to four Power Packs in the optional 4-Slot Battery Charger. Requires power supply PWR-BGA12V108W0WW, DC line cord 50-16002-029R, and country-specific AC line cord.
Chargers		
Power Supply	PWR-BGA12V108W0WW	Provides power to the 4-Slot Charge Only Cradle.

Table 3 *Device Accessories (Continued)*

Accessory	Part Number	Description
Power Supply	PWR-BGA12V50W0WW	Provides power to the Charge Only Cradle, Communication and Charging Cradle, Rugged Communication and Charging Cradle, and 4-Slot Battery Charger for Optional Battery Power Pack.
4-Slot Battery Charger	SAC-ET5X-4PPK1-01	Chargers up to four Power Packs. Requires power supply PWR-BGA12V50W0WW, DC Line cord CBL-DC-388A1-01, and country-specific AC line cord.
Rugged Charge Connector	CHG-ET5X-CBL1-01	Charges the main battery and optional Power Pack installed in the Expansion Back. Requires power supply PWR-BGA12V50W0WW, DC Line Cord CBL-DC-388A1-01 and country-specific AC line cord.
Miscellaneous		
Replacement 8.4" Internal Battery	BTRY-ET5X-8IN5-01	Replacement battery for 8.4" tablet.
Replacement 10.1" Internal Battery	BTRY-ET5X-10IN5-01	Replacement battery for 10.1" tablet.
Replacement 8.4" Battery Cover	KT-ET5X-8BTDR2-01	Replacement battery cover for 8.4" tablet.
Replacement 10.1" Battery Cover	KT-ET5X-10BTDR2-01	Replacement battery cover for 10.1" tablet.
8.4" Rugged Frame with IO Adapter	SG-ET5X-8RCSE2-02	Add extra protection for the 8.4" tablet and IO Adapter for connection to the Rugged Communication and Charging Cradle.
10.1” Rugged Frame with IO Adapter	SG-ET5X-10RCSE2-01	Add extra protection for the 10.1" tablet and IO Adapter for connection to the Rugged Communication and Charging Cradle.
Replacement Rugged IO Connector	SG-ET5X-RGIO2-01	Replacement rugged IO connector for the Rugged Frames.
8.4" SE4750 Expansion Back	ZBK-ET5X-8SCN5-01	Provides data capture using the SE4750 scan engine, rotating hand strap and slot for optional Power Pack.
8.4" Expansion Back	ZBK-ET5X-8RH1-01	Provides rotating hand strap and slot for optional Power Pack.
10.1” SE4750 Expansion Back	ZBK-ET5X-10SCN5-01	Provides data capture using the SE4750 scan engine, rotating hand strap and slot for optional Power Pack.
10.1” Expansion Back	ZBK-ET5X-10RH1-01	Provides rotating hand strap and slot for optional Power Pack.
Power Pack	BTRY-ET5X-PRPK1-01	Provides additional power for charging the device battery using an Expansion Back.

Table 3 *Device Accessories (Continued)*

Accessory	Part Number	Description
Passive Stylus	SG-TC7X-STYLUS-03	Provides easy writing, drawing, and navigation and accuracy with the thin tip and hovering capabilities.
Replacement Expansion Back Hand Strap	SG-ET5X-RHTP1-01	Replacement hands strap for Expansion Backs.
Coiled Stylus Tether	SG-ET5X-SLTETR-01	Secures a stylus to the hand strap.
8.4" Operations Case	SG-ET5X-8HLST-01	Provides carrying solution for 8.4" tablet.
10.1” Operations Case	SG-ET5X-10HLST-01	Provides carrying solution for 10.1" tablet.
Universal Shoulder Strap	58-40000-007R	Use with the Operations Case and D-clips to carry tablet on shoulder.

Charge Only Cradle

CAUTION: Ensure that you follow the guidelines for battery safety described in Battery Safety Guidelines.

NOTE: The Charge Only Cradle (CRD-ET5X-1SCG1) comes with two inserts; tall insert and short insert. Install the tall insert when using a device without a Rugged Frame or Expansion Back. Install the small insert when using with an Expansion Back and without a Rugged Frame.

This section describes how to use a Charge Only Cradle with the device.

The Charge Only Cradle:

- Provides power for operating the device.
- Charges the device's battery and optional Power Pack installed in an Expansion Back.

Figure 9 Charge Only Cradle - Front View

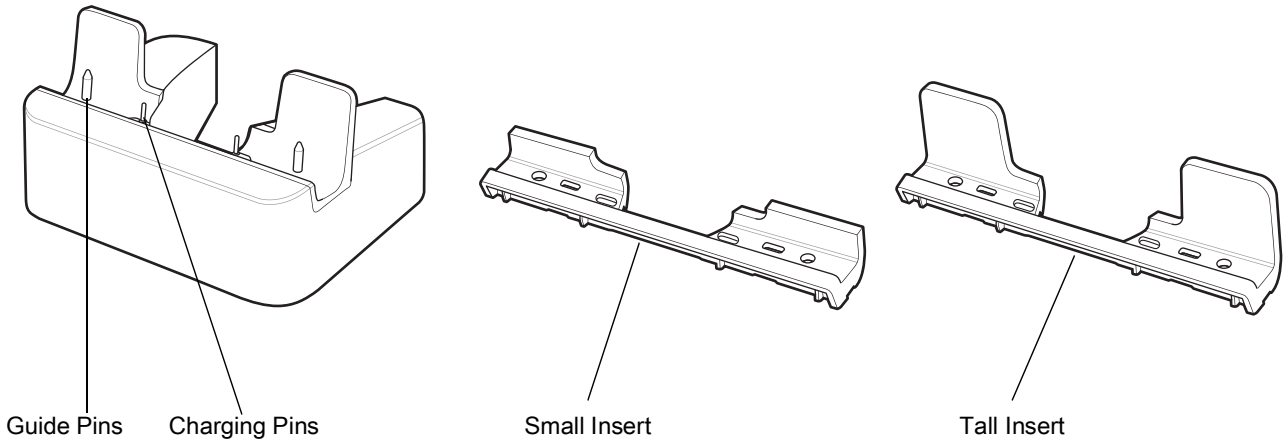
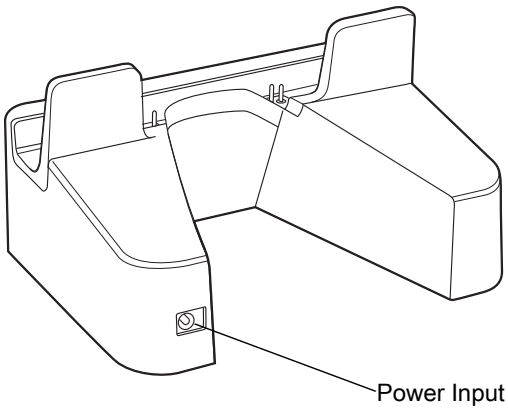


Figure 10 Charge Only Cradle - Rear View

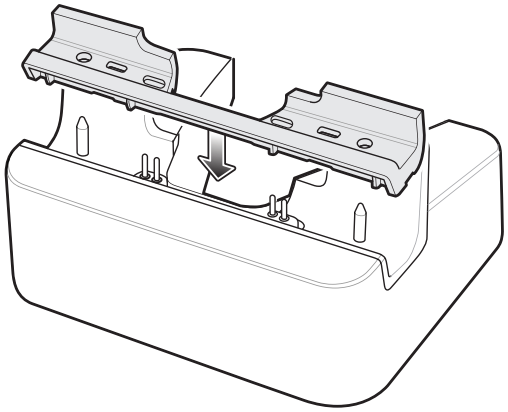


Installing the Insert

Install the tall insert when using a device without a Rugged Frame or Expansion Back. Install the small insert when using an device with an Expansion Back and without a Rugged Frame.

1. Align the insert over the pins.

Figure 11 Align Insert with Cradle



2. Press the insert down until it seats flush in the cradle.

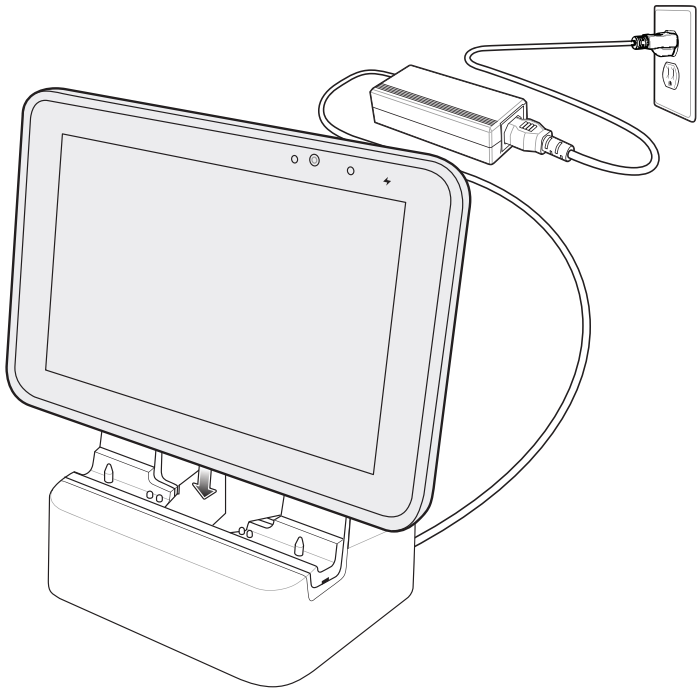
Charging the Device

To charge the device in the Charge Only Cradle:

1. Align the device with the alignment pins on the cradle.
2. Insert the device into the cradle.

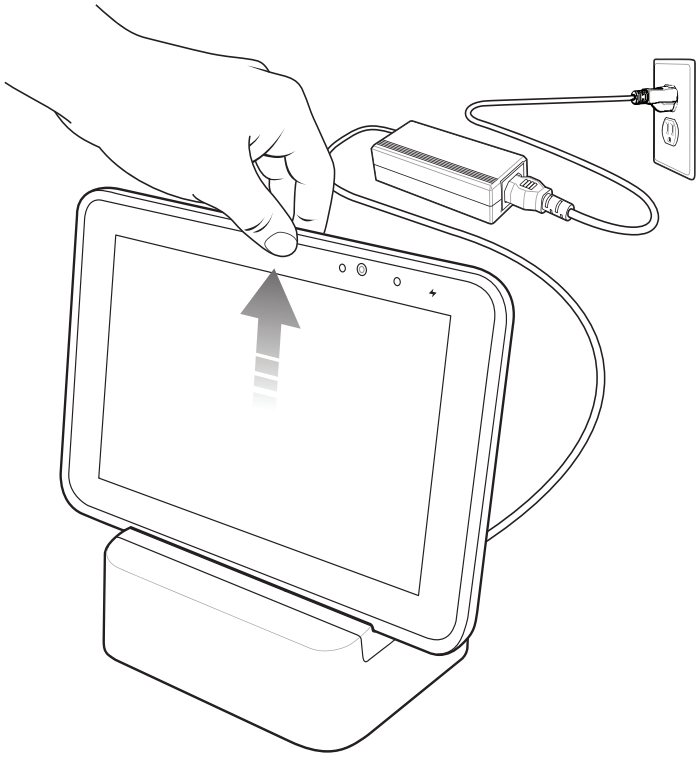
NOTE: Ensure the tablet is flat on the cradle and all charging contacts are touching the charging base.

Figure 12 Insert device into Charge Only Cradle



3. The device Charging LED indicates charging.
4. To remove the device from the Charge Only Cradle, hold the cradle down with one hand and lift the device.

Figure 13 Remove device from Charge Only Cradle



Charge batteries in ambient temperatures from 0°C to +40°C (32°F to 104°F) as reported by the battery. Charging is intelligently controlled by the charger. To accomplish this, for small periods of time, the charger alternately enables and disables battery charging to keep the battery at acceptable temperatures.

The 8.4" tablet main battery charges from fully depleted to 90% in approximately 2 hours and from fully depleted to 100% in approximately 3 hours.

The 10.1" tablet main battery charges from fully depleted to 90% in approximately 3 hours and from fully depleted to 100% in approximately 5 hours.

NOTE: The Charging indicator only illuminates when the device is connected to AC power.

Table 4 *Charging Indicator*

LED	Indication
Off	Device is not in cradle; not seated properly; or cradle is not powered.
Orange	Device is charging.
Green	Charging complete.
Red	Error in charging; check placement of the device.

Communication and Charging Cradle

CAUTION: Ensure that you follow the guidelines for battery safety described in Battery Safety Guidelines on page 140.

NOTE: The Communication and Charging Cradle (CRD-ET5X-1SCOM1) comes with two inserts; tall insert and short insert. Install the tall insert when using without a Rugged Frame or Expansion Back. Install the small insert when using with an Expansion Back and without a Rugged Frame.

This section describes how to use a Communication and Charing Cradle with the tablet.

The Communication and Charging cradle:

- Provides power for operating the tablet.
- Provides ports for connecting USB devices to the tablet, video output and connection to a LAN.
- Charges the tablet's battery and optional Power Pack installed in an Expansion Back.

Figure 14 Communication and Charging Cradle - Front View

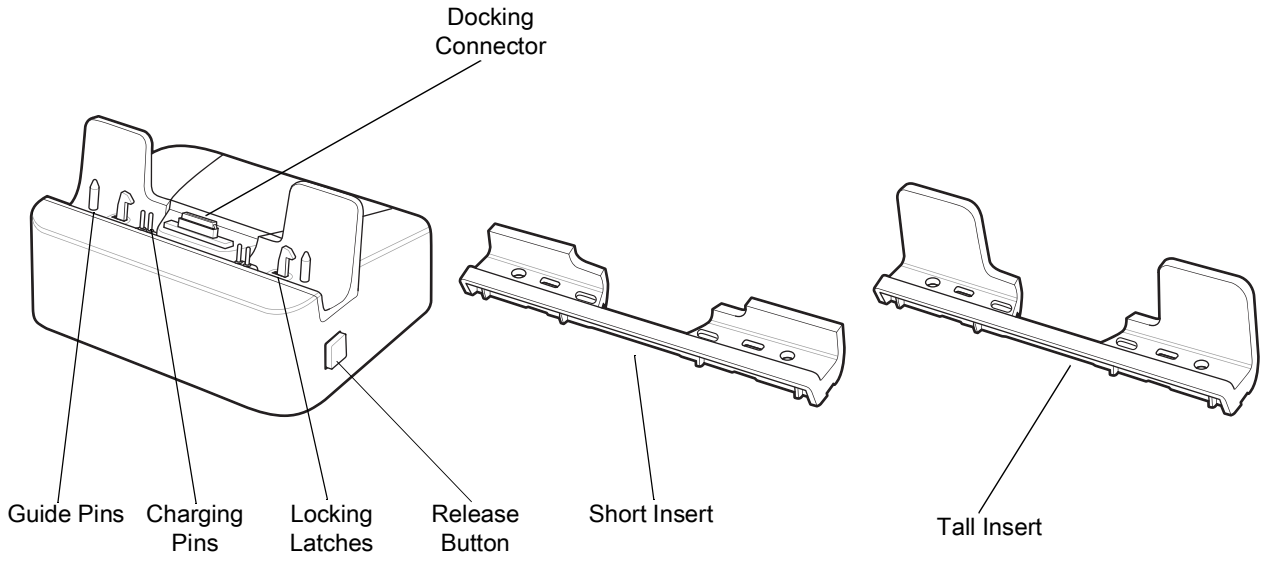


Figure 15 Communication and Charging Cradle - Rear View

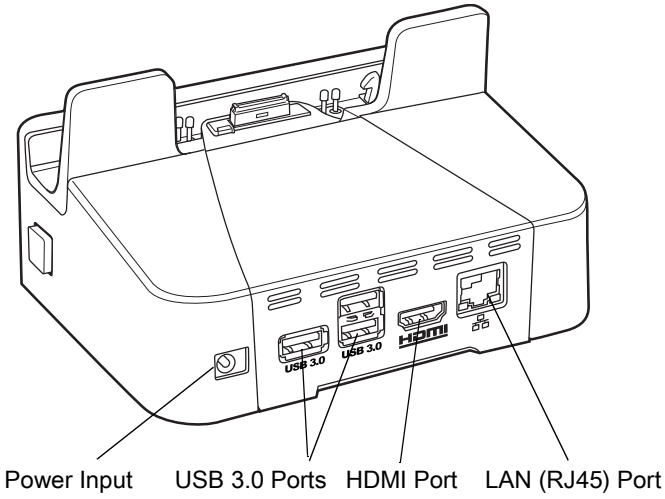
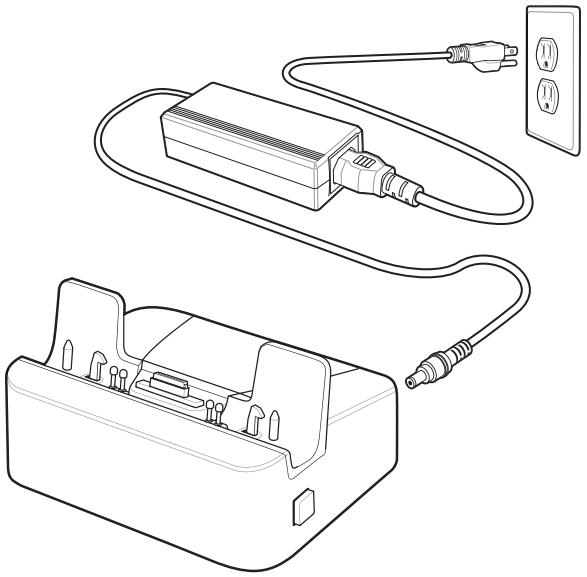


Figure 16 Communication and Charging Cradle - Setup

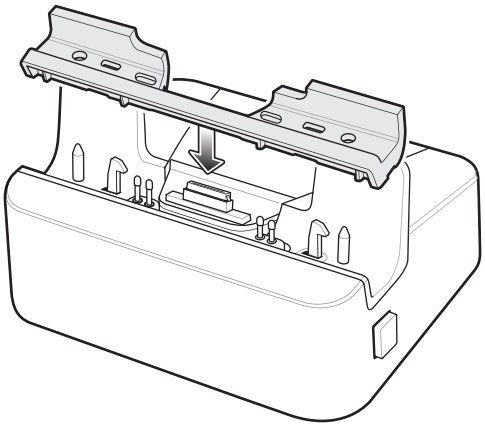


Installing the Insert

Install the tall insert when using a device without a Rugged Frame or Expansion Back. Install the small insert when using a device with an Expansion Back and without a Rugged Frame.

1. Align the insert over the pins.

Figure 17 Align Insert with Cradle



2. Press the insert down until it seats flush in the cradle.

Charging the Device

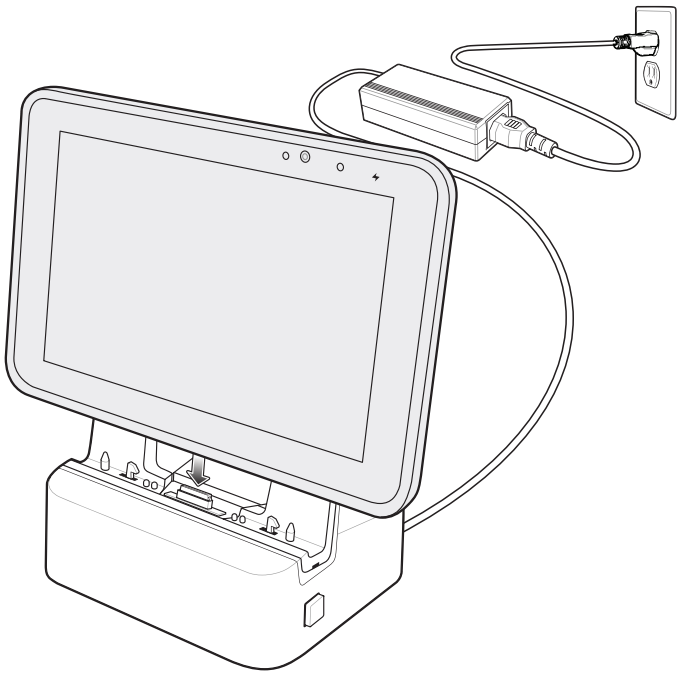
To charge the device in the Communication and Charging Cradle:

1. Open the bottom access door and hold it to the back of the tablet.
2. Align the device with the alignment pins on the cradle.

3. Insert the device into the cradle. Note that the Communication and Charging Cradles contains a locking mechanism that locks the device to the cradle.

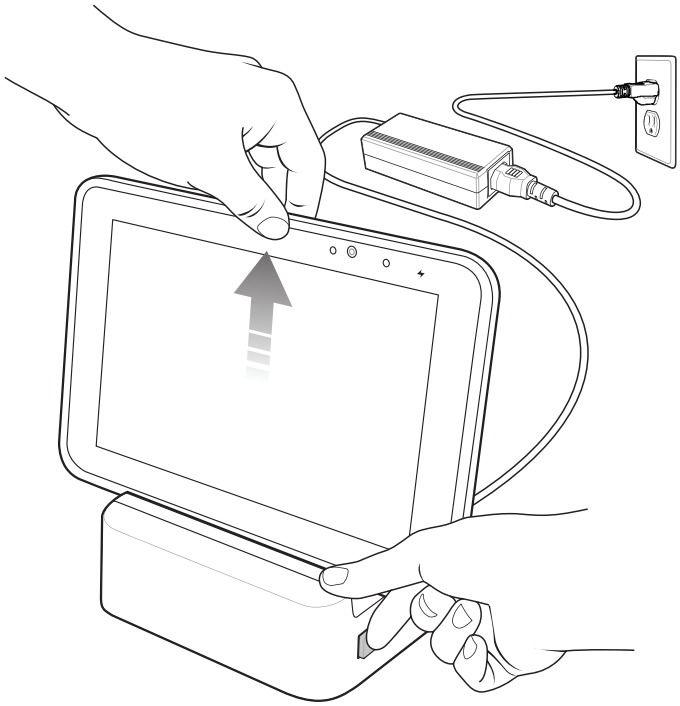
NOTE: Ensure the tablet is flat on the cradle and all charging contacts are touching the charging base.

Figure 18 Insert device into Communication and Charging Cradle



4. The device Charging LED indicates charging.
5. To remove the device from the Communication and Charging Cradle, press the release button on the right side of the cradle and lift the device. Use thumb to hold down the cradle.

Figure 19 Remove ET5X from Communication and Charging Cradles



Charge batteries in ambient temperatures from 0°C to +40°C (32°F to 104°F) as reported by the battery. Charging is intelligently controlled by the charger. To accomplish this, for small periods of time, the charger alternately enables and disables battery charging to keep the battery at acceptable temperatures.

The 8.4" tablet main battery charges from fully depleted to 90% in approximately 2 hours and from fully depleted to 100% in approximately 3 hours.

The 10.1" tablet main battery charges from fully depleted to 90% in approximately 3 hours and from fully depleted to 100% in approximately 5 hours.

NOTE: The Charging indicator only illuminates when the device is connected to AC power.

Rugged Communication and Charging Cradle

CAUTION: Ensure that you follow the guidelines for battery safety described in Battery Safety Guidelines on page 140.

This section describes how to use a Rugged Communication and Charing Cradle with the device.

The Rugged Communication and Charging cradle:

- Provides power for operating the device.
- Provides ports for connecting USB devices to the tablet, video output and connection to a LAN.
- Charges the device's battery and optional Power Pack installed in an Expansion Back.

Figure 20 Rugged Communication and Charging Cradle - Front View

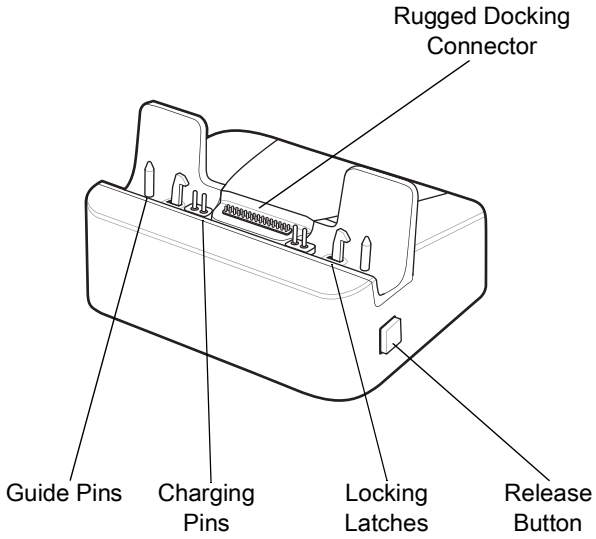


Figure 21 Rugged Communication and Charging Cradle - Rear View

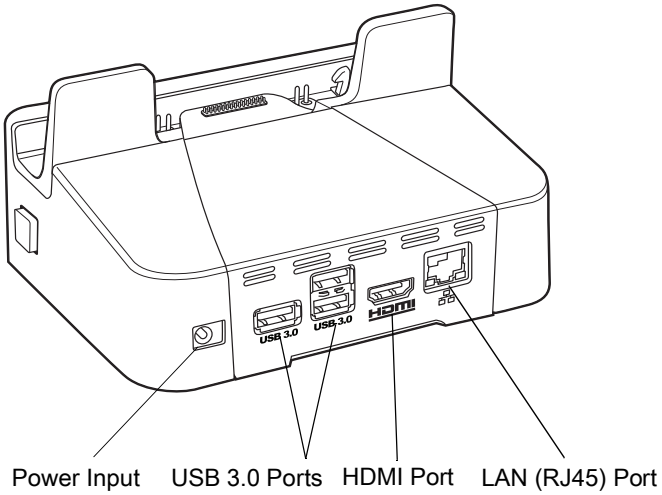
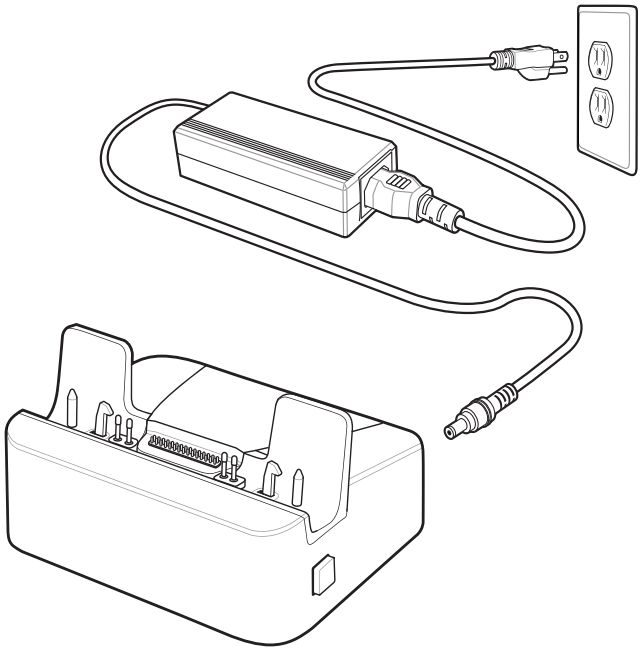


Figure 22 Rugged Communication and Charging Cradle - Setup



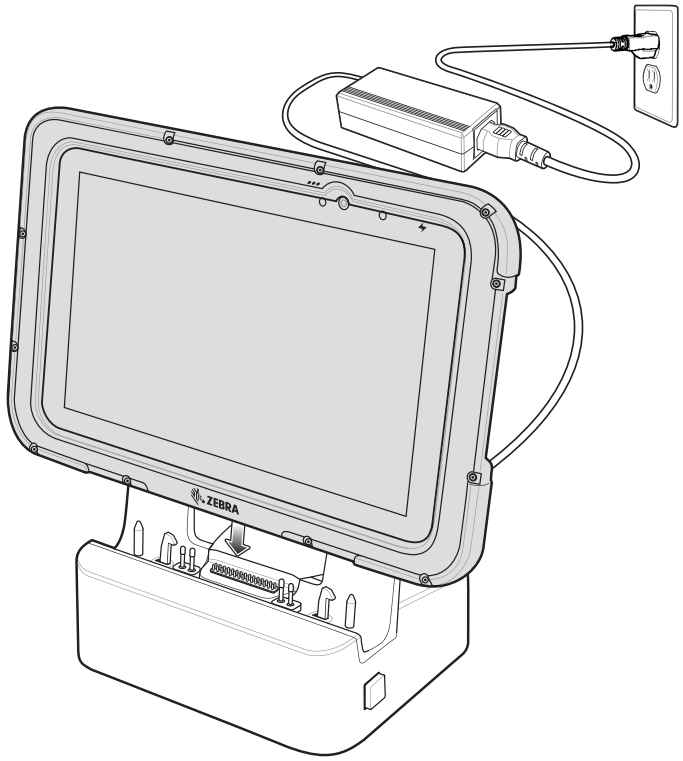
Charging the Device

To charge the device using the Rugged Communication and Charging Cradle:

1. Align the device with the alignment pins on the cradle.
2. Insert the device into the cradle. Note that the Rugged Communication and Charging Cradles contains a locking mechanism that locks the device to the cradle.

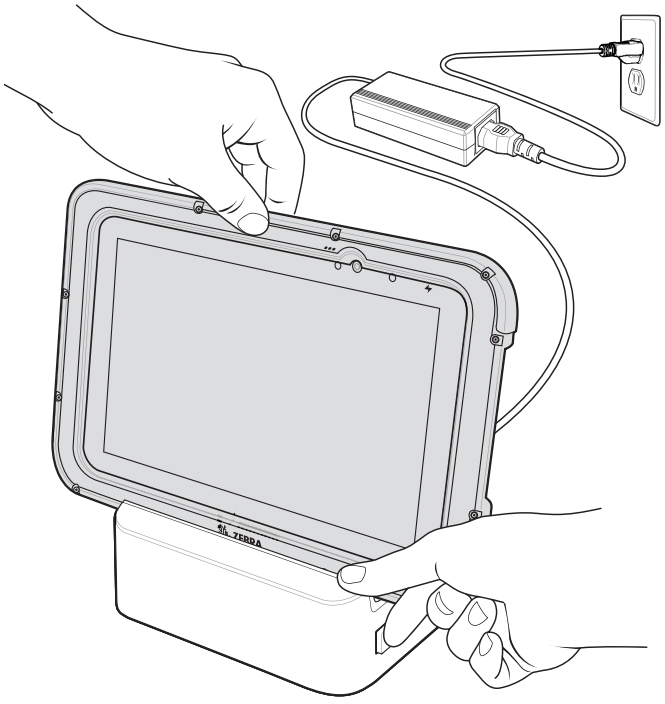
NOTE: Ensure the tablet is flat on the cradle and all charging contacts are touching the charging base.

Figure 23 Insert Rugged Frame device and IO Adapter into Rugged Communication and Charging Cradle



3. The device Charging LED indicates charging.
4. To remove the device from the Rugged Communication and Charging Cradle, press the release button on the right side of the cradle and lift the device. Use thumb to hold down the cradle.

Figure 24 Remove device from Rugged Communication and Charging Cradles



Charge batteries in ambient temperatures from 0°C to +40°C (32°F to 104°F) as reported by the battery. Charging is intelligently controlled by the charger. To accomplish this, for small periods of time, the charger alternately enables and disables battery charging to keep the battery at acceptable temperatures.

The 8.4" tablet main battery charges from fully depleted to 90% in approximately 2 hours and from fully depleted to 100% in approximately 3 hours.

The 10.1" tablet main battery charges from fully depleted to 90% in approximately 3 hours and from fully depleted to 100% in approximately 5 hours.

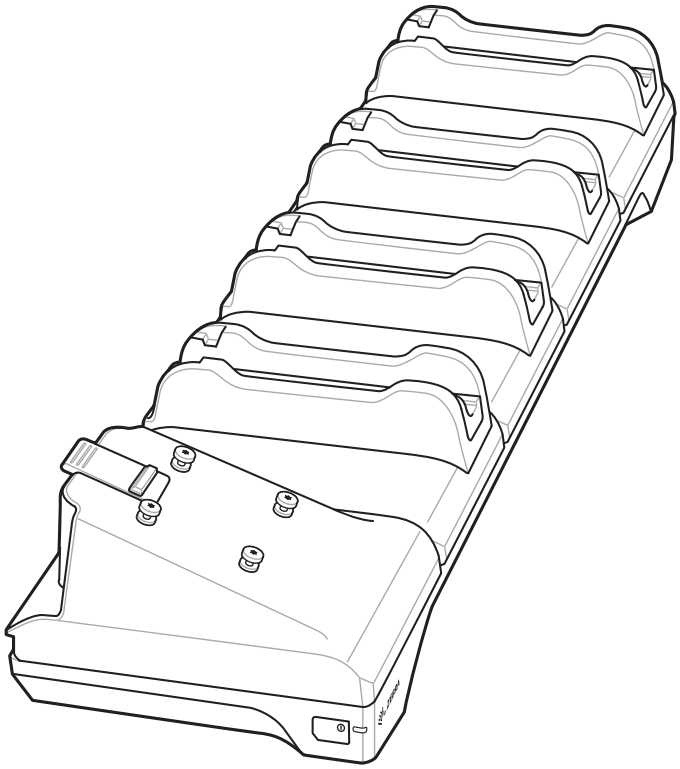
NOTE: The Charging indicator only illuminates when the device is connected to AC power.

4-Slot Charge Only Cradle

CAUTION: Ensure that you follow the guidelines for battery safety described in Battery Safety Guidelines on page 140.

- Provides 5 VDC power for operating the device.
- Simultaneously charges up to four devices and up to four Power Packs using the optional Battery Charger Adapter.

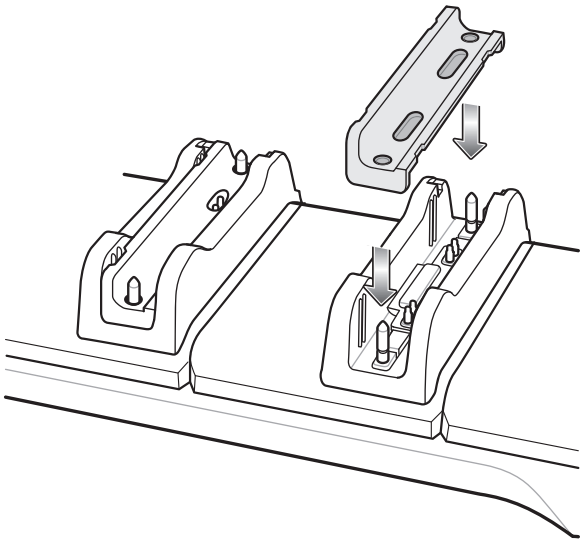
Figure 25 4-Slot Charge Only Cradle



Insert Installation

Install inserts into slots for device tablets without Rugged Frame.

Figure 26 Install Insert in Slot

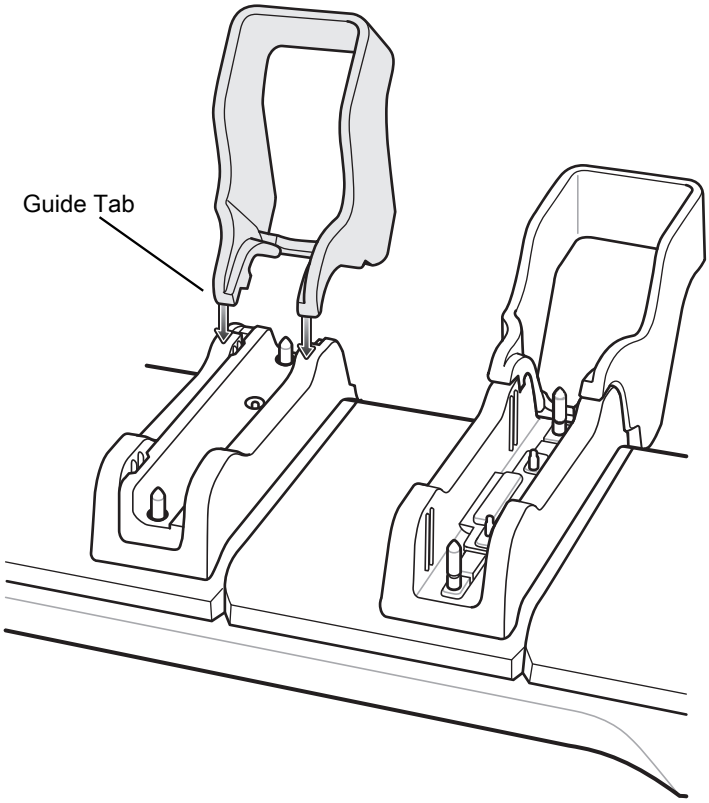


Guide Installation

The cradle comes with four 8” tablets guide and four 10” tablet guides. Install the appropriate guides for the tablets.

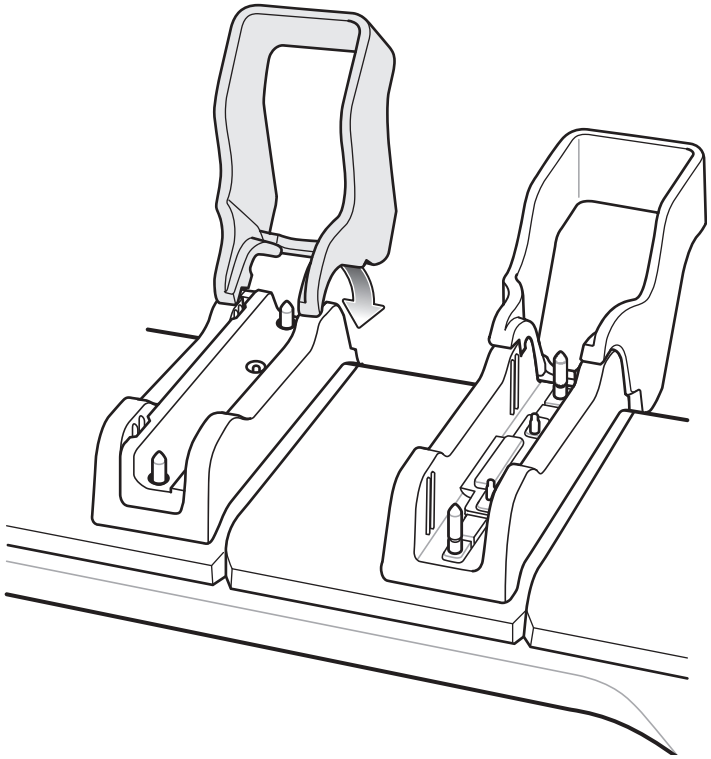
1. Align the two tabs on the guide with the two slots in the cradle.

Figure 27 Align Guide with Slot



2. Place the guide down onto the cradle and then rotate the guide until it snaps into the cradle.

Figure 28 Rotate Guide onto Slot

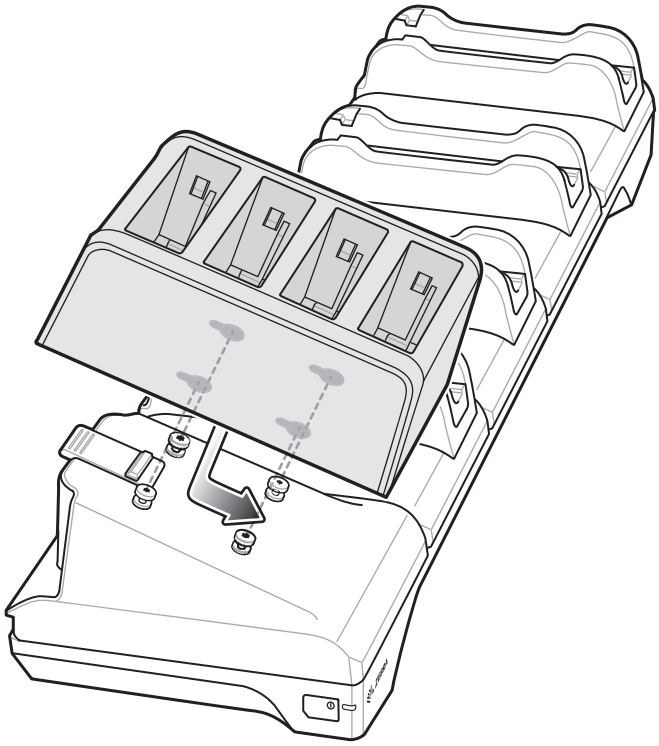


Battery Charger Installation

Install optional 4-Slot Battery Charger onto cradle:

1. Align the mounting holes on the bottom of the charger with the four studs on the cradle.

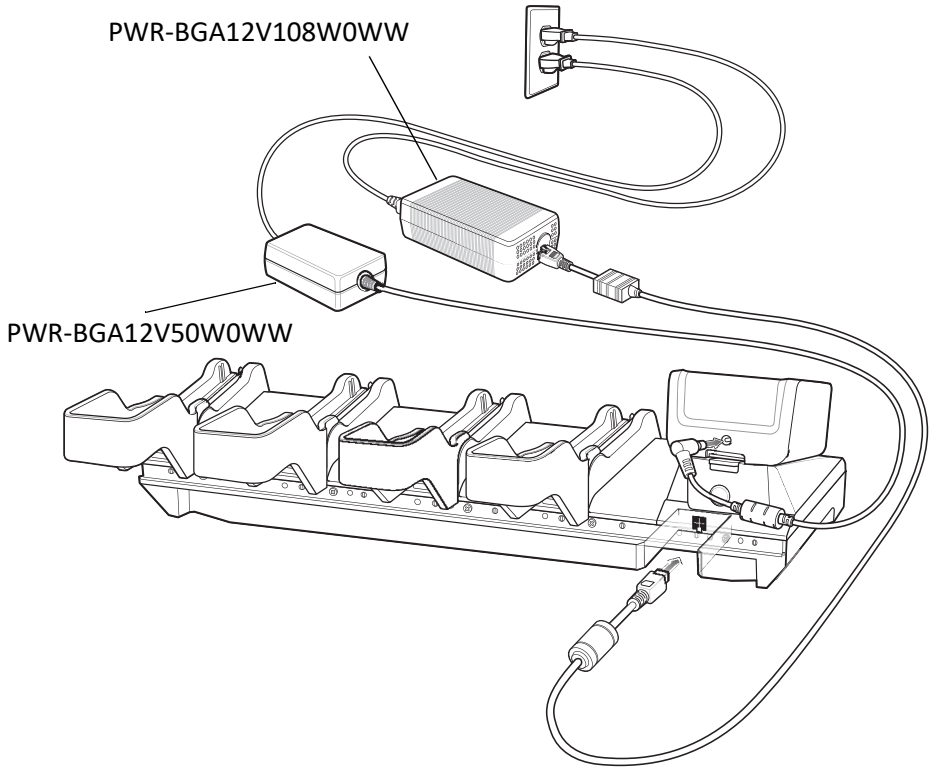
Figure 29 Align Battery Charger on Adapter



2. Place the charger on the cradle and then slide toward the front of the cradle.

Power Setup

Figure 30 Power Setup with Optional Charger

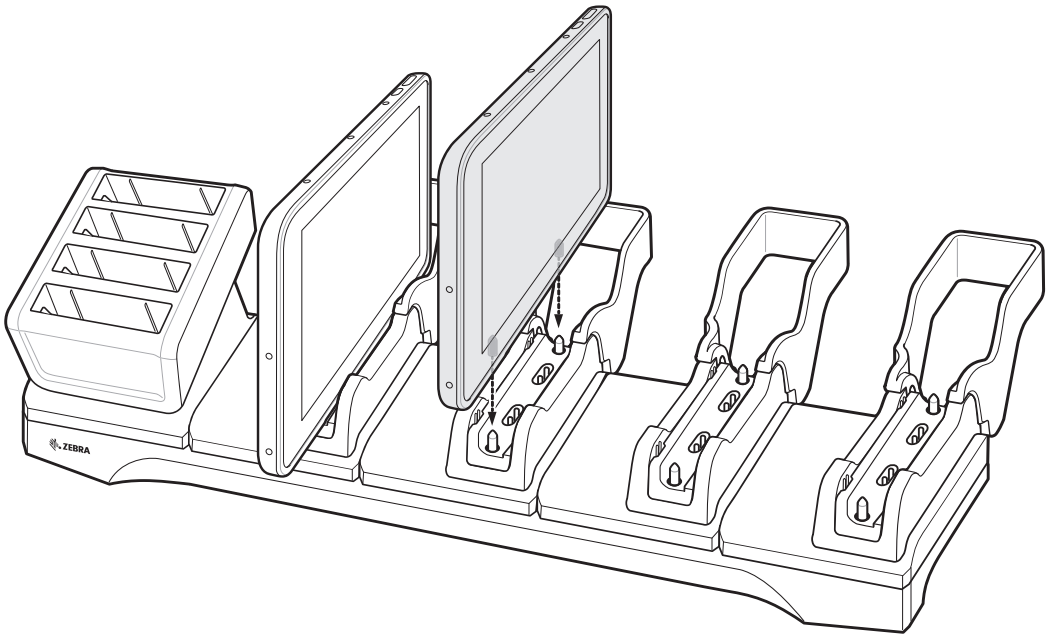


Insert Tablet into Slot

Device without Rugged Frame

1. Install insert into slot.
2. Align the two alignment holes on the bottom of the tablet with the two alignment pins in the slot.

Figure 31 Insert ET5X without Rugged Frame into Slot

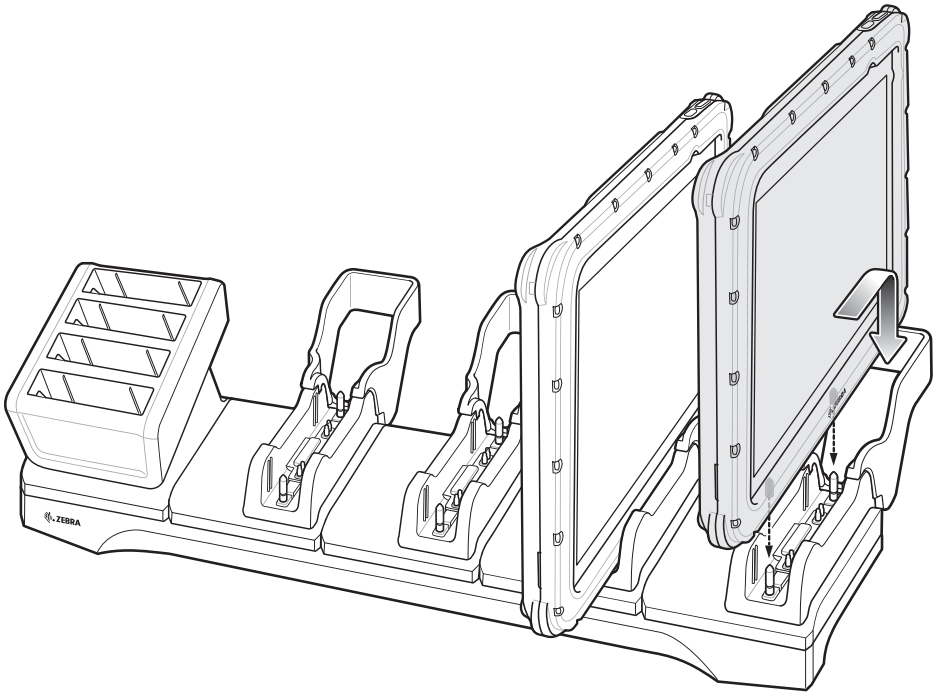


3. Place the device down into the slot with display facing away from Battery Charger.

Device with Rugged Frame

1. If applicable, remove insert from slot.
2. Slide device over slot into it touches the guide.

Figure 32 Insert device with Rugged Frame into Slot



3. Place the device down into the slot with display facing away from Battery Charger.

Charging the Battery

Charge batteries in ambient temperatures from 0°C to +40°C (32°F to 104°F) as reported by the battery. Charging is intelligently controlled by the charger. To accomplish this, for small periods of time, the charger alternately enables and disables battery charging to keep the battery at acceptable temperatures.

The 8.4" tablet main battery charges from fully depleted to 90% in approximately 2 hours and from fully depleted to 100% in approximately 3 hours.

The 10.1" tablet main battery charges from fully depleted to 90% in approximately 3 hours and from fully depleted to 100% in approximately 5 hours.

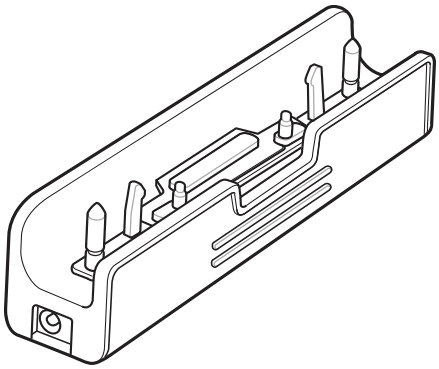
NOTE: The Charging indicator only illuminates when the device is connected to AC power.

Rugged Charge Connector

CAUTION: Ensure that you follow the guidelines for battery safety described in Battery Safety Guidelines on page 140.

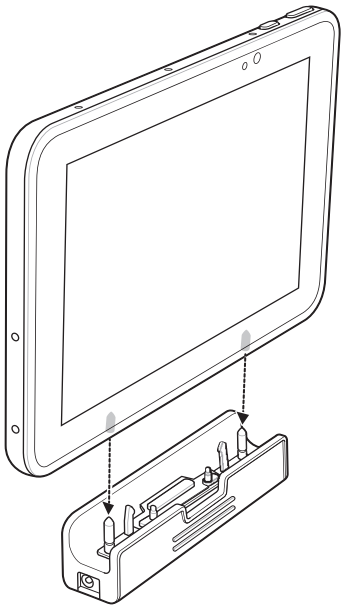
Use the Rugged Charge Connector to charge an device tablet.

Figure 33 Rugged Charge Connector



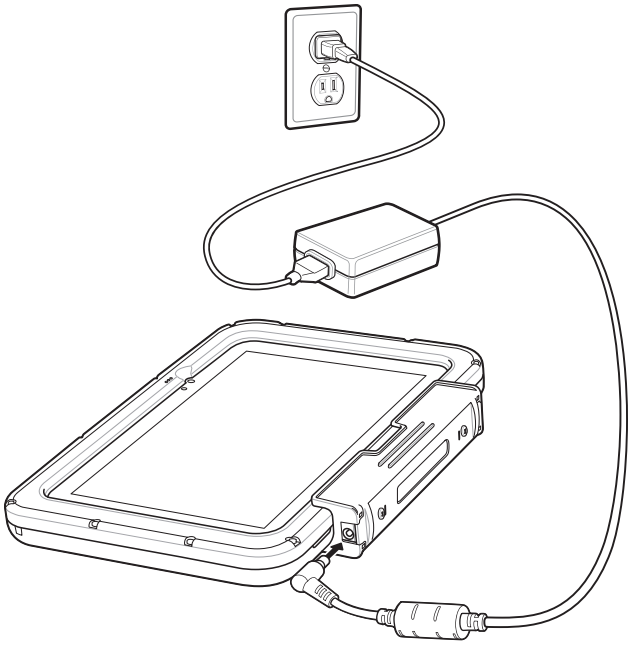
1. Align the pins in the Rugged Charge Connector with the slots in the device.

Figure 34 Insert ET5X into Rugged Charge Connector



2. Plug the Power Supply connector into the Power Input Port on the Rugged Charge Connector.

Figure 35 Plug Power Supply into Input Power Port



Charge batteries in ambient temperatures from 0°C to +40°C (32°F to 104°F) as reported by the battery. Charging is intelligently controlled by the charger. To accomplish this, for small periods of time, the charger alternately enables and disables battery charging to keep the battery at acceptable temperatures.

The 8.4" tablet main battery charges from fully depleted to 90% in approximately 2 hours and from fully depleted to 100% in approximately 3 hours.

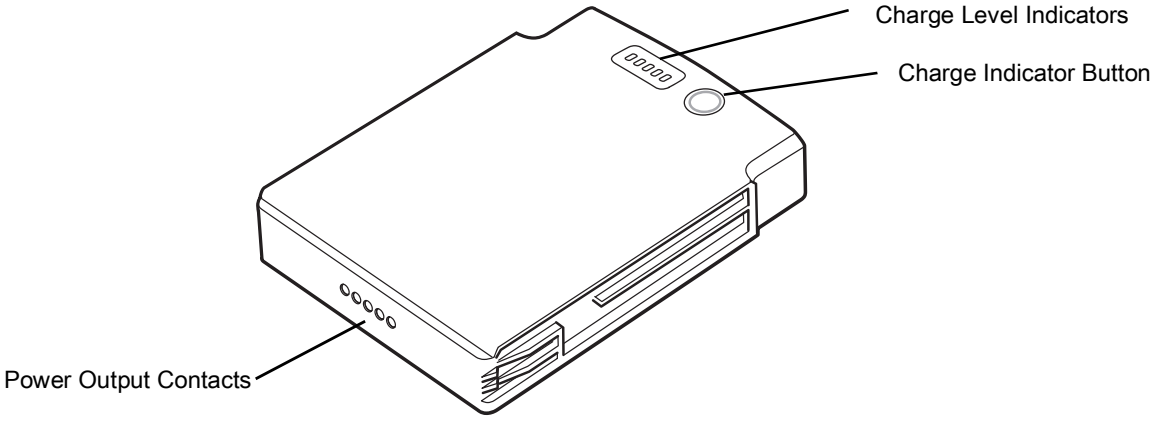
The 10.1" tablet main battery charges from fully depleted to 90% in approximately 3 hours and from fully depleted to 100% in approximately 5 hours.

NOTE: The Charging indicator only illuminates when the device is connected to AC power.

Power Pack

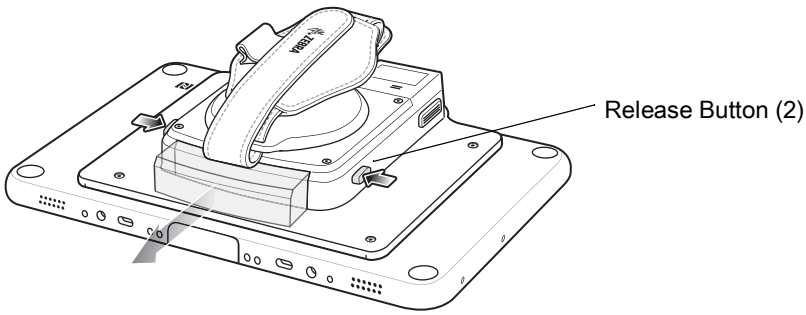
The optional Power Pack provides additional power for charging the main battery.

Figure 36 Power Pack



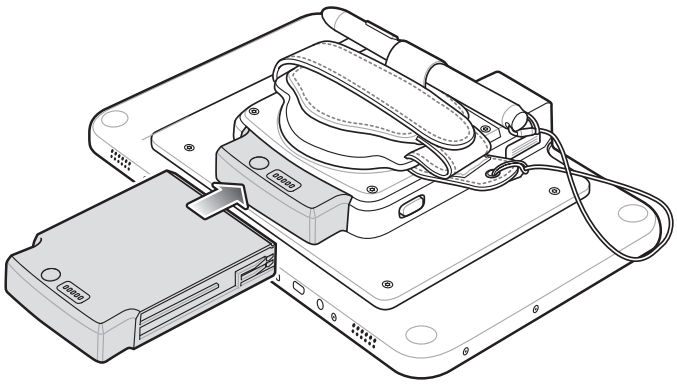
1. Install one of the optional Expansion Backs. See ET51/56 Integrator Guide for more information.
2. Press the two release buttons on the side of the Expansion Back. The dummy battery insert ejects slightly.

Figure 37 Remove Dummy Battery Insert



3. Remove dummy battery insert.
4. Insert Power Pack into slot until it snaps into place.

Figure 38 Install Power Pack



Charging the Power Pack

Charge the Power Pack using:

- A cradle
- 4-Slot Charger.

Using Cradle

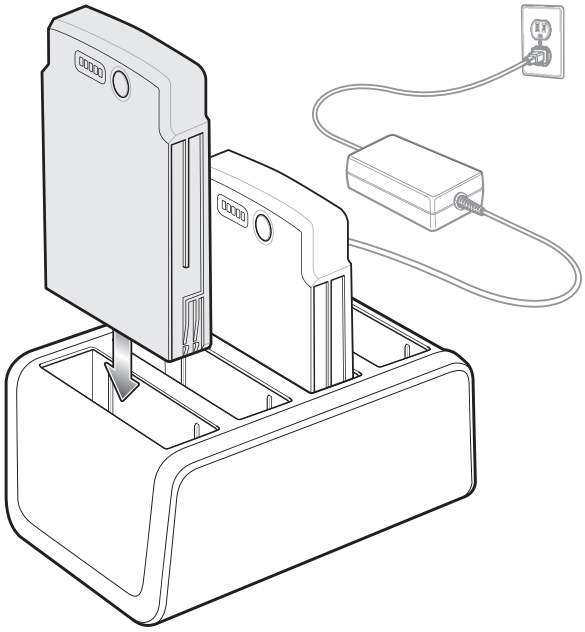
With the Power Pack installed in an Expansion Back, place the device into a cradle. The Power Pack charges in less than 3.5 hours.

Using the 4-Slot Battery Charger

CAUTION: Ensure that you follow the guidelines for battery safety described in Battery Safety Guidelines on page 140.

Use the 4-Slot Battery Charger to charge up to four Power Packs.

Figure 39 4-Slot Battery Charger



Charging the Power Pack

Charge Power Packs in ambient temperatures from 0°C to +40°C (32°F to 104°F) as reported by the Power Pack. Charging is intelligently controlled by the charger. To accomplish this, for small periods of time, the charger alternately enables and disables Power Pack charging to keep the battery at acceptable temperatures.

The Power Pack charge LED shows the status of the battery charging. The Power Pack charges in less than three hours. When charging, the Charge LEDs indicate the charge level.

Figure 40 Power Pack Charge LEDs

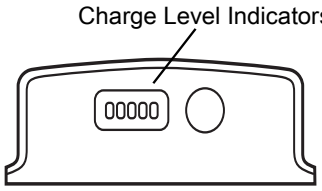


Table 5 *Power Pack Charge Status Indicators*

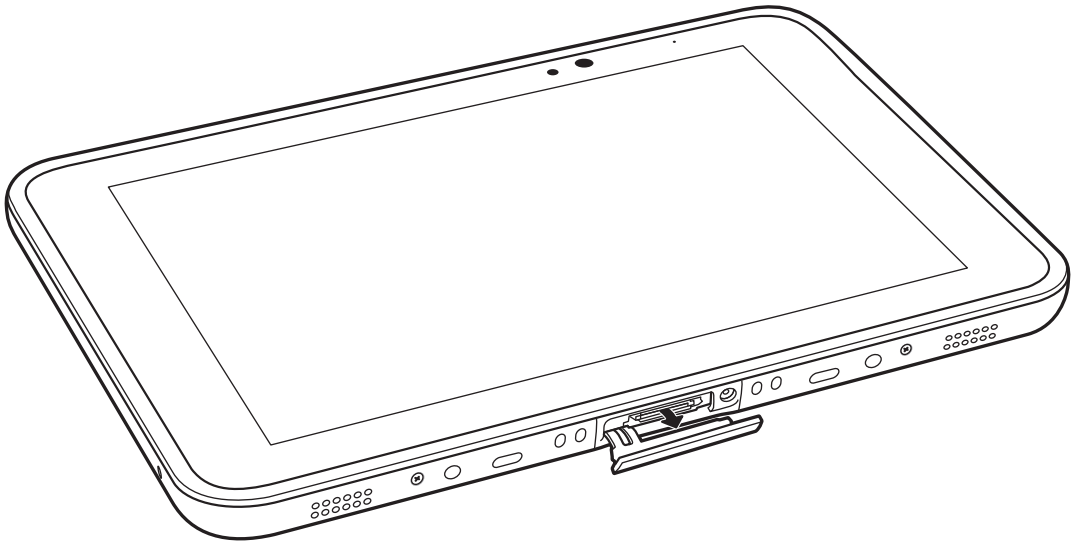
Power Pack Indicators	Description
	Power not applied to Power Pack.
	Charge level is between 0% and 20%.
	Charge level is between 20% and 40%.
	Change level is between 40% and 60%.
	Charge level is between 60% and 80%.
	Charge level is between 80% and 100%.
	Fully charged.
	Charging error.
	Solid Green LED
	Blinking Green LED
	Blinking Red LED

Rugged Frame

The Rugged Frame (8.4” and 10.1”) adds additional protection to the device. Use the Rugged I/O Adapter when docking the device into the Rugged Communications and Charging Cradle.

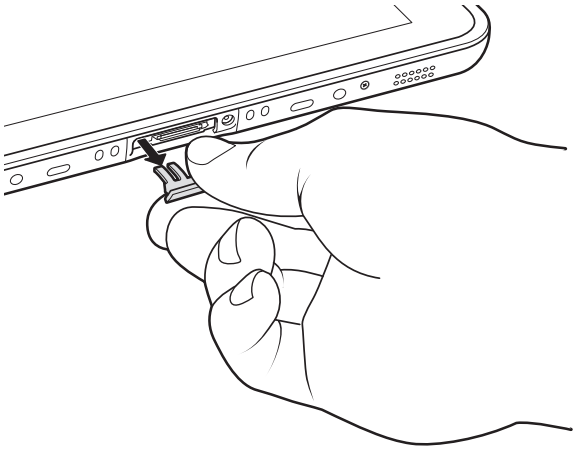
1. Open the access cover.

Figure 41 Open Access Door



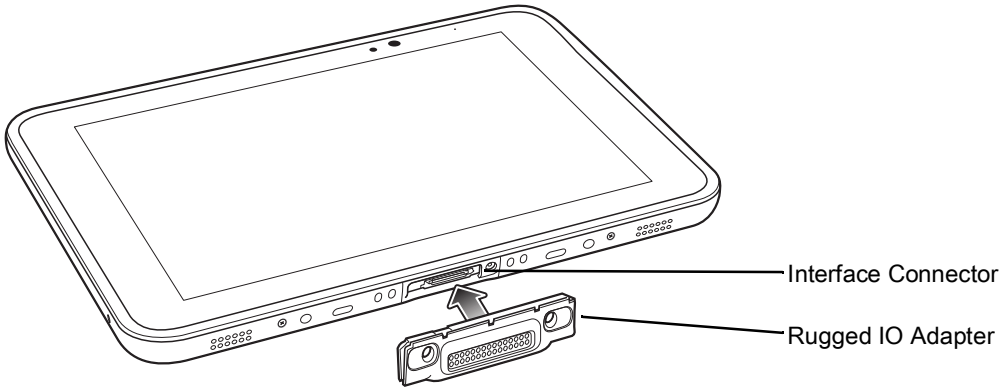
2. If installing the Rugged IO Adapter, pull the access cover away from the device until it separates from the device.

Figure 42 Remove Access Door



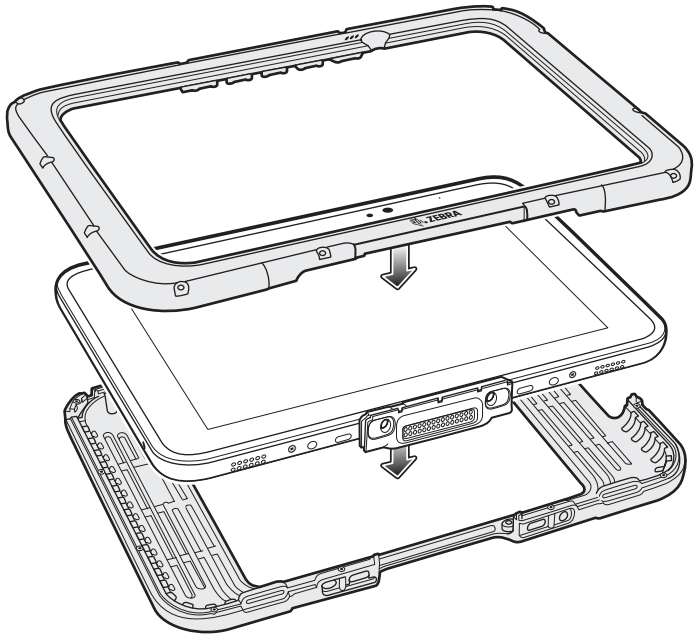
3. Insert the Rugged IO Adapter onto the tablet.

Figure 43 Insert Rugged IO Adapter



4. Remove the Rugged Frame and screws from box.
5. Separate the top and bottom sections of the Rugged Frame.
6. Place the bottom section on a flat surface.

Figure 44 Protective Boot Assembly



7. Place the ET5X into the bottom section.
8. Align the top section over the bottom section.
9. Press the top section down onto the bottom section.
10. Using a T6 Torx screwdriver, secure the Rugged Frame together using the provided M1.6 Torx screws.

Figure 45 Secure 8” Rugged Frame

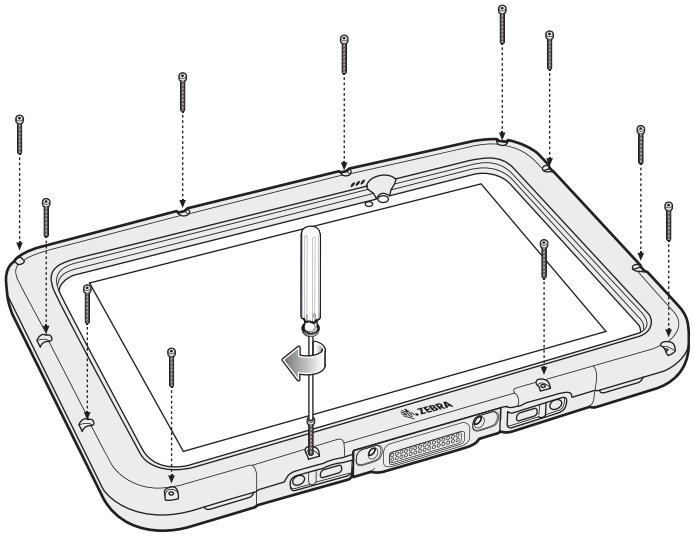
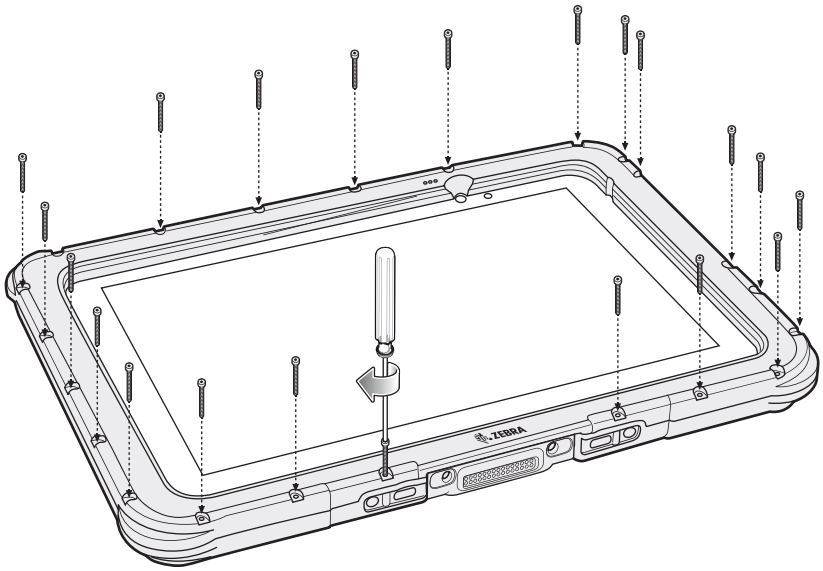


Figure 46 Secure 10” Rugged Frame



11. Torque the screws to 12 N-cm.

Expansion Back

The Expansion Backs provide data capture and or Power Pack slot for the ET5X.

Installation

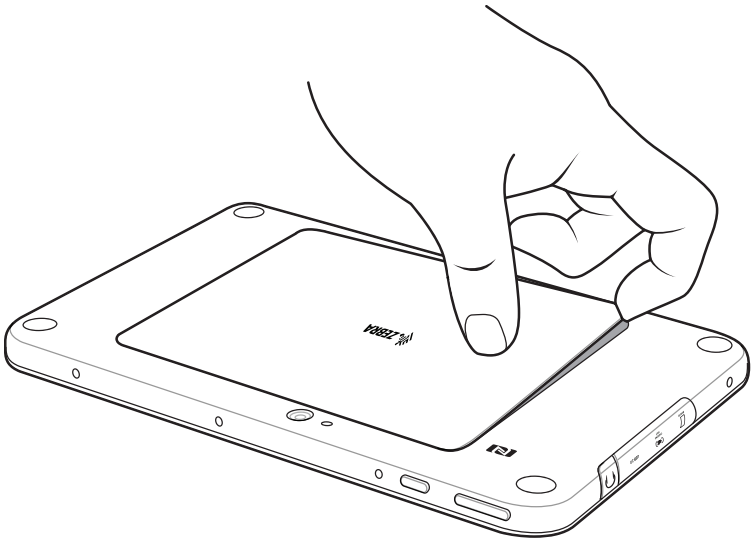
To install an Expansion Back:

CAUTION: Remove power before installing the Expansion Back.

1. Power off the ET5X.

2. Remove battery cover and store in safe place.

Figure 47 Remove Battery Cover



3. On 8.4” version only, remove rubber gasket.

Figure 48 Remove Rubber Gasket

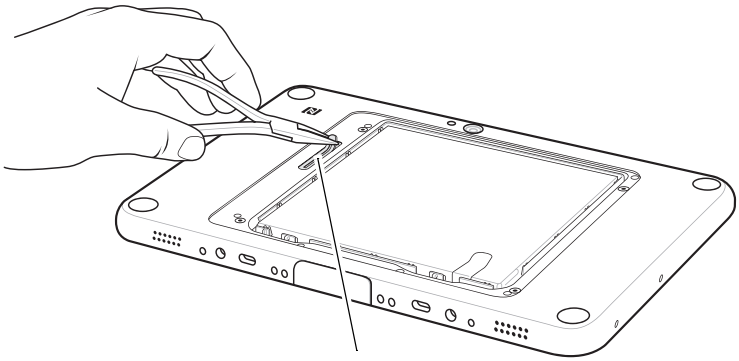
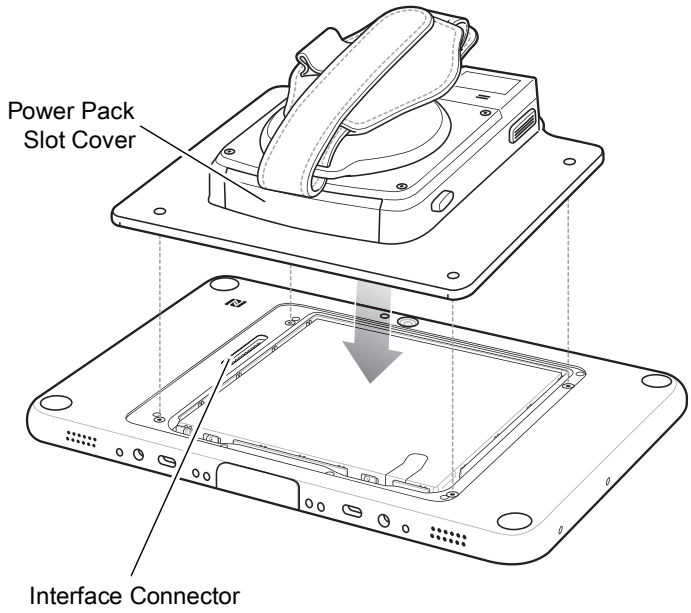


Figure 49 Align Expansion Back with 8” Configuration



4. Align expansion back with device. Ensure that the power pack slot cover is aligned with the bottom of the device and the interface connector on expansion back aligns with interface connector on device.

Figure 50 Align Expansion Back with 8” Configuration

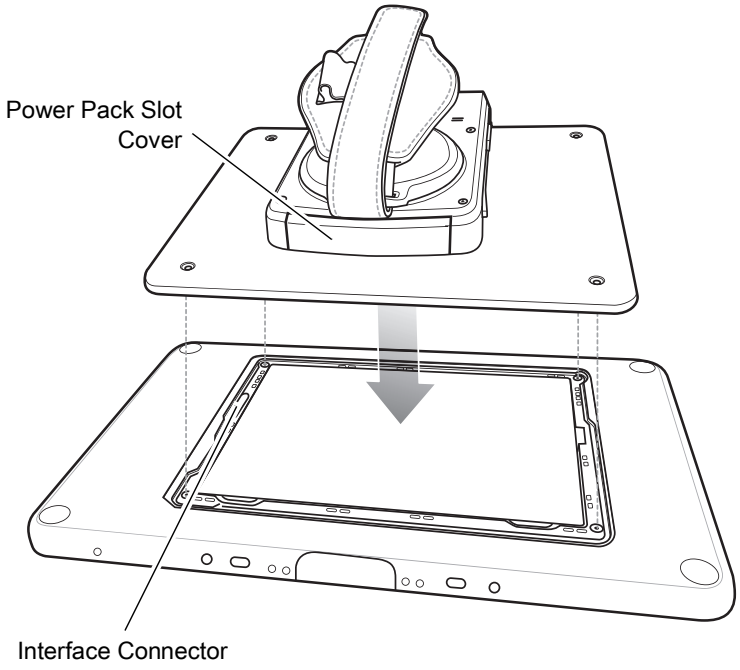
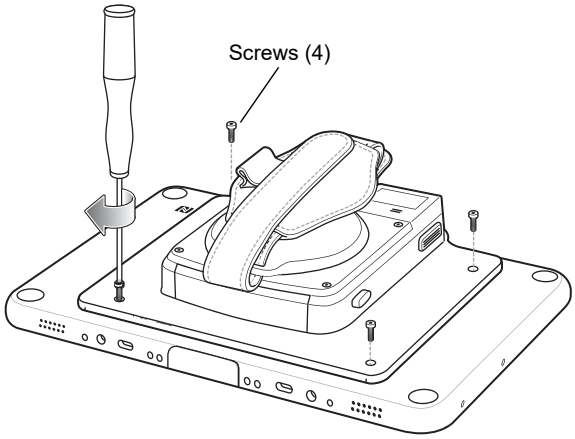


Figure 51 Secure Screws



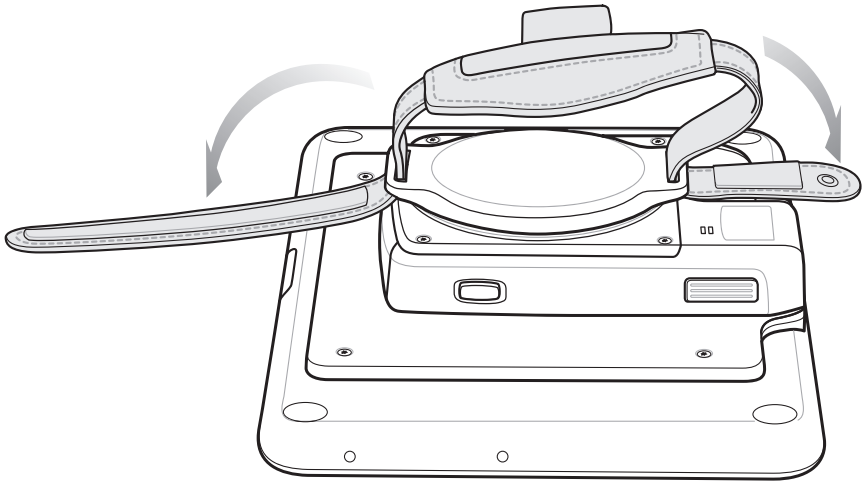
5. Using a T6 Torx screwdriver, secure expansion back to device using four screws. Torque to 14 n-cm.

Replacement Hand Strap

To replace the hand strap:

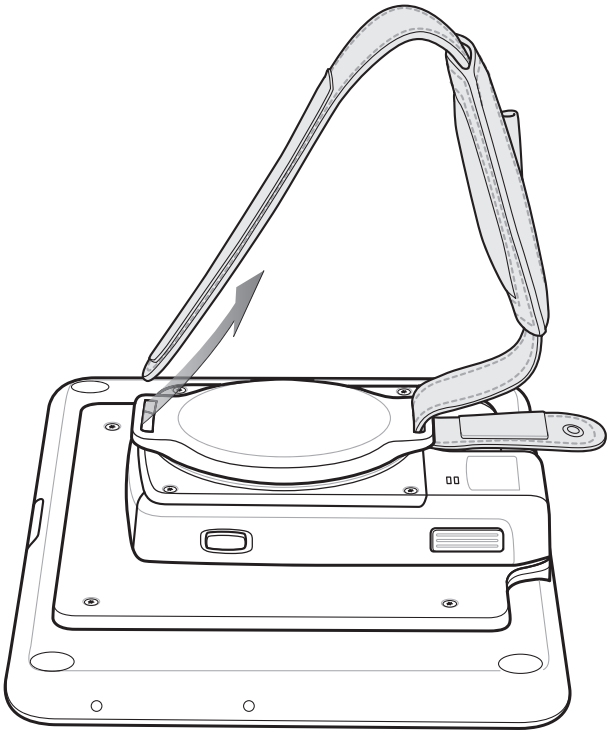
1. If the Power Pack is installed, remove the Power Pack.
2. Rotate the disk so that the strap end without the eyelet is aligned with the Power Pack opening.
3. Open both ends of the hand strap.

Figure 52 Open Straps



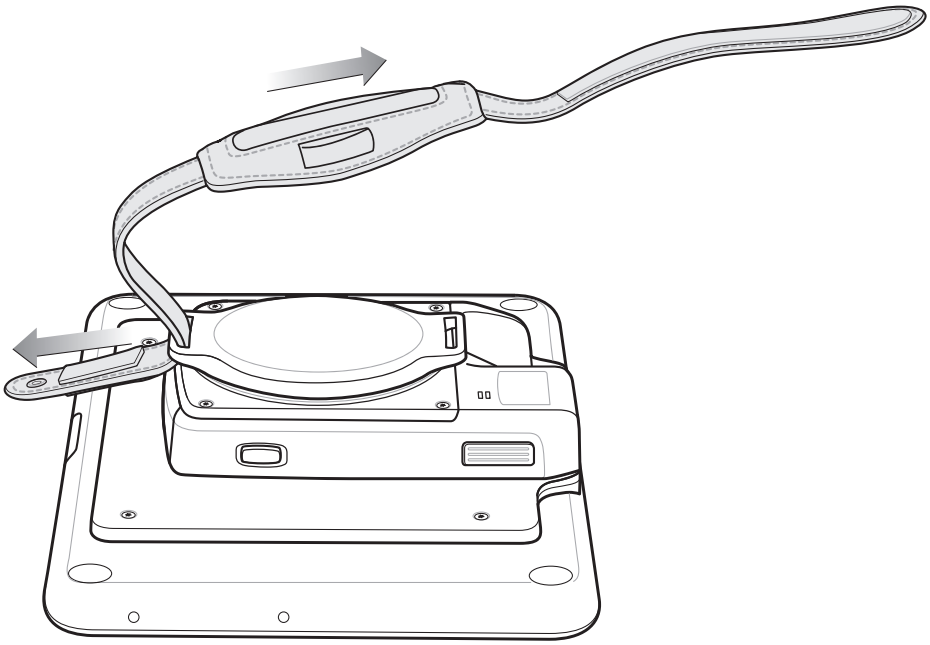
4. Pull the strap end without the eyelet through the slot on the Expansion Back.

Figure 53 Remove Strap



5. Rotate the disk 180°.
6. Slide the pad off the hand strap.
7. Pull the eyelet end through the slot on the Expansion Back.

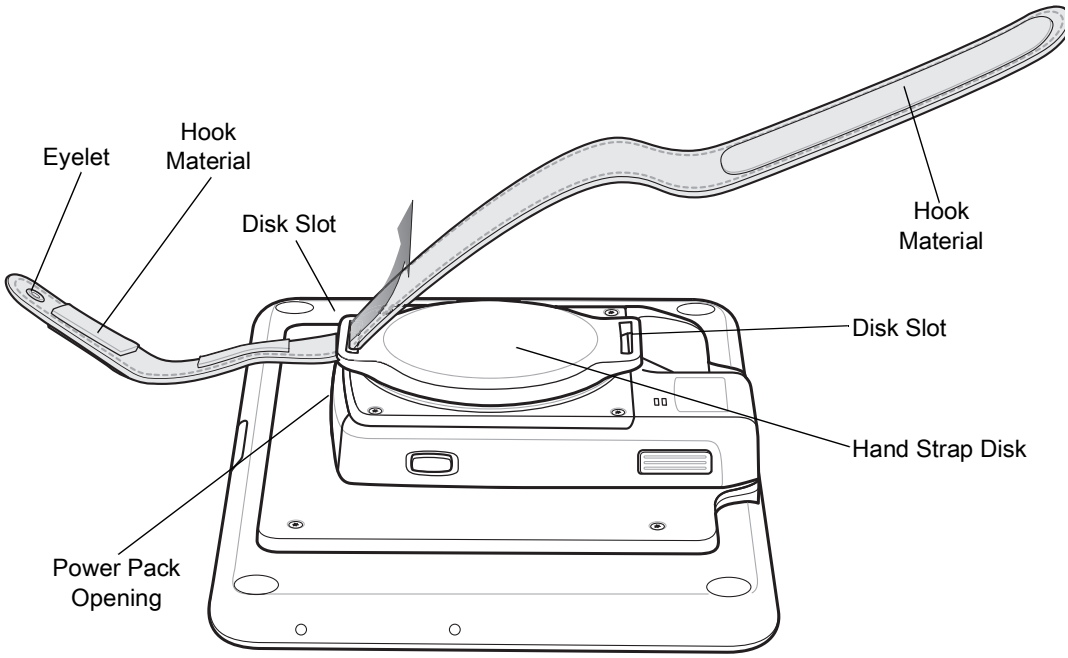
Figure 54 Pull Eyelet End



8. Remove pad from new replacement hand strap.
9. Rotate the disk so that one of the slots is aligned with the Power Pack opening.

10. Feed the new hand strap through the slot at the Power Pack opening.

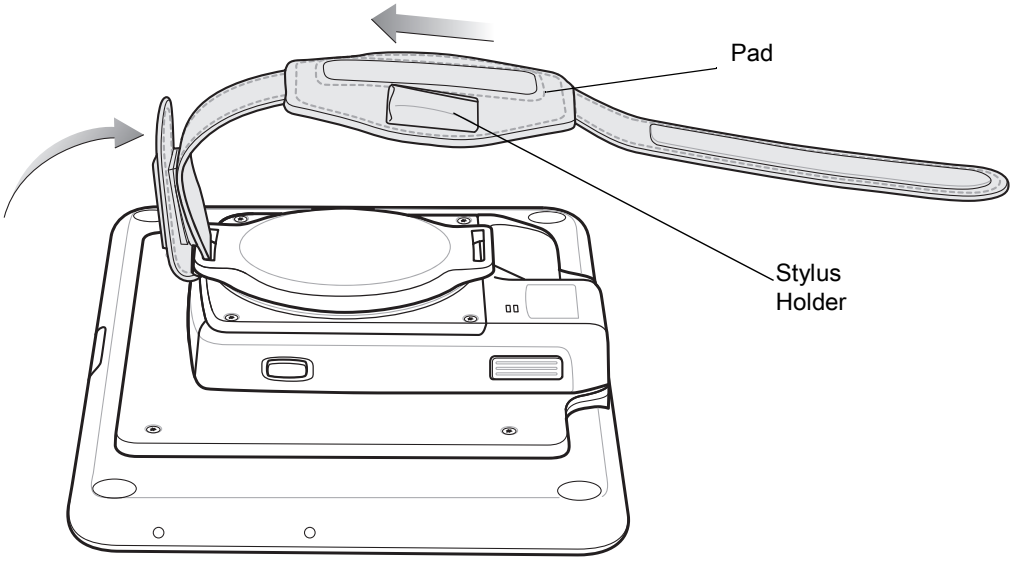
Figure 55 Feed New Strap



11. Slide pad onto hand strap with the stylus holder facing up.

12. Fold the eyelet end of the strap up and press hook and loop material together.

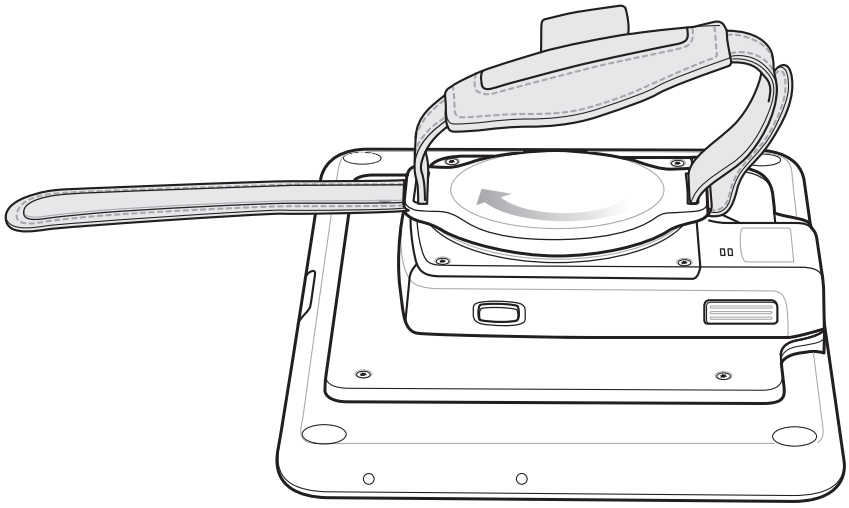
Figure 56 Secure Eyelet End



13. Rotate disk 180° so that the empty slot is aligned with the Power Pack opening.

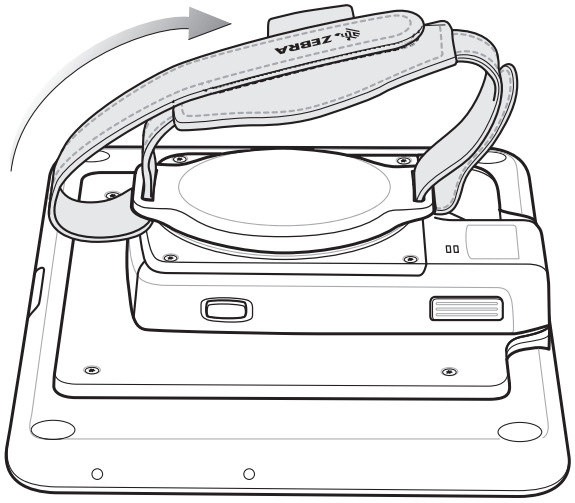
14. Feed strap through the slot.

Figure 57 Feed Strap



15. Fold the end of the strap up and press hook and loop material together.

Figure 58 Secure Strap

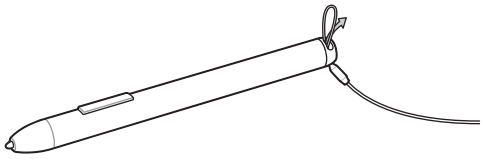


Attaching the Stylus to the Expansion Back

The Expansion Backs provide a holder for the stylus. To install the stylus onto the Expansion Back with th option tether:

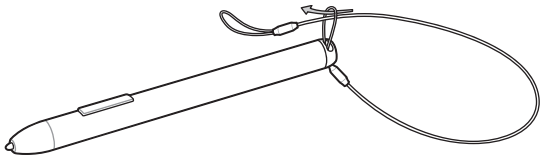
1. Insert one loop of the tether into the hole in the stylus end cap.

Figure 59 Insert Loop



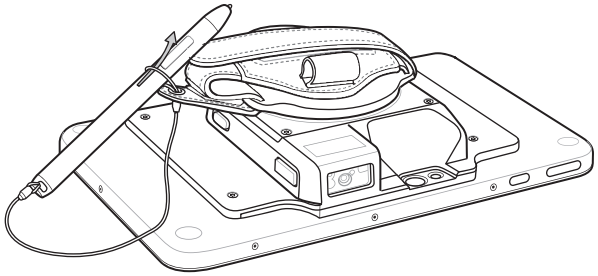
2. Feed the other end of the tether through the loop.

Figure 60 Feed Tether Through Loop



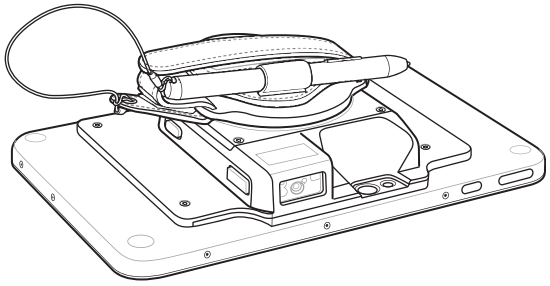
3. Pull the tether all the way through the loop.
4. Insert the loop of the tether through the eyelet on the hand strap of the Expansion Back.
5. Feed the stylus through the loop.

Figure 61 Feed Stylus through Loop



6. Pull the stylus all the way through the loop.
7. Slide the stylus into the holder for storing the stylus.

Figure 62 Insert Stylus into Holder



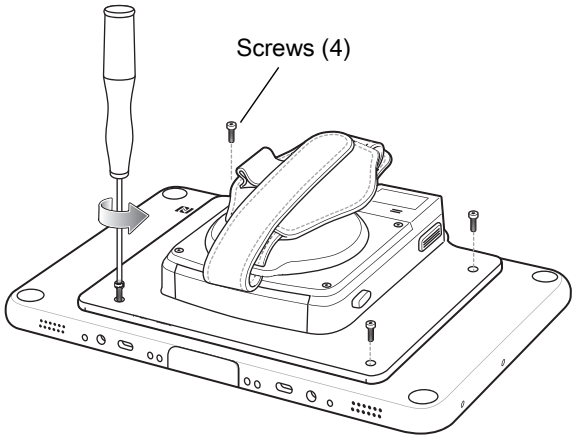
Removal

To remove an Expansion Back:

CAUTION: Remove power before removing the Expansion Back.

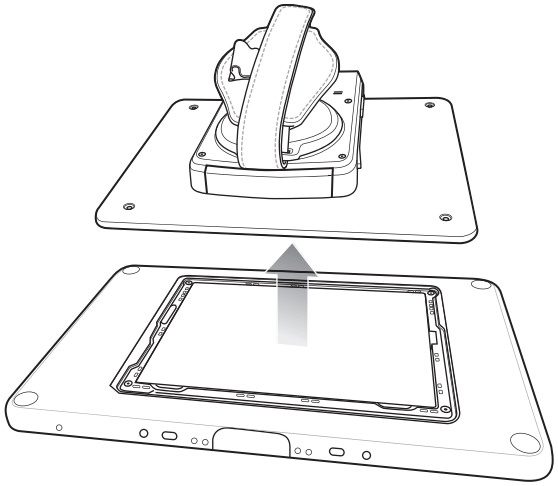
1. Power off the ET5X.
2. Using a T6 Torx screwdriver, remove four screws securing expansion back to device.

Figure 63 Remove Screws



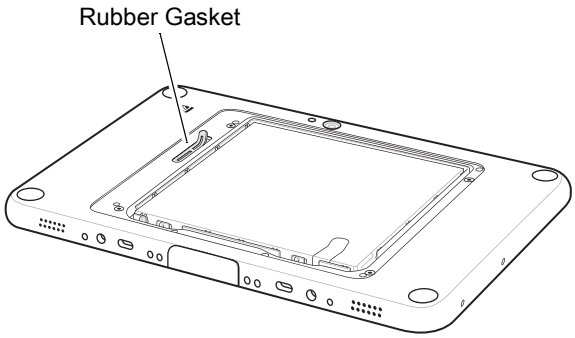
3. Lift Expansion Back off device.

Figure 64 Lift Expansion Back



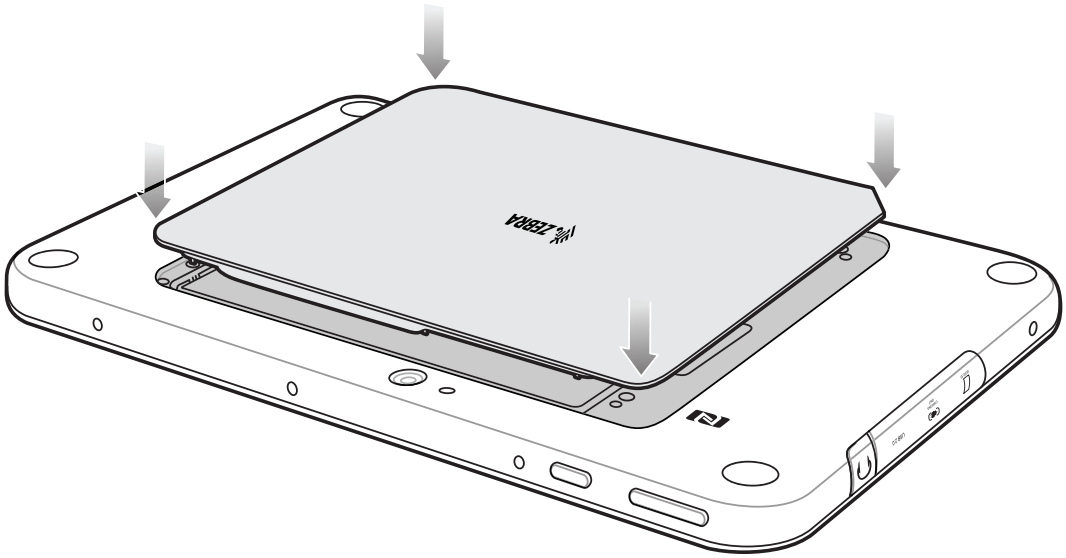
4. On 8” version only, replace rubber gasket removed during installation.

Figure 65 Rubber Gasket Replacement



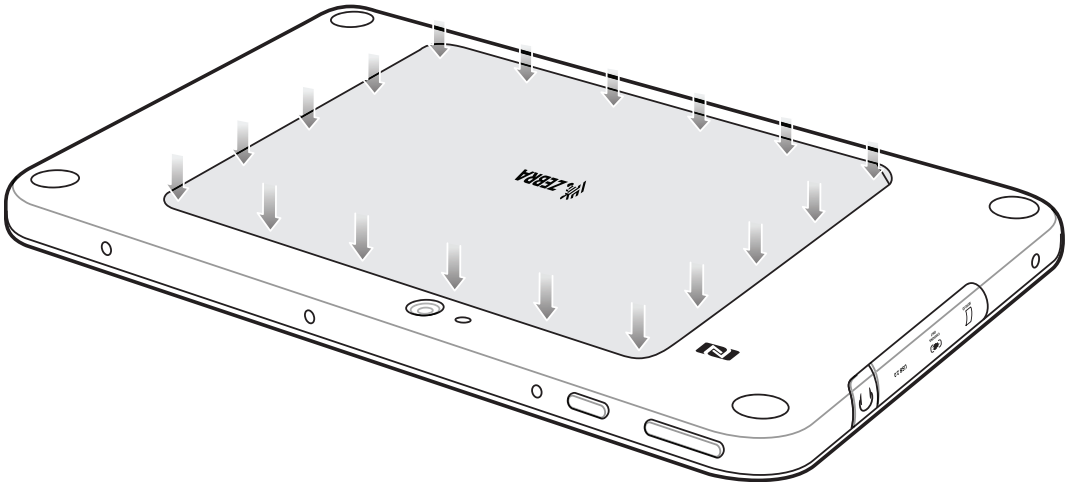
5. Replace battery cover.

Figure 66 Align Battery Cover



6. Carefully press down around the edge of the cover. Make sure that the cover is seated properly.

Figure 67 Press Down on Battery Cover



7. Press the Power button to turn on the ET5X.

USB Communication

Introduction

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

Connecting to a Host Computer via USB

Connect the tablet to a host computer using a USB-C cable to transfer files between the tablet and the host computer.

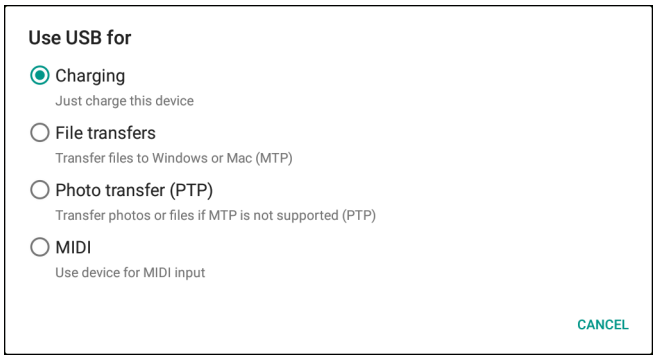
CAUTION: When connecting the tablet to a host computer, follow the host computer's instructions for connecting and disconnecting USB devices, to avoid damaging or corrupting files.

Transferring Files

NOTE: Use Transfer files to copy files between the device (internal memory or microSD card) and the host computer.

1. Connect a USB-C cable between the device and a host computer.
2. Pull down the Notification panel and touch **USB charging this device**.
   By default, **Charge this device** is selected.

Figure 68 Use USB to Dialog Box



3. Touch **Transfer files**.

NOTE: After you change the setting to **Transfer files**, and then disconnect the USB cable, the setting reverts back to **Charge this device**. If the USB cable is reconnected, select **Transfer files** again.

4. On the host computer, open a file explorer application.

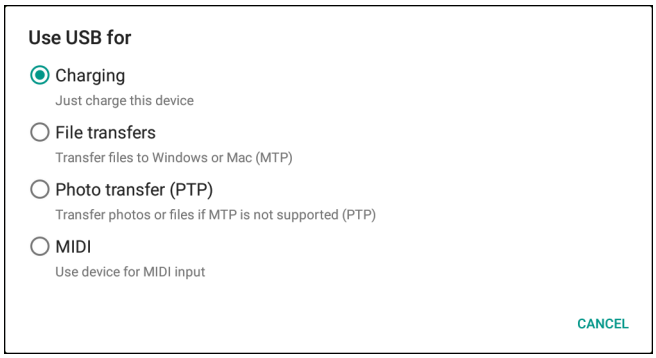
5. Locate the **device** as a portable device.
6. Open the **SD card** or the **Internal storage** folder.
7. Copy files to and from the device or delete files as required.

Transferring Files using Photo Transfer Protocol

NOTE: Use Photo Transfer Protocol (PTP) to copy photos from either the microSD card or internal memory to the host computer.

1. Connect the USB-C Cable to the tablet.
2. Pull down the Notification panel and touch **USB for Charging**.

Figure 69 USB Dialog Box



3. Touch **Photo transfer (PTP)**.
4. On the host computer, open a file explorer application.
5. Open the **SD card** or the **Internal storage** folder.
6. Copy or delete photos as required.

Disconnecting from a Host Computer

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

7. On the host computer, unmount the device.
8. Remove the USB-C cable from the device.

DataWedge

DataWedge

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

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 pre-configured profiles which support specific built-in applications:

- Visible profiles:
  - **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.
  - **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 the 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 barcode 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 barcode scanner contained in, or attached to the device. **DataWedge** contains base plug-ins for these input devices.

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

IMPORTANT: To avoid the unnecessary use of enable/disable scanner API calls, Zebra recommends that apps register to be notified of changes in scanner status (using the SCANNER_STATUS parameter of the REGISTER_FOR_NOTIFICATION API). This enables apps to receive scanner status changes immediately rather than having to query and wait for the result. Status-change notifications include the active Profile name, which permits an app to use the enable/disable scanner API calls only when status changes effect a relevant Profile.

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.

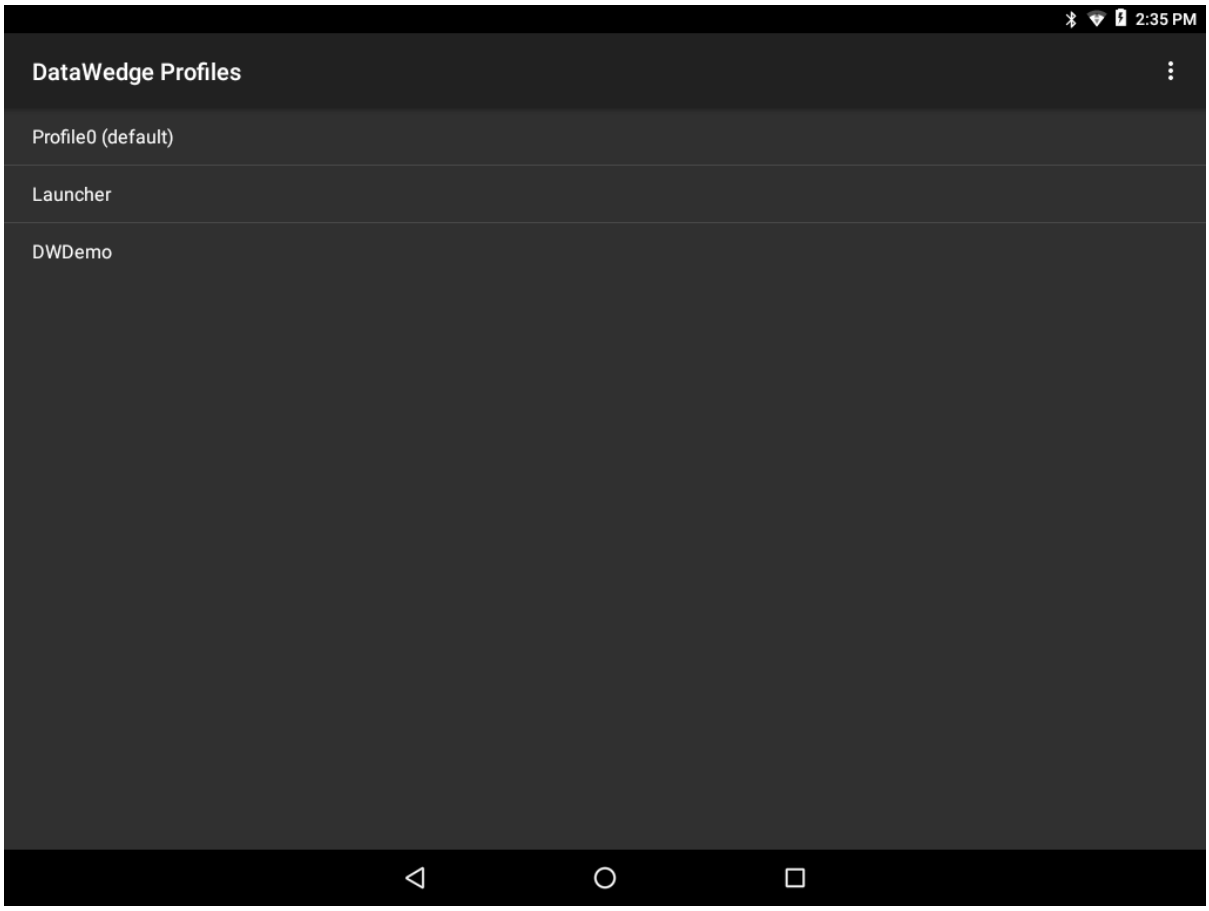
Profiles Screen

To launch DataWedge, swipe up from the bottom of the screen and 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 70 DataWedge Profiles Screen



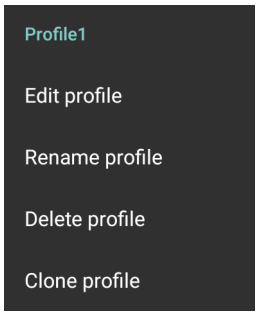
Profile names are color coded. Enabled profiles are white and disabled profiles are gray.

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 71 Profile Context Menu

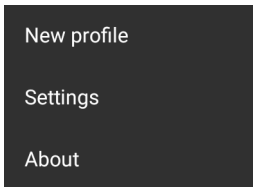


The profile context menu allows the profile to be edited (same as just tapping on a profile), renamed or deleted.

Options Menu

Touch ⋮ to open the options menu.

Figure 72 DataWedge Options Menu



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

Disabling DataWedge

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

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

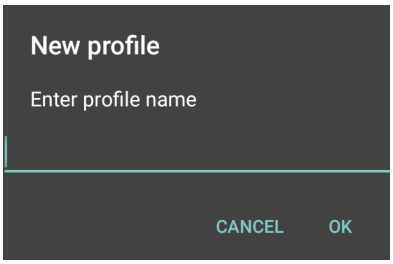
Creating a New Profile

To create a new profile:

1. Swipe up from the bottom of the screen and 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 73 New Profile Name Dialog Box



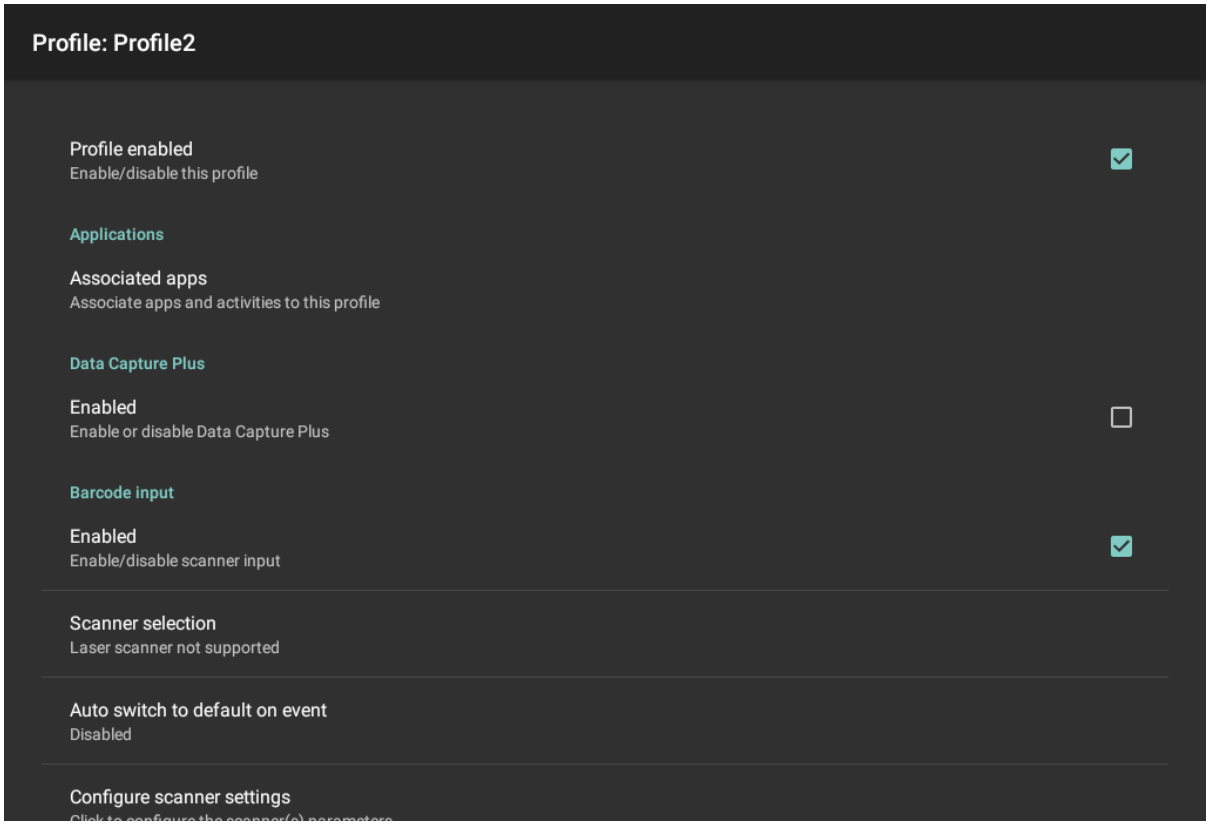
5. Touch **OK**.

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 74 Profile Configuration Screen



The configuration screen lists the following sections:

- Profile enabled
- Applications

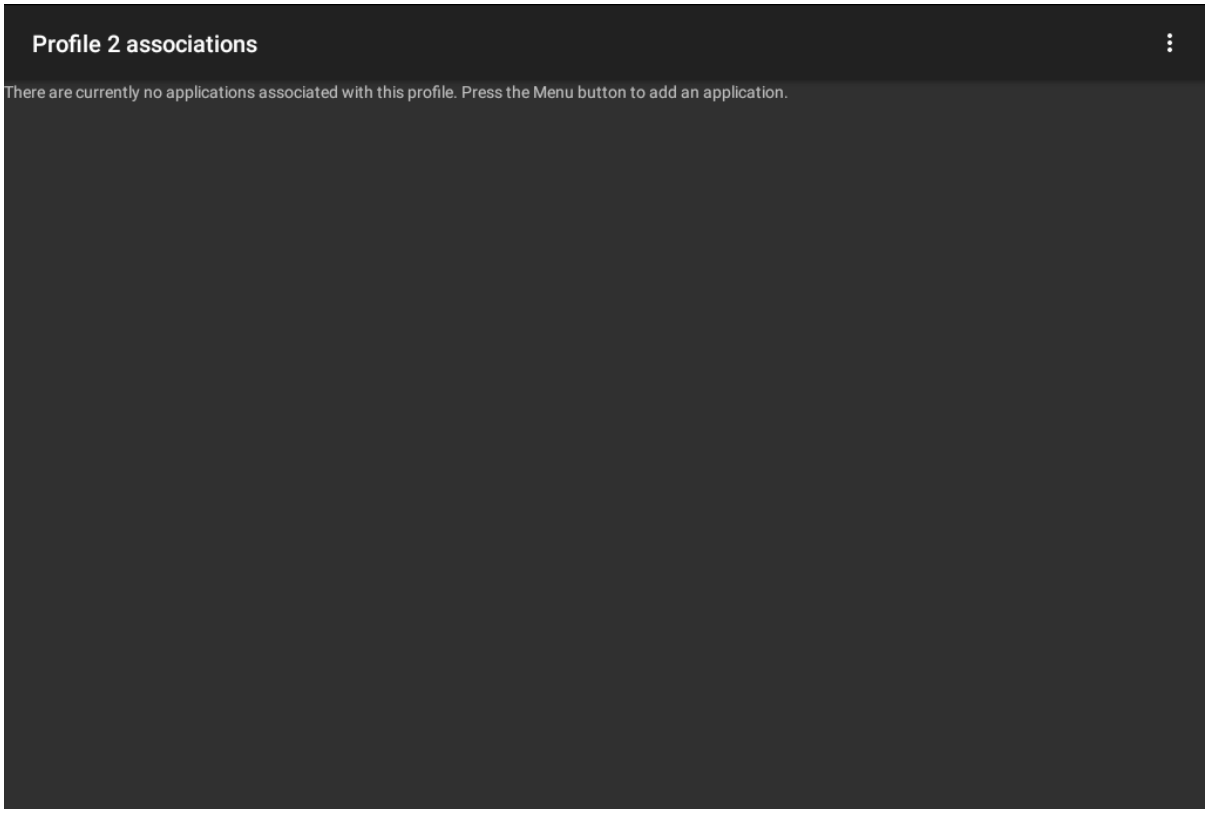
- Data Capture Plus (DCP)
- Barcode Input
- Voice input
- Keystroke output
- Intent Output
- IP Output.

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.

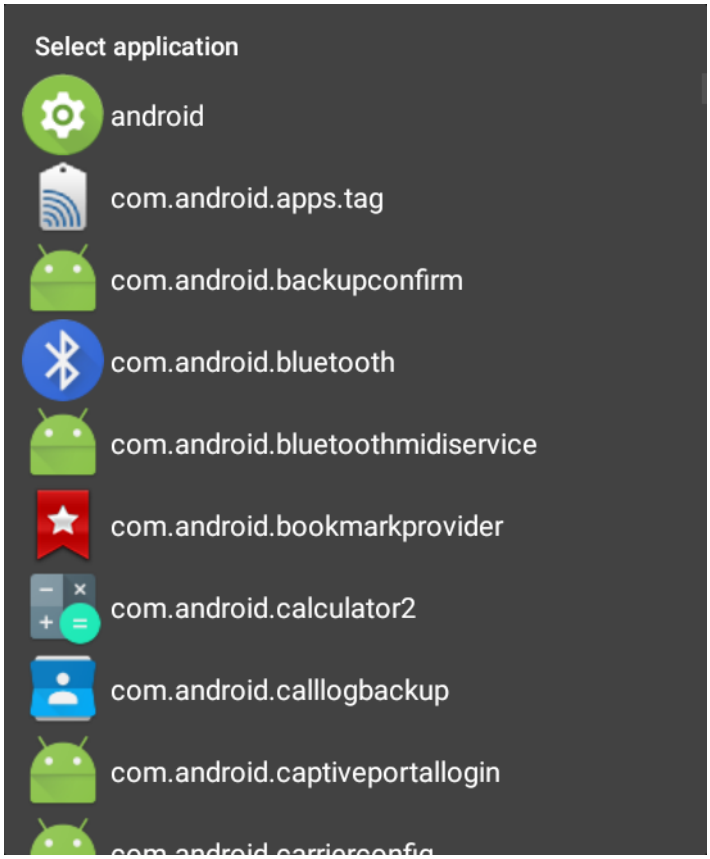
1. Touch **Associated apps**. A list of applications/activities associated with the profile displays. Initially the list does not contain any applications/activities.

Figure 75 Associated Apps Screen



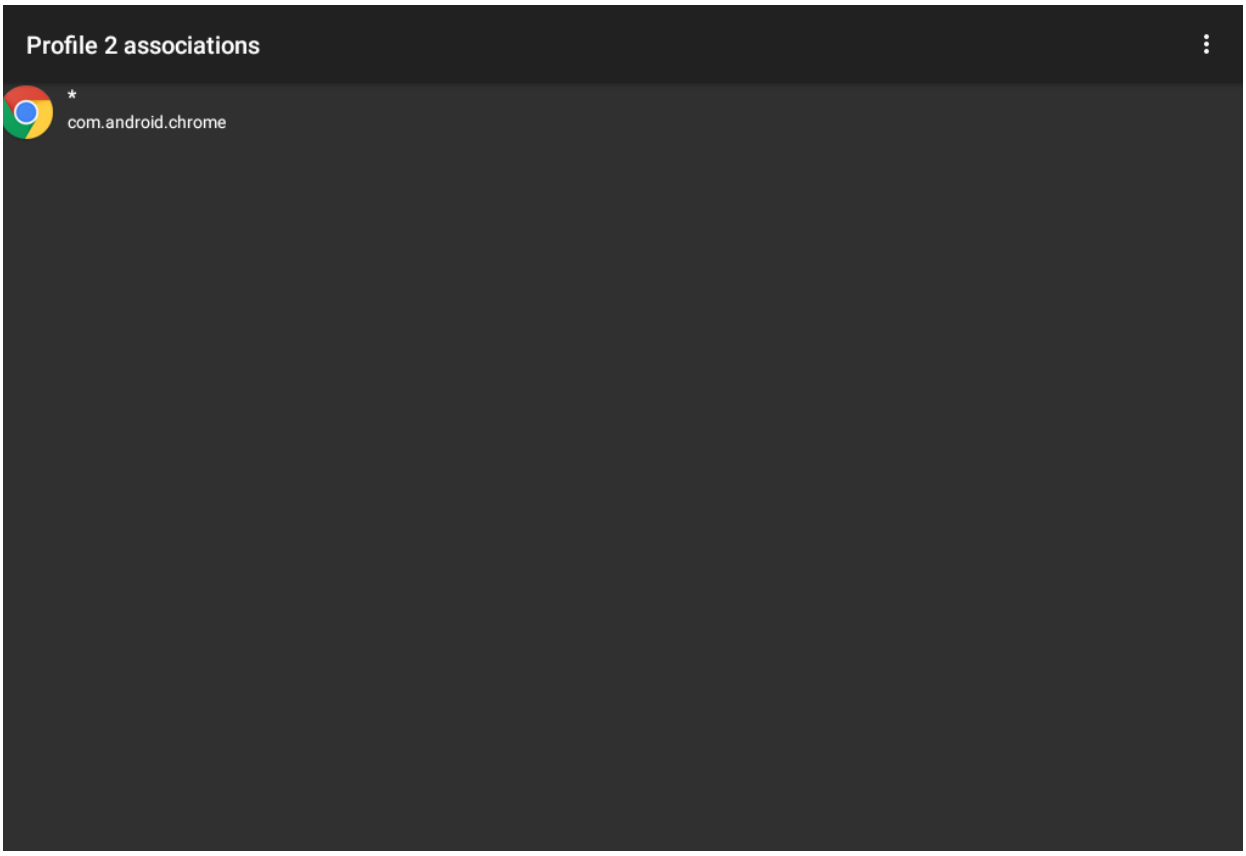
2. Touch ⋮.
3. Touch **New app/activity**.

Figure 76 Select Application Menu



4. In the **Select application** screen, select the desired application from the list.
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 ◁.

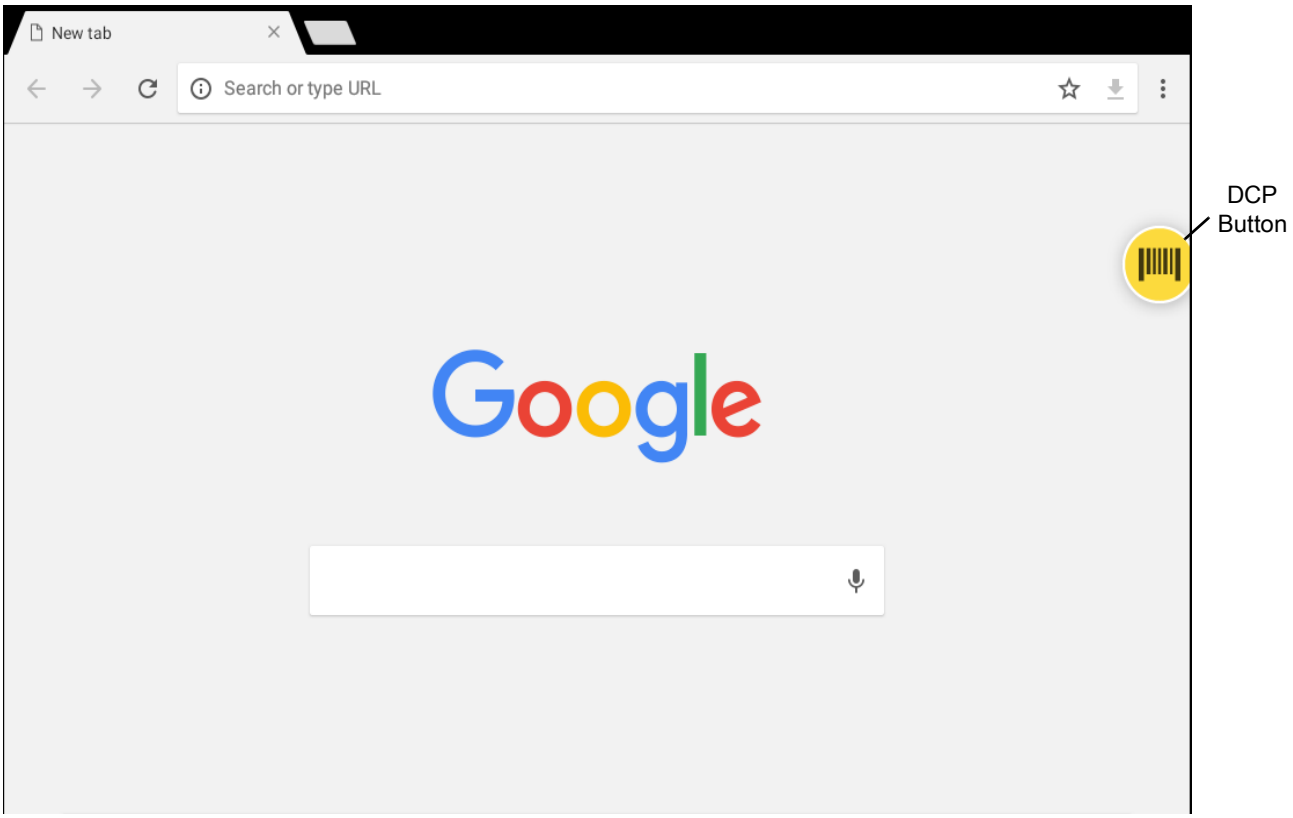
Figure 77 Selected Application/Activity



Data Capture Plus

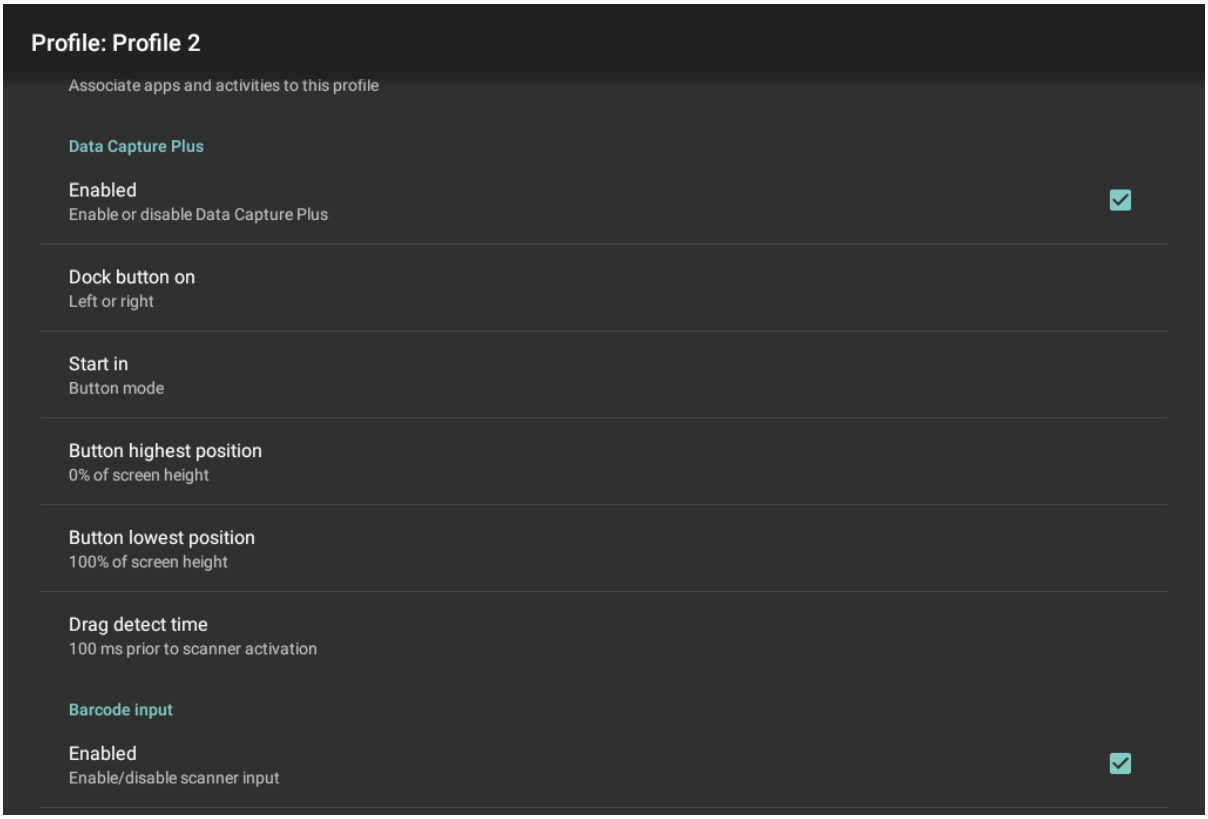
Data Capture Plus (DCP) is a DataWedge feature that enables the user to initiate data capture by touching a designated part of the screen. A variable screen overlay acts like a scan button.

Figure 78 Minimized Data Capture Panel



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 seven additional configuration parameters.

Figure 79 Data Capture Panel Settings

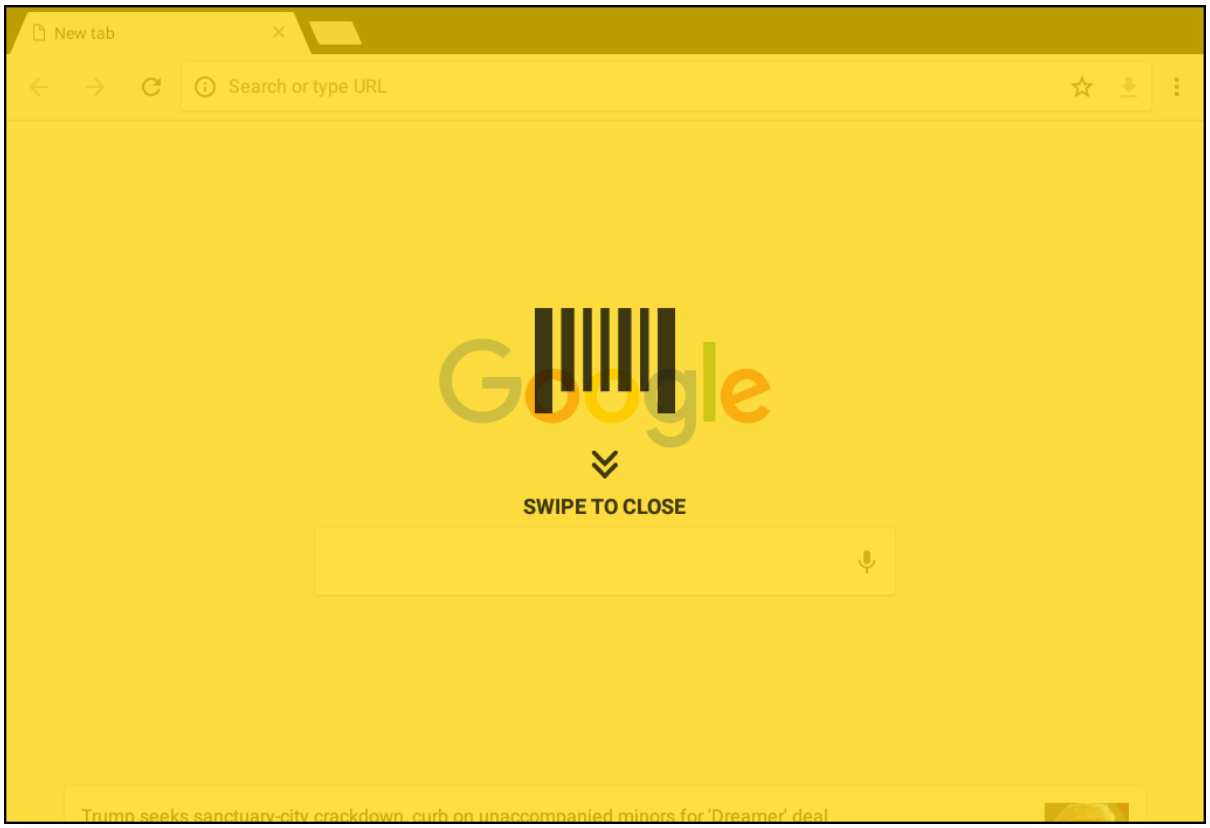


- Enable - Select to enable Data Capture Plus (default - disabled).
- **Dock button on** - Select position of the button.
  - **Left or right** - Allows user to place the button on either the right or left edge of the screen.
  - **Left only** - Places the button on left edge of the screen.
  - **Right 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 80 Maximized DCP



Swipe down to return to button mode.

Barcode Input

Use the **Barcode Input** options to configure the Barcode 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 barcode data capture when the profile is active.

- **Auto** - The software automatically determines the best scanning device.
- **DS3608 USB SSI Scanner** - Scanning is performed using the optional USB scanner.
- **Camera Scanner** - Scanning is performed with the rear-facing camera.
- **Pluggable Serial SSI Scanner** - Scanning is performed using the Expansion Back.
- **Bluetooth Scanner** - Scanning is performed using the optional Bluetooth scanner.
- **RS6000 Bluetooth Scanner** - Scanning is performed using the RS6000 Bluetooth scanner.
- **DS3678 Bluetooth Scanner** - Scanning is performed using the DS3678 Bluetooth scanner.
- **DS2278 Bluetooth Scanner** - Scanning is performed using the DS2278 Bluetooth scanner.
- **DS8178 Bluetooth Scanner** - Scanning is performed using the DS8178 Bluetooth scanner.

Auto Switch to Default on Event

This feature configures DataWedge to select an external scanner as the default scanning device immediately upon connection and revert to a built-in scanner when the external scanner is disconnected. External scanners include those connecting by Bluetooth, serial cable or snap-on module. Disabled by default. This is only available when **Scanner Selection** is set to **Auto**.

This helps reduce scanning workflow interruptions when a Bluetooth scanner is introduced and/or it becomes disconnected due to losing power or moving out of range.

- **Disabled** - No scanner switching occurs when an external scanner is connected or disconnected (default).
- **On connect** - Selects the external scanner as the default scanning device immediately upon connection.
- **On disconnect** - Reverts to a built-in scanner based on its position in an internally managed scanner list (which varies by host device). This is usually the scanner most recently used prior to the external connection (see notes below).
- **On connect/disconnect** - Selects an external scanner as the default scanning device immediately upon connection. Upon disconnection, reverts to the scanner set as the default prior to the external connection.

NOTE: The system selects the default scanner based on the connection state and the scanner's position in an internally managed scanner list. If the newly connected scanner is lower in the scanner list than the one currently selected as the default scanner, the newly connected scanner becomes the default scanner.

On devices with only one built-in scanner or imager, **On disconnect** reverts to that built-in scanner or imager.

Configure Scanner Settings

Select Configure Scanner Settings to set the following:

- Select scanner to set parameters
- Decoders
- Decoder params
- UPC/EAN params
- Reader params
- Scan params
- UDI params
- Multibarcode params
- Keep enabled on suspend

Decoders

Configures which barcode 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.

Table 6 Supported Decoders

Decoders	Camera	SE4750 Expansion Back	RS507/RS507X	RS6000	DS2278	DS3678	DS8178
Australian Postal	O	O	O	O	O	O	O
Aztec	X	X	X	X	X	X	X
Canadian Postal	O	O	--	O	--	--	--
Chinese 2 of 5	O	O	O	O	O	O	O
Codabar	X	X	X	X	X	X	X
Code 11	O	O	O	O	O	O	O
Code 128	X	X	X	X	X	X	X
Code 39	X	X	X	X	X	X	X
Code 93	O	O	O	O	O	O	O
Composite AB	O	O	O	O	O	O	O
Composite C	O	O	O	O	O	O	O
Discrete 2 of 5	O	O	O	O	O	O	O
Datamatrix	X	X	X	X	X	X	X
Dutch Postal	O	O	O	O	O	O	O
DotCode	X	N/A	O	O	O	O	O
EAN13	X	X	X	X	X	X	X
EAN8	X	X	X	X	X	X	X
GS1 DataBar	X	X	X	X	X	X	X
GS1 DataBar Expanded	X	X	X	X	X	X	X
GS1 DataBar Limited	O	O	O	O	O	O	O
GS1 Datamatrix	O	O	--	O	O	O	O
GS1 QRCode	O	O	--	O	O	O	O
HAN XIN	O	O	--	O	O	O	O
Interleaved 2 of 5	O	O	O	O	O	O	O

Table 6 Supported Decoders (Continued)

Decoders	Camera	SE4750 Expansion Back	RS507/RS507X	RS6000	DS2278	DS3678	DS8178
Japanese Postal	O	O	O	O	O	O	O
Korean 3 of 5	O	O	O	O	O	O	O
MAIL MARK	X	X	--	X	X	X	X
Matrix 2 of 5	O	O	O	O	O	O	O
Maxicode	X	X	X	X	X	X	X
MicroPDF	O	O	O	O	O	O	O
MicroQR	O	O	O	O	O	O	O
MSI	O	O	O	O	O	O	O
PDF417	X	X	X	X	X	X	X
QR Code	X	X	X	X	X	X	X
Decoder Signature	O	O	O	O	O	--	--
TLC 39	O	O	O	O	O	O	O
Trioptic 39	O	O	O	O	O	O	O
UK Postal	O	O	O	O	O	O	O
UPCA	X	X	X	X	X	X	X
UPCE0	X	X	X	X	X	X	X
UPCE1	O	O	O	O	O	O	O
US4state	O	O	O	O	O	O	O
US4state FICS	O	O	O	O	O	O	O
US Planet	O	O	O	O	O	O	O
US Postnet	O	O	O	O	O	O	O

Touch ◁ to return to the previous screen.

Decoder Params

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

NOTE: Not all parameter options are available with all scanners. See the DataWedge app on each device for the available scanners and parameter options.

Codabar

- **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).
- **Length1** - Use to set decode lengths (default - 6). See Decode Lengths for more information.
- **Length2** - Use to set decode lengths (default - 55). See Decode Lengths for more information.
- **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 barcode 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 for more information.
- **Length2** - Use to set decode lengths (default - 55). See Decode Lengths for more information.
- **Redundancy** - Sets the reader to read the barcode 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 barcode.
  - **No Check Digit** - Do not verify check digit.
  - **1 Check Digit** - Barcode contains one check digit (default).
  - **2 Check Digits** - Barcode contains two check digits.

Code128

- **Code128 Reduced Quiet Zone** - Enables decoding of margin-less Code 128 barcodes (default - disabled).
- **Ignore Code128 FCN4** - When enabled, and a Code 128 barcode 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 (default - disabled).
- **Check ISBT Table** - The ISBT specification includes a table that lists several types of ISBT barcodes 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).
- **Enable Plain Code128** - Set the Plain Code128 subtype. Enables other (non-EAN or ISBT) Code 128 subtypes. 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 for more information.
- **Length2** - Use to set decode lengths (default - 55). See Decode Lengths for more information.
- **Redundancy** - Sets the reader to read the barcode 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 barcodes. Select increasing levels of security for decreasing levels of barcode 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” barcodes.
  - **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 barcodes. 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 barcodes.

Code39

- **Code39 Reduced Quiet Zone** - Enables decoding of margin-less Code 39 barcodes (default - disabled).
- **Convert Code39 To Code32** - Code 32 is a variant of Code 39 used by the Italian pharmaceutical industry. Scan the appropriate barcode below to enable or disable converting Code 39 to Code 32 (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),
- **Length1** - Use to set decode lengths (default - 0). See Decode Lengths for more information.
- **Length2** - Use to set decode lengths 4 (default - 55). See Decode Lengths for more information.
- **Redundancy** - Sets the reader to read the barcode twice before accepting data. A check in the checkbox indicates that redundancy is enabled (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).
- **Report Code32 Prefix** - Scan the appropriate barcode to enable or disable adding the prefix character “A” to all Code 32 barcodes (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” barcodes.
  - **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 barcodes. 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 barcodes.
- **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).

Code93

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

Composite AB

- **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 for more information.
- **Length2** - Use to set decode lengths (default - 14). See Decode Lengths for more information.
- **Redundancy** - Sets the reader to read the barcode twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).

GS1 DataBar Limited

- GS1 Limited Security Level
  - **GS1 Security Level 1** - This setting allows the scanner to operate in its most aggressive state, while providing sufficient security in decoding most “in-spec” barcodes.
  - **GS1 Security Level 2** - This setting eliminates most misdecodes (default).
  - **GS1 Security Level 3** - Select this option if Security level 2 fails to eliminate misdecodes.
  - **GS1 Security Level 4** - If Security Level 3 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 barcodes. 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 barcodes.

HAN XIN

- **HAN XIN Inverse**
  - **Disable** - Disables decoding of HAN XIN inverse barcodes (default).
  - **Enable** - Enables decoding of HAN XIN inverse barcodes.
  - **Auto** - Decodes both HAN XIN regular and inverse barcodes.

Interleaved 2 of 5

- **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.
- **Length1** - Use to set decode lengths (default - 14). See Decode Lengths for more information.
- **Length2** - Use to set decode lengths (default - 10). See Decode Lengths for more information.

- **Redundancy** - Sets the reader to read the barcode twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).
- **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).
- **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).
- **Convert ITF-14 To EAN13** - Convert 14-character Interleaved 2 of 5 barcodes to EAN-13, and transmit as EAN-13. The Interleaved 2 of 5 barcode 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 Reduced Quiet Zone** - Enables decoding of margin-less I2of5 barcodes (default - disabled).

Matrix 2 of 5

- **Length1** - Use to set decode lengths (default - 10). See Decode Lengths for more information.
- **Length2** - Use to set decode lengths (default - 0). See Decode Lengths for more information.
- **Redundancy** - Sets the reader to read the barcode 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

- **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.
- **Length 1** - Use to set decode lengths (default - 4). See Decode Lengths for more information.
- **Length 2** - Use to set decode lengths (default - 55). See Decode Lengths for more information.
- **Redundancy** - Sets the reader to read the barcode twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - enabled).
- **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).

UK Postal

- **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

- **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.
- **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).

UPCE0

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

UPCE1

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

US Planet

- **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.

NOTE: Not all parameter options are available with all scanners. See the DataWedge app on each device for the available scanners and parameter options.

- **Convert DataBar To UPC EAN** - If this is set it converts DataBar barcodes 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. (default - disabled).
- **UPC Reduced Quiet Zone** - Enables decoding of margin-less UPC barcodes. (default - disabled)
- **Bookland** - Enable Bookland decoding. A check in the checkbox indicates that the option is enabled. (default - disabled).
- **Bookland Format -** If Bookland EAN is enabled, select one of the following formats for Bookland data:
  - **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. (default - disabled).
- **Coupon Report Mode** - Traditional coupon symbols are composed of two barcode: UPC/EAN and Code 128. A new coupon symbol is composed of a single Data Expanded barcode. 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 barcodes: 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. (default)
- **Ean Zero Extend** – 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, for example, 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 (default - enabled).
- **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 barcodes. Select higher security levels for lower quality barcodes. 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 barcodes.
  - **Level 1** - As barcode quality levels diminish, certain characters become prone to misdecodes before others (i.e., 1, 2, 7, 8). If the scanner is misdecoding poorly printed barcodes, and the misdecodes are limited to these characters, select this security level. (default).
  - **Level 2** - If the scanner is misdecoding poorly printed barcodes, 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 barcodes. 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 barcodes.
- **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 barcode 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 barcode 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 barcode 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 barcode not starting with 378 or 379. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main barcode 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 barcode not starting with 978 or 979. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main barcode 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 barcode 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 barcode is returned.

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

Reader Params

Allows the configuration of parameters specific to the selected barcode reader.

NOTE: Not all parameter options are available with all scanners. See the DataWedge app on each device for the available scanners and parameter options.

- **Character Set Configuration** - Used to support the GB2312 Chinese characters encoding.
  - **Character Set Selection** - Allows the user to convert the barcode data if different from default encoding type.
    - **Auto Character Set Selection (Best Effort)** - Automatic character convert option. Tries to decode data from the Preferred selection. The first correct decodable character set is used to convert the data and is sent.
    - **ISO-8859-1** - 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.
    - **GB18030** - Chinese coded character set that defines the required language and character support necessary for software in China.
    - **UTF-8** - A character encoding capable of encoding all possible characters, or code points, defined by Unicode (default).
  - **Auto Character Set Preferred Order** - In **Auto Character Set Selection** mode, the system will try to decode the data in a preference order of character sets. The algorithm used is a best effort one. That is, there could be cases where the data can be decoded from more than one character set. The first character set from the preferred list which can decode the data successfully will be chosen to decode the data and sent to the user. Any other character set that is in the list but lower in the preferred order, would not be considered, even if the data could be successfully decoded using such character set.

    The preferred character set and its preference order is configurable to the user through the **Auto Character Set Preferred Order** menu. Users can change the order by dragging the icon for that menu item. To delete an item, long press on an item and the **Delete** option will appear. To add a new item, tap the menu icon at top right corner and options to add UTF-8 and GB2312 will appear.
    - **UTF-8 -** A character encoding capable of encoding all possible characters, or code points, defined by Unicode (default).
    - **GB2312 -** Character set of the People's Republic of China, used for simplified Chinese characters.
  - **Auto Character Set Failure Option** - If the system cannot find a character set from the preferred list that can be used to successfully decode the data, the character set selected in **Auto Character Set Failure Option** is used to decode the data and send to the user. If **NONE** is used, Null data is returned as string data.
    - **NONE**
    - **UTF-8 -** A character encoding capable of encoding all possible characters, or code points, defined by Unicode (default).
    - **ISO-8859-1 -** Part of the ISO/IEC 8859 series of ASCII-based standard character encodings. It is generally intended for Western European languages.
    - **Shift_JIS -** ended for Western European languages.

- **Shift_JIS** - Shift Japanese Industrial Standards (JIS) is a character encoding for the Japanese language.
- **GB18030 -** Chinese coded character set that defines the required language and character support necessary for software in China.

- **1D Quiet Zone Level** - Sets the level of aggressiveness in decoding barcodes with a reduced quiet zone (the area in front of and at the end of a barcode), 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.

  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 barcode) for decoding.
  - **3** - The scanner decodes anything in terms of quiet zone or end of barcode.
- **Adaptive Scanning -** When adaptive scanning is enabled, the scan engine toggles between wide and narrow, allowing the scan engine to decode barcodes based on the distance.
  - **Disable**
  - **Enable** (default).
- **Beam Width** - Beam Width is applicable only with linear scanners.
  - **Narrow**
  - **Normal** (default)
  - **Wide**
- **Aim mode** - Turns the scanner cross-hairs on or off.
  - **On** - Cross-hair is on (default).
  - **Off** - Cross-hair is off.
- **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).
- **Aim Type** - Set the aiming usage.
  - **Trigger** - A trigger event activates decode processing, which continues until the trigger event ends or a valid decode occurs (default).
  - **Timed Hold** - A trigger pull and hold activates the laser for aiming, which continues until the trigger is released, a valid decode, or the decode session time-out is expired.
  - **Timed Release** - A trigger pull activates the laser for aiming, which continues until a valid decode or the remaining decode session time has expired.
  - **Press and Release** - A trigger pull and release activates the laser for aiming, which continues until a trigger is pressed again, a valid decode, or the decode session time-out is expired.
  - **Continuous Read** - When the imager detects an object in its field of view, it triggers and attempt to decode.
  - **Press and Sustain** - A trigger pull activates the laser for aiming, which continues until the Beam Timer expires or a valid 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 -5000).
- **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**.

- **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.
- **Digimarc Decoding** - Enables/disables support for Digimarc, which encodes and invisibly integrates traditional barcode data onto product packaging. Supported with internal imager only. (default - Enabled).
- **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.
- **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.
  - **Off** - Illumination is off.
  - **On** - Illumination is on (default).
- **Inverse 1D Mode** - This parameter allows the user to select decoding on inverse 1D barcodes.
  - **Disable** - Disables decoding of inverse 1D barcodes (default).
  - **Enable** - Enables decoding of only inverse 1D barcodes.
  - **Auto** - Allows decoding of both twice positive and inverse 1D barcodes.
- **Keep Pairing Info After Reboot**
  - **Disable** - Disables the ability to keep pairing info after reboot.
  - **Enable** - Enables the ability to keep pairing info after reboot. (default).
- **LCD Mode** - Enables or disables LCD mode. LCD mode enhances the ability of the imager to read barcodes from LCD displays such as cellphones.
  - **Disable** - Disables the LCD mode (default).
  - **Enable** - Enables LCD mode.
- **Linear Security Level** - Sets the number of times a barcode is read to confirm an accurate decode.
  - **Security Short or Codabar** - Two times read redundancy if short barcode or Codabar (default).
  - **Security All Twice** - Two times read redundancy for all barcodes.
  - **Security Long and Short** - Two times read redundancy for long barcodes, three times for short barcodes.
  - **Security All Thrice** - Three times read redundancy for all barcodes.
- **HW Engine Low Power Timeout** - Time (0 - 1,000 ms in increments of 50 ms) of inactivity before scanner enters low-power mode from (default - 250)..
- **Picklist** - Allows the imager to decode only the barcode that is directly under the cross-hair/reticle (+) part of the pattern. This feature is useful in applications where multiple barcodes may appear in the field of view during a decode session and only one of them is targeted for decode.
  - **Disabled** – Disables Picklist mode. Any barcode within the field of view can be decoded (default).
  - **Enabled** – Enables Picklist mode so that only the barcode under the projected reticle can be decoded.
- **Poor Quality Decode Effort** - Enable poor quality barcode decoding enhancement feature.
- **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.
- **Scanning Modes** - Scanning options available on the device.
  - **Single** - Set to scan general barcodes (default).
  - **UDI** - Set to scan healthcare specific barcodes.
  - **MultiBarcode** - Set to scan multiple barcodes. When this option is selected, the **Multibarcode params** can be set to read from 2 to 10 barcodes on a single scan.

Scan Params

Allows the configuration of Code ID and decode feedback options.

NOTE: Not all parameter options are available with all scanners. See the DataWedge app on each device for the available scanners and parameter options.

- **Code ID Type** - A Code ID character identifies the code type of a scanned barcode. 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 (default)
  - **Code ID Type AIM** - Insert AIM Character prefix.
  - **Code ID Type Symbol** - 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.
- **BT Disconnect On Exit** - Bluetooth connection is disconnected when data capture application is closed .
- **Connection Idle Time** - Set connection idle time. The Bluetooth connection disconnects after being idle for set time.
- **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.
- **Establish Connection Time** - The timeout which the device will try to enable or reconnect to the Bluetooth scanner when the Bluetooth scanner is not in the vicinity or not paired.
- **Audio Feedback Mode** - Select good decode audio indication.
  - **Local Audio Feedback** - Good decode audio indication on device only.
  - **Remote Audio Feedback** - Good decode audio indication.
  - **Both** - Good decode audio indication on device and scanner (default).
  - **Disable** - No good decode audio indication on either device or scanner.
- **LED Feedback Mode** - Select good decode LED indication.
  - **Local LED Feedback** - Good decode LED indication on device only.
  - **Remote LED Feedback** - Good decode LED indication on scanner.
  - **Both** - Good decode LED indication on device and scanner (default).
  - **Disable** - No good decode LED indication on either device or scanner.
- **Decode Audio Feedback** - Select an audio tone to sound upon a good decode (default optimized-beep).
- **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.
  - **Music and Media** - Set the good decode beep to the media sound.
  - **Alarms** - Set the good decode beep to the alarm sound.
  - **Notifications** - Set the good decode beep to the notification sound (default).

UDI Params

Allows the configuration of parameters specific to healthcare barcodes.

- **Enable UDI-GSI** - Enable UDI using GS1 standards (default - enabled).
- **Enable UDI-HIBCC** - Enable UDI using HIBCC standards (default - enabled).
- **Enable UDI-ICCBBA** - Enable UDI using ICCBBA standards (default - enabled).

Multibarcode params

Set the number of barcodes that the device can read on a single scan from 2 to 10. Must also enable **Reader Params** > **Scanning Modes** > **MultiBarcode** option.

Keep enabled on suspend

Keep Bluetooth scanner enabled after suspend (default-disabled).

Voice Input

Zebra GMS devices have a built in Google speech recognition engine. By making use of the speech engine capabilities, DataWedge has extended automated data capturing to user applications through voice. Currently, DataWedge does not capture data for Voice Input.

Voice data capturing starts after you speak the predefined start phrase and it stops after you speak the data or speak the end phrase, if one was defined.

IMPORTANT:

- Simultaneous use of Voice Input in DataWedge and Google Voice is not supported.
- Voice Input is not supported if the Enterprise Home Screen (EHS) is in restricted mode. However, enabling all of the privilege settings in EHS reinstates Voice Input.
- Voice Input is not supported if the device language is changed to another language, for example Chinese.

Use **Voice Input** to configure the Voice Input Plug-in.

- **Enabled** - Enables or disables this plug-in. A check in the checkbox indicates that the plug-in is enabled.
- **Data capture start phrase** - Starts data capture with the phrase entered in this field.This field is mandatory. (Default - **start**).

  Providing numbers and other special characters as the data capture start phrase is not supported.
- **Data capture end phrase** - Ends data capture with the phrase entered in this field or keep it blank if not required. This field is not mandatory. (Default - Blank).
- **Tab command** - Enables the Tab command, which sends a tab key when the user speaks the command **`send tab`**. The commands are supported only when the device is at the **`Waiting for start phrase`** state.
- **Enter command** - Enables the Enter command, which sends an enter key when the user speaks the command **`send enter`**. The commands are supported only when the device is at the **`Waiting for start phrase`** state.
- **Data type** - Allows the user to configure the data type. Set the data type to limit the data capture according to the preferences specified. Available options:
  - **Any** - Scanning a barcode of ABC123, returns ABC123.
  - **Alpha** - Scanning a barcode of ABC123, returns ABC only.
  - **Numeric** - Scanning a barcode of ABC, returns 123 only.

- **Start phrase waiting tone** - Enables or disables this option. Enables audio feedback for **`Waiting for start`**. This option notifies the user that the device is waiting to start the speech engine if you miss the toast message and the **`Waiting for start`** state changes.
- **Data capture waiting tone** - Enables or disables this option. Enables audio feedback for **`Waiting for data`**. This option notifies the user that the device is waiting to capture data if you miss the toast message.
- **Validation window** - Enables or disables the **Validate captured data** window. Enable this option to validate the result that you speak. The window displays the data spoken and the data can be edited on the same screen if any modification is needed. This is very useful when used with the offline mode, since the results receive at this moment might not be accurate.
- **Offline speech recognition** - Enables or disables speech recognition. Enable this option to use Voice Input when you do not have access to the Internet. This option uses an offline recognition speech engine to detect the data you speak.

Keystroke Output

DataWedge supports 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 barcode 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 barcode is processed. When DataWedge detects this character code in a barcode, move the focus to the next field.
  - **Line feed** - Line feed character code in a barcode is processed. When DataWedge detects this character code in a barcode, move the focus to the next field.
  - **Carriage return** - Carriage return character code in a barcode is processed. When DataWedge detects this character code in a barcode, move the focus to the next field.
- **Inter character delay** - Set the delay between keystrokes (in milliseconds).
- **Delay Multibyte characters only** - If Inter character delay is set, enable Delay Multbyte characters only to delay only the multibyte characters.
- **Multi byte character display** - Set the amount of time (in milliseconds) of the inter character delay for multi byte characters. (default - 0.)
- **Key event delay** - Set the amount of time (in milliseconds) of the wait time for control characters. (default - 0.)
- **Data formatting and ordering** - Allows formatting and ordering of UDI and Multibarcode data.
  - **UDI specific** - Allows the output order of acquired UDI data to be adjusted and the optional insertion of a tab, line feed, or carriage return character between tokens.
    - **Send tokens -** Set to select the output format for UDI data. (default - disabled)
    - **Token separator** - Set to select a separator character. If no separator character is selected when Send tokens is set to Barcodes and tokens, two instances of the same data are sent. (default - none)
    - **Token order** - Set to include or exclude Tokens from the output and adjust their output order.
  - **Multibarcode specific** - Allows the optional insertion of a tab, line feed, or carriage return between each barcode.
    - **Barcode separator** - Set to select a separator character. If no separator character is selected, the data set is sent as a single string.

- **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 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, 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 Broadcast intent flag in Intent delivery. (DS3678).
- **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 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.action.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**, **Send via startForegroundService,** 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.datawedge.label_type”;
  - String contains the label type of the barcode.
- String DATA_STRING_TAG = “com.symbol.datawedge.data_string”;
  - String contains the output data as a String. In the case of concatenated barcodes, 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 barcode symbologies that support concatenation, for example, Codabar, Code128, MicroPDF, etc., the decoded data is stored in multiple byte arrays (one byte array per barcode). Clients can get data in each byte array by passing an index.

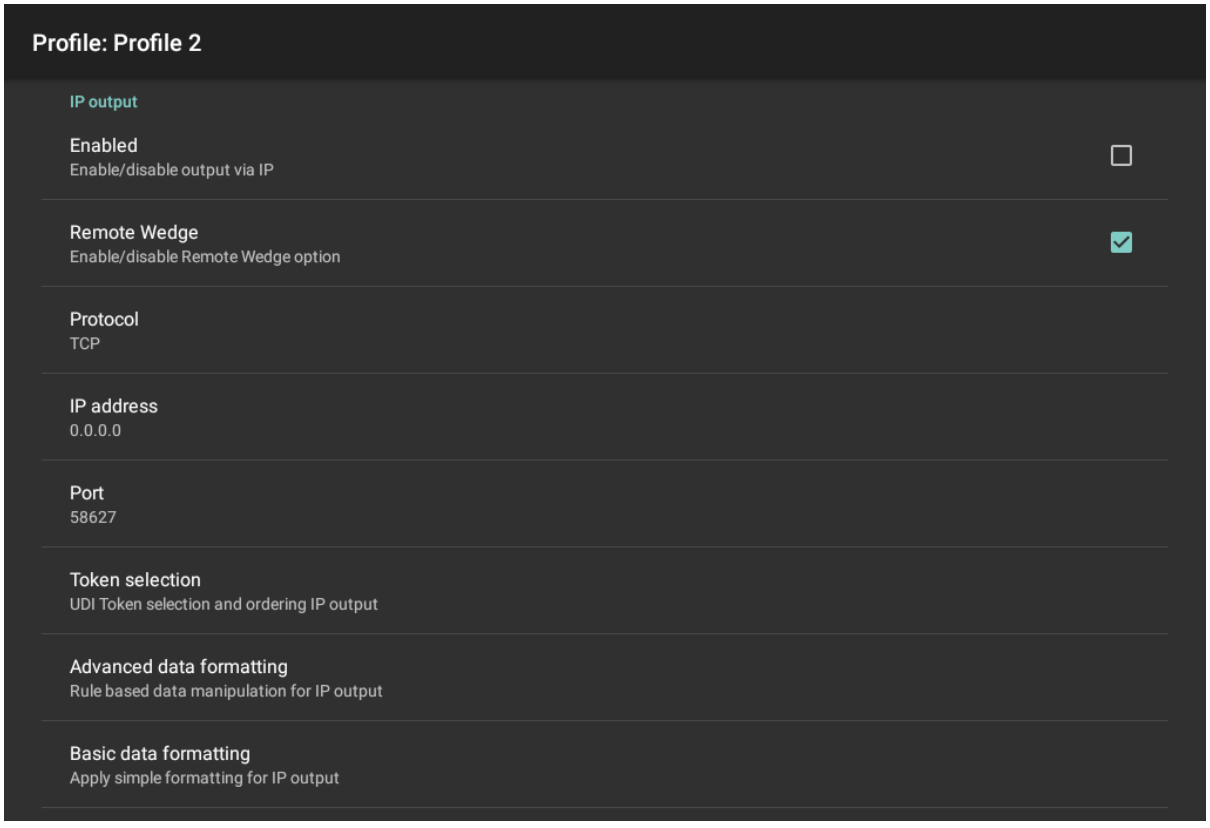
Most scanning applications might want the user to be able to decode data and for that decode data to be sent to the ***current*** activity but not necessarily displayed. If this is the case, then the activity needs to be marked as ‘singleTop’ in its AndroidManifest.xml file. If your activity is not defined 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.

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 81 IP Output Screen

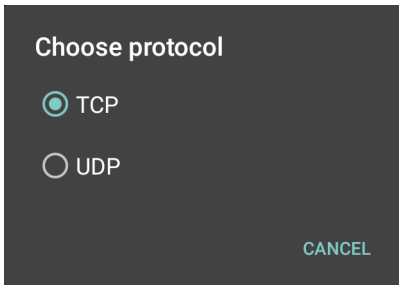


Using IP Output with IPWedge

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:

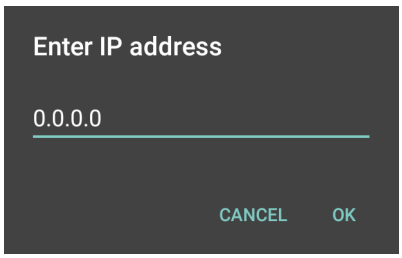
1. In **IP Output**, touch **Enabled**.
   A check appears in the checkbox.
2. Ensure **Remote Wedge** option is enabled.
3. Touch **Protocol**.
4. In the **Choose protocol** dialog box, touch the same protocol selected for the IPWedge computer application. (TCP is the default).

Figure 82 Protocol Selection



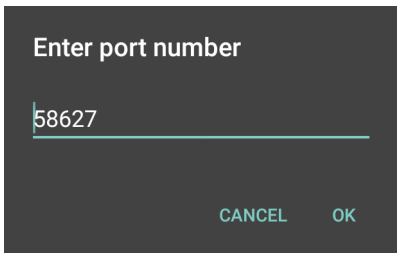
5. Touch **IP Address**.
6. In the **Enter IP Address** dialog box, enter the IP address of host computer to send data to.

Figure 83 IP Address Entry



7. Touch **Port**.
8. In the **Enter port number** dialog box, enter same port number selected for IPWedge computer application.

Figure 84 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.

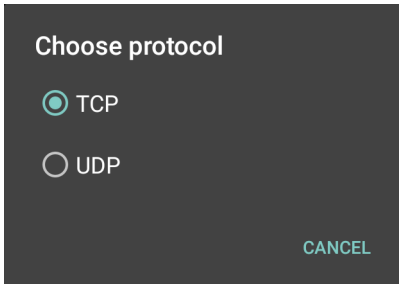
Using IP Output without IPWedge

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:

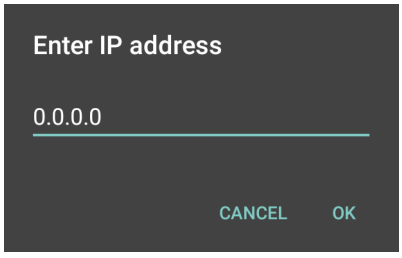
1. In **IP Output**, touch **Enabled**.
   A check appears in the checkbox.
2. Ensure **Remote Wedge** option is disabled.
3. Touch **Protocol**.
4. In the **Choose protocol** dialog box, touch the same protocol selected in the client application. (TCP is the default).

Figure 85 Protocol Selection



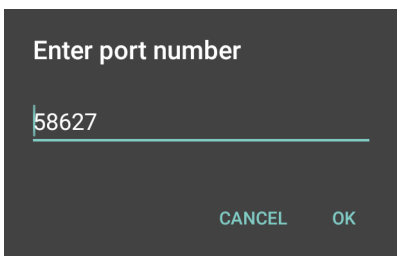
5. Touch **IP Address**.
6. In the **Enter IP address** dialog box, enter the IP address of host computer to send data to.

Figure 86 IP Address Entry



7. Touch **Port**.
8. In the **Enter port number** dialog box, enter the port number that the host computer application is listening on.

Figure 87 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.

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.

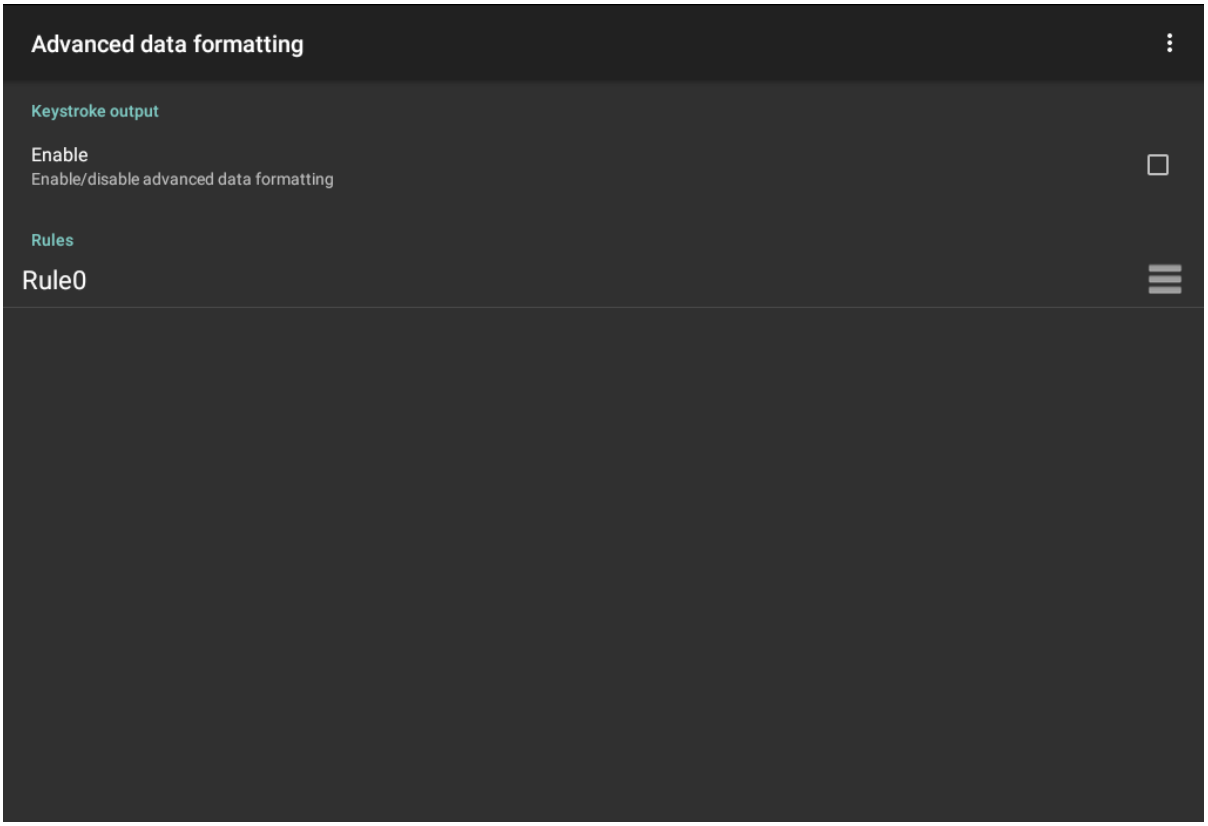
- Rules - The ADF process plug-in consists of one or more rules. DataWedge formats the output data according to the first matching rule. A rule is a combination of criteria and a set of actions to be performed, upon fulfillment of the criteria set in the rule.
- Criteria - Criteria can be set according 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. Swipe up from the bottom of the screen and touch .
2. Touch a DataWedge profile.
3. In **Keystroke Output**, touch **Advanced data formatting**.

Figure 88 Advanced Data Formatting Screen



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

Creating a Rule

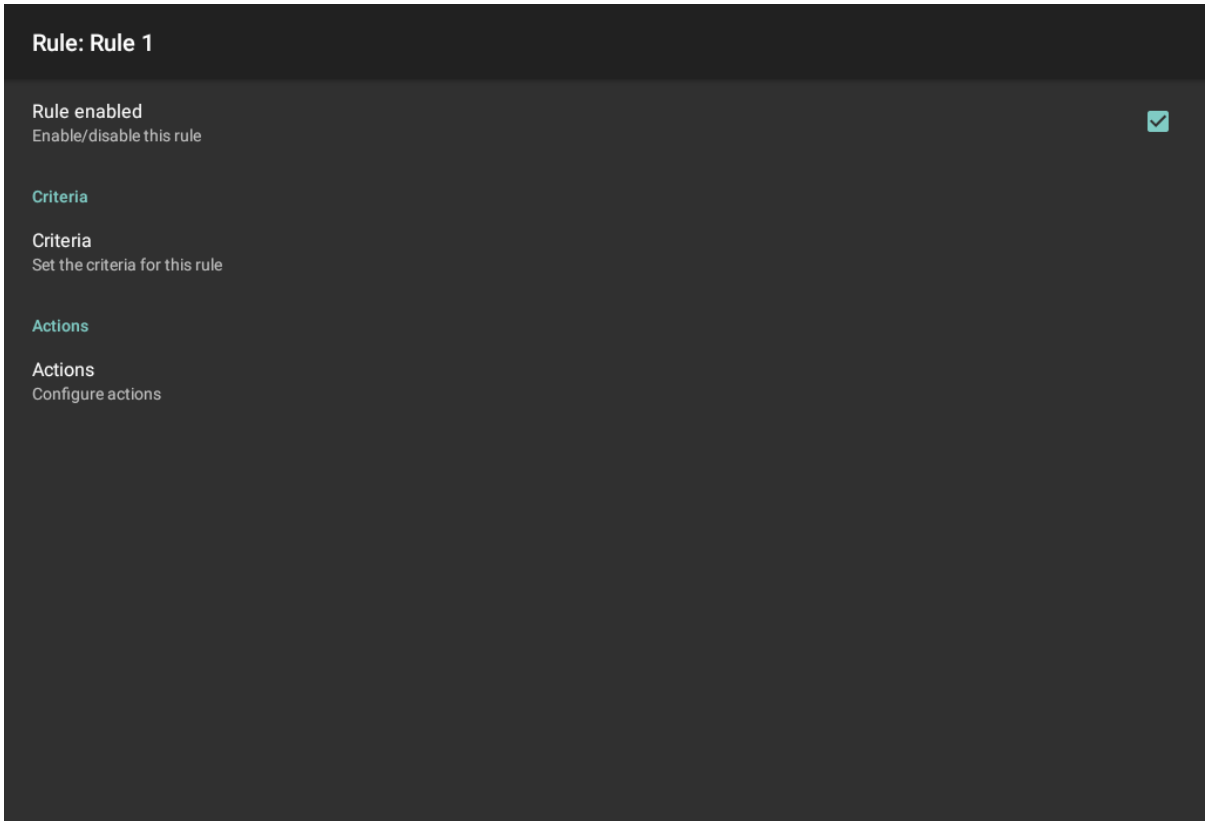
NOTE: By default, **Rule0**, is the only rule in the Rules list.

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**.

Defining a Rule

1. Touch the newly created rule in the **Rules** list.

Figure 89 Rule List Screen



2. Touch the **Rule enabled** check box to enable the current rule.

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 the ADF Supported Actions table 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 rule** 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 7 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 7 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 barcode with the following criteria:

- Code 39 barcode.
- length of 12 characters.

- contains 129 at the start position.

Modify the data as follows:

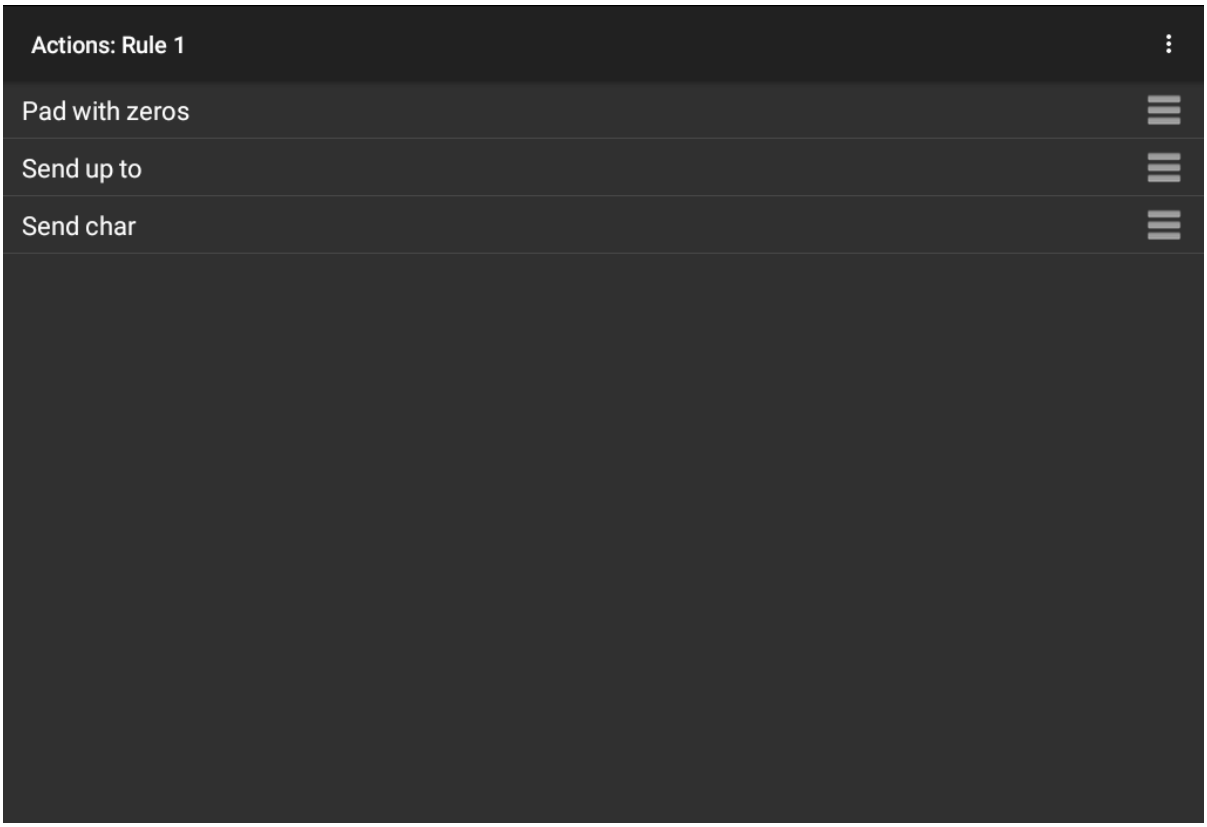
- Pad all sends with zeros to length 8.
- send all data up to character X.
- send a space character.

To create an ADF rule for the above example:

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

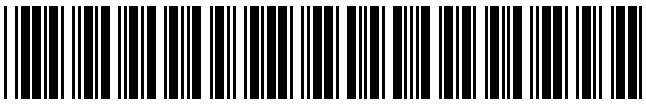
28. Change value to `8` and then touch **OK**.
29. Press ◁.
30. Touch ⋮.
31. Touch **New action**.
32. Select **Send up to**.
33. Touch **Send up to** rule.
34. Touch **String**.
35. In the **Enter a string** text box, enter `X`.
36. Touch **OK**.
37. Touch ◁.
38. Touch ⋮.
39. Touch **New action**.
40. Select **Send char**.
41. Touch **Send char** rule.
42. Touch **Character code**.
43. In the **Enter character code** text box, enter `32`.
44. Touch **OK**.
45. Touch ◁.

Figure 90 ADF Sample Screen



46. Ensure that an application is open on the device and a text field is in focus (text cursor in text field).
47. Aim the exit window at the barcode.

Figure 91 Sample Barcode



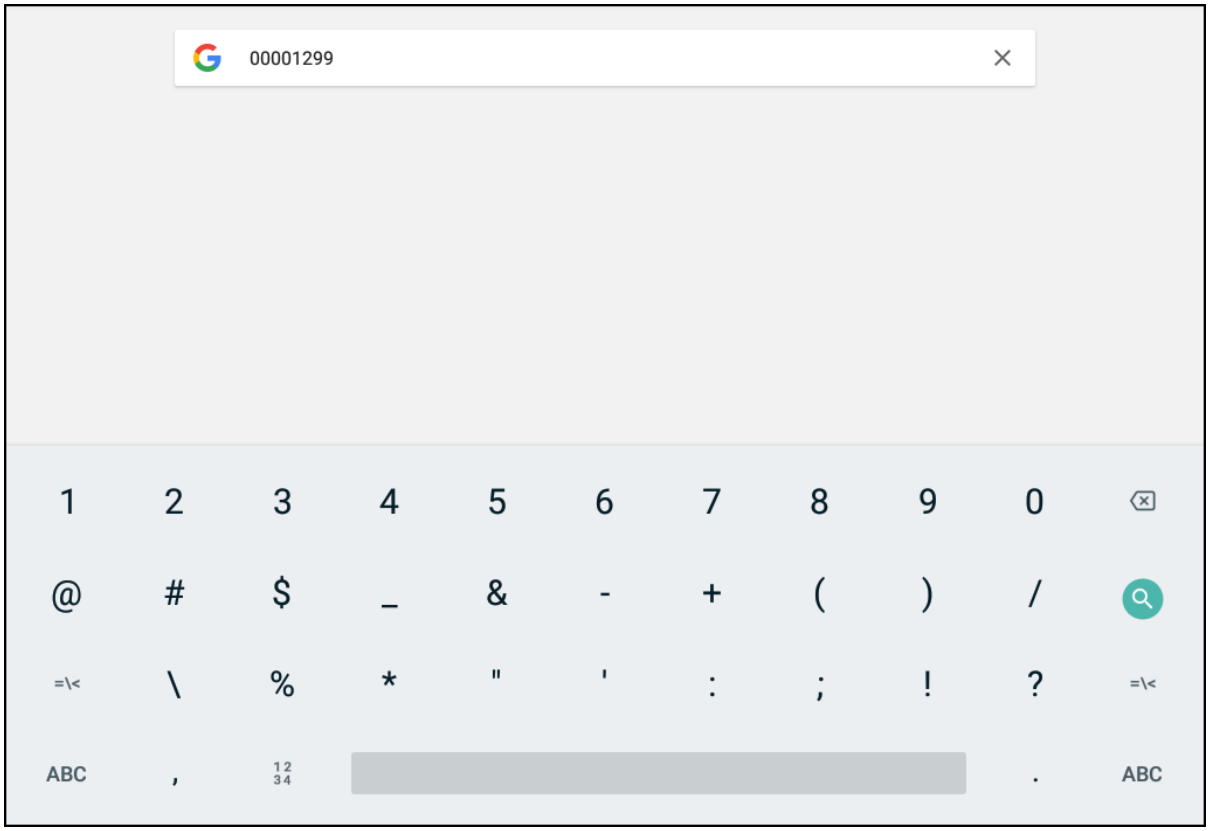
48. Press and hold the scan button.

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

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

    Scanning a Code 39 barcode of 1299X15598 does not transmit data (rule is ignored) because the barcode data did not meet the length criteria.

Figure 92 Formatted Data



DataWedge Settings

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

Figure 93 DataWedge Settings Window

- **DataWedge enabled** - Enables or disables DataWedge. To disable DataWedge uncheck this option (default - enabled).
- **Enable logging** - Enables or disables debug output file to logcat. To enable logging check this option (default - disabled).
- **Ignore disabled profiles** - Prevents DataWedge from switching to a Profile that is not enabled. In such instances, the Profile switch is ignored and the current Profile remains active Profile0 must be disabled to use this feature (default - disabled).
- **Disable app list** - Disables scanning functions for selected applications or activities.
- **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.
- **Reporting** - Configures reporting options.

Importing a Configuration File

1. Copy the configuration file to the microSD card `/Android/data/com.symbol.datawedge/files` folder.
2. Swipe up from the bottom of the screen and touch .
3. Touch .
4. Touch **Settings**.
5. Touch **Import**.
6. Touch **filename to import**.
   The configuration file (datawedge.db) is imported and replaces the current configuration.

Exporting a Configuration File

1. Swipe up from the bottom of the screen and 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 On Device Storage `/Android/data/com.symbol.datawedge/files` folder.
2. Swipe up from the bottom of the screen and 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. Swipe up from the bottom of the screen and 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 root of the On-device Storage.

Restoring DataWedge

To restore DataWedge to the factory default configuration:

1. Swipe up from the bottom of the screen and touch .
2. Touch .
3. Touch **Settings**.
4. Touch **Restore**.
5. Touch **Yes**.

Reporting

DataWedge 6.6 (and higher) can report the results of the importation of device Profiles. These HTML reports display settings differences between the originating (source) database and the target (destination) device. This allows administrators to easily identify differences and make adjustments to compensate for disparities in hardware or software capabilities from one device to another. Reports always use the destination device as the basis against which to compare incoming settings files.

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 On-device 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 On-device 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 commercially available third-party Mobile Device Management (MDM) systems. DataWedge monitors the **`/enterprise/device/settings/datawedge/autoimport`** folder for the DataWedge configuration file (datawedge.db) or a profile file (dwprofile_x.db). 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. 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.

The **/enterprise** folder cannot be seen with **Files** app or other user-level tools. Moving configuration files to and from the **/autoimport** or **/enterprisereset** folders must be done programmatically, or with a staging client app or MDM.

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.

Disabling DataWedge

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

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

Soft Scan Trigger

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.

Function Prototype

```
Intent i = new Intent();
i.setAction("com.symbol.datawedge.api.ACTION");
i.putExtra("com.symbol.datawedge.api.SOFT_SCAN_TRIGGER", "<parameter>");
```

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.

Parameters

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

extra_data: "com.symbol.datawedge.api.SOFT_SCAN_TRIGGER"

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

- START_SCANNING - starts scanning when triggered
- STOP_SCANNING - stops or interrupts scanning when triggered
- TOGGLE_SCANNING - toggles between START_SCANNING and STOP_SCANNING when triggered

Function Prototype

```
Intent i = new Intent();
i.setAction("com.symbol.datawedge.api.ACTION");
i.putExtra("com.symbol.datawedge.api.SCANNER_INPUT_PLUGIN", "<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, for example:

```
$ 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 intent API allows the scanner plug-in for the current Profile to be enabled or disabled. For example, activity A launches and uses this intent API to switch to ProfileA in which the scanner plug-in is enabled, then at some point it uses this intent 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 this intent API to switch back to ProfileA, then use this intent API 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("com.symbol.datawedge.api.ACTION");
i.putExtra("com.symbol.datawedge.api.ENUMERATE_SCANNERS", "");
```

Parameters

ACTION [String]: "com.symbol.datawedge.api.ENUMERATE_SCANNERS"

Return Values

The enumerated list of scanners will be returned via a broadcast Intent. Return value's action name is "com.symbol.datawedge.api.RESULT_ACTION". In the returning intent you need to look for the extra "com.symbol.datawedge.api.RESULT_ENUMERATE_SCANNERS" to get list of scanners as string array list. (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, for example:

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

Error messages will be logged for invalid actions and parameters.

Example

```
//
//  Call before sending the enumeration query
//
public void registerReciever(){
    IntentFilter filter = new IntentFilter();
    filter.addAction("com.symbol.datawedge.api.RESULT_ACTION");//RESULT_ACTION
    filter.addCategory(Intent.CATEGORY_DEFAULT);
    registerReceiver(enumeratingBroadcastReceiver, filter);
}
//
// Send the enumeration command to DataWedge
//
public void enumerateScanners(){
    Intent i = new Intent();
    i.setAction("com.symbol.datawedge.api.ACTION");
    i.putExtra("com.symbol.datawedge.api.ENUMERATE_SCANNERS", "");
    this.sendBroadcast(i);
}

public void unRegisterReciever(){
    unregisterReceiver(enumeratingBroadcastReceiver);
}

//
// Create broadcast receiver to receive the enumeration result
//
private BroadcastReceiver enumeratingBroadcastReceiver = new BroadcastReceiver() {
    @Override
    public void onReceive(Context context, Intent intent) {
        String action = intent.getAction();
        Log.d(TAG, "Action: " + action);
        if(action.equals("com.symbol.datawedge.api.RESULT_ACTION")){
            //
            // enumerate scanners
            //
            if(intent.hasExtra("com.symbol.datawedge.api.RESULT_ENUMERATE_SCANNERS")) {
            ArrayList<Bundle> scannerList = (ArrayList<Bundle>)
intent.getSerializableExtra("com.symbol.datawedge.api.RESULT_ENUMERATE_SCANNERS");
            if((scannerList != null) && (scannerList.size() > 0)) {
                for (Bundle bunb : scannerList){
                    String[] entry = new String[4];
                    entry[0] = bunb.getString("SCANNER_NAME");
                    entry[1] = bunb.getBoolean("SCANNER_CONNECTION_STATE")+"";
                    entry[2] = bunb.getInt("SCANNER_INDEX")+"";

                    entry[3] = bunb.getString("SCANNER_IDENTIFIER");

                   Log.d(TAG, "Scanner:" + entry[0]  + " Connection:" + entry[1] + " Index:" + entry[2] + " ID:" + entry[3]);
                    }
                }
            }
        }
    }
};
```

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("com.symbol.datawedge.api.ACTION");
i.putExtra("com.symbol.datawedge.api.SET_DEFAULT_PROFILE", "<profile name>");
```

Parameters

ACTION [String]: "com.symbol.datawedge.api.ACTION"

EXTRA_DATA [String]: "com.symbol.datawedge.api.SET_DEFAULT_PROFILE"

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

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, for example:

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

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

Example

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

public void onResume() {
        // create the intent
        Intent i = new Intent();

        // set the action to perform
        i.setAction(setDefaultProfile);

        // add additional info (a name)
        i.putExtra(extraData, "myProfile");

        // send the intent to DataWedge
        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.

Reset Default Profile

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

Function Prototype

```
Intent i = new Intent();
i.setAction("com.symbol.datawedge.api.ACTION");
i.putExtra("com.symbol.datawedge.api.RESET_DEFAULT_PROFILE", "");
```

Parameters

ACTION [String]: "com.symbol.datawedge.api.ACTION"

EXTRA_DATA [String]: "com.symbol.datawedge.api.RESET_DEFAULT_PROFILE".

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, for example:

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

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

Example

```
::javascript
// define action string
String action = "com.symbol.datawedge.api.ACTION";
String extraData = "com.symbol.datawedge.api.RESET_DEFAULT_PROFILE";

public void onResume() {
    // create the intent
    Intent i = new Intent();

    // set the action to perform
    i.setAction(action);
    i.putExtra(extraData, ""); // empty since a name is not required
    this.sendBroadcast;
}
```

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. 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 Code 128 bar codes to be scanned. Profile EAN13 is configured to only scan EAN13 bar codes and is left unassociated. Profile Code128 is configured to scan Code 128 and is left unassociated. When Activity A launches it uses SwitchToProfile to activate Profile EAN13. Similarly, when Activity B launches it uses switchToProfile to activate Profile Code128.

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("com.symbol.datawedge.api.ACTION");
i.putExtra("com.symbol.datawedge.api.SWITCH_TO_PROFILE", "<profile name>");
```

Parameters

ACTION [String]: "com.symbol.datawedge.api.ACTION"

EXTRA_DATA [String]: "com.symbol.datawedge.api.SWITCH_TO_PROFILE"

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

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, for example:

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

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

Example

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

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
        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 whenever 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

Settings

This chapter describes settings available for configuring the device.

Setting Screen Lock

Use the **Device security** settings to set preferences for locking the screen.

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Security & location**.

NOTE: Options vary depending upon the policy of some apps, such as 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.
  - **Swipe** - Slide the lock icon to unlock the screen.
  - **Pattern** - Draw a pattern to unlock screen. See Setting Screen Unlock Using Pattern for more information.
  - **PIN** - Enter a numeric PIN to unlock screen. See Setting Screen Lock Using PIN for more information.
  - **Password** - Enter a password to unlock screen. See Setting 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 the screen up to unlock. If the Pattern screen unlock feature is enabled, the Pattern screen appears instead of the Lock screen.

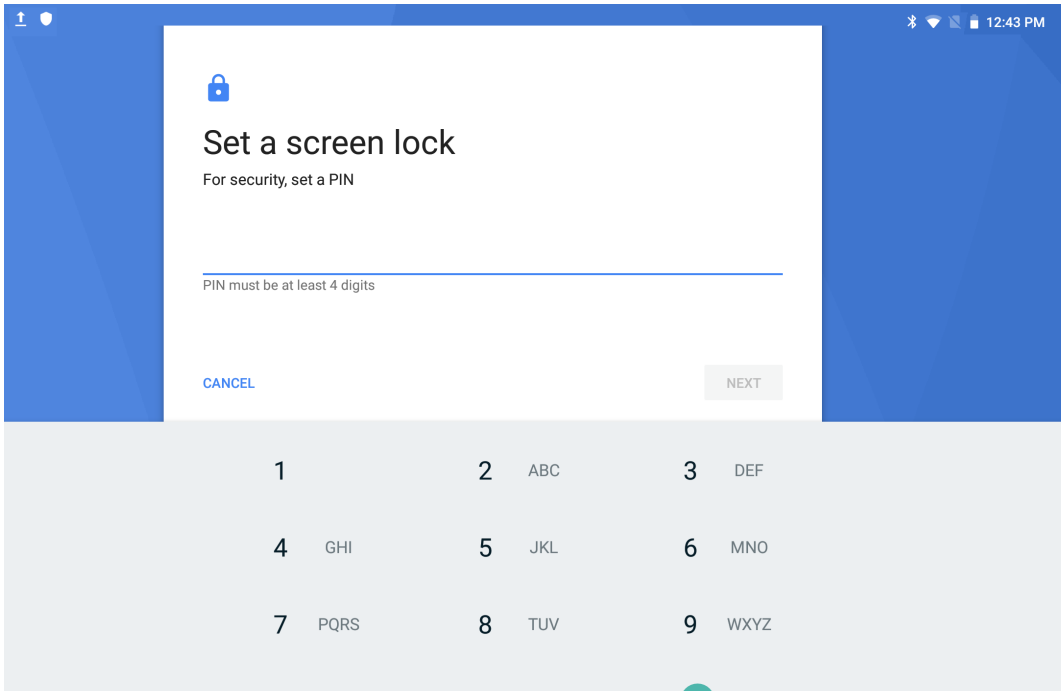
If the PIN or Password screen unlock feature is enabled, enter the PIN or password after unlocking the screen.

Setting Screen Lock Using PIN

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Security & location**.

3. Touch **Screen lock**.
4. Touch **PIN**.
5. To require a PIN upon device start up select **Yes**, or select **No** not to require a PIN.

Figure 94 PIN Screen



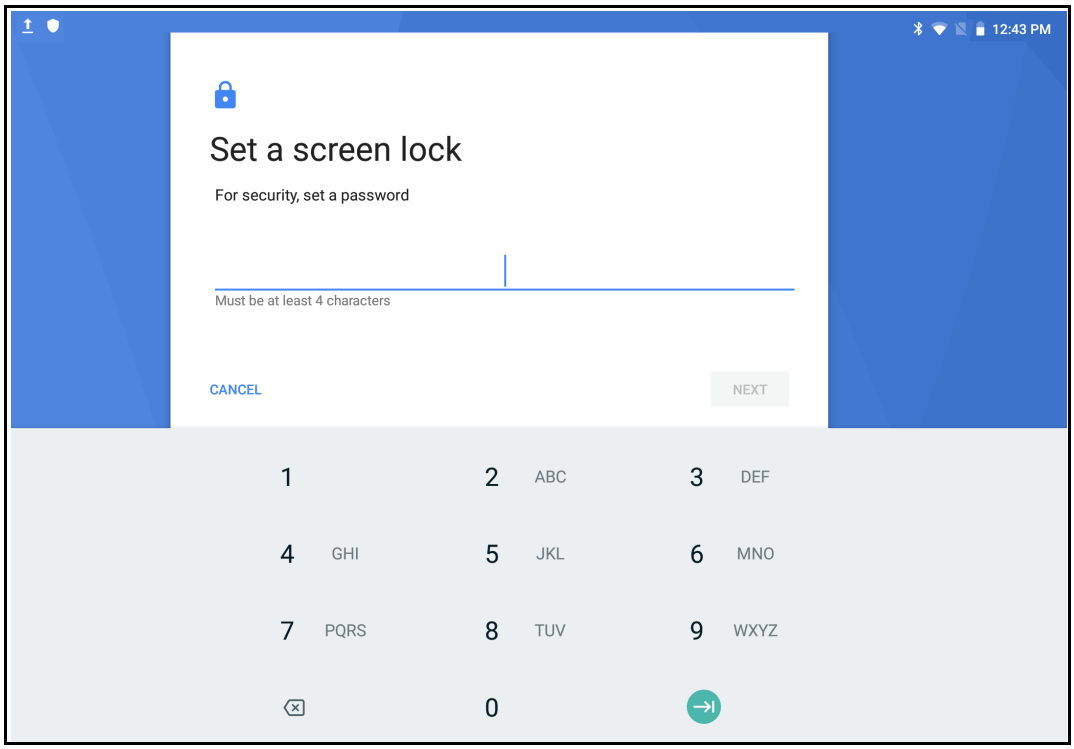
6. Touch in the text field.
7. Enter a PIN (4 numbers) then touch **Next**.
8. Re-enter PIN and then touch **Next**.
9. Select the type of notifications that appear when the screen is locked and then touch **Done**.
10. Touch ◯. The next time the device goes into suspend mode a PIN is required upon waking.

Setting Screen Unlock Using Password

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Security & location**.
3. Touch **Screen lock**.
4. Touch **Password**.
5. To require a password upon device start up select **Yes**, or select **No** not to require a password.
6. Touch in the text field.

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

Figure 95 Password Screen

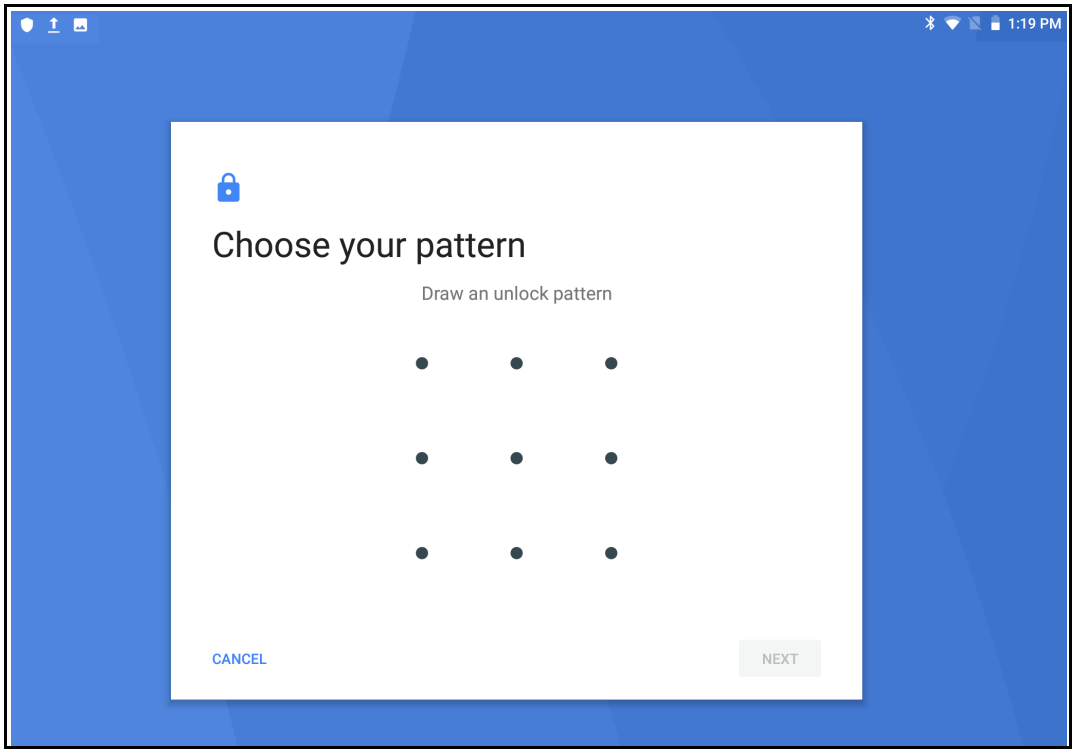


8. Re-enter the password and then touch **Next**.
9. Select the type of notifications that appear when the screen is locked and then touch **Done**.
10. Touch ○. The next time the device goes into suspend mode a password is required upon waking.

Setting Screen Unlock Using Pattern

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Security & location**.
3. Touch **Screen lock**.
4. Touch **Pattern**.
5. To require a pattern upon device start up select **Yes**, or select **No** not to require a pattern.

Figure 96 Choose Your Pattern Screen



6. Draw a pattern connecting at least four dots.
7. Touch **Continue**.
8. Re-draw the pattern.
9. Touch **Confirm**.
10. Select the type of notifications that appear when the screen is locked and then touch **Done**.
11. Touch ○. The next time the device goes into suspend mode a pattern is required upon waking.

Showing Passwords

To set the device to briefly show password characters as the user types:

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Security & location**.
3. Slide the **Show passwords** switch to the ON position.

Accounts

Use the **Accounts** settings 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 device's language, including words added to the dictionary.

Changing the Language Setting

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **System** > **Languages & input**.
3. Touch **Languages**. A list of available languages displays.
4. If the desired language is not listed, touch **Add a language** and select a language from the list.
5. Touch and hold ☰ to the right of the desired language, then drag it to the top of the list.
6. The operating system text changes to the selected language.

Adding Words to the Dictionary

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **System** > **Languages & input** > **Advanced** > **Personal dictionary**.
3. If prompted, select the language where this word or phase is stored.
4. Touch **+** to add a new word or phrase to the dictionary.
5. Enter the word or phrase.
6. In the **Shortcut** text box, enter a shortcut for the word or phrase.
7. Touch ◯.

Keyboard Settings

Use the **Languages & input** settings to configure the on-screen keyboards. The device contains the following keyboard settings:

- Enterprise Keyboard
- Gboard - GMS devices only.

About Tablet

Use About phone settings to view information about the device. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙ > **System** > **About phone**.

- **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.
  - **SIM Status** - Touch to display SIM status (ET56 only).

        - **Network** - Indicates the current network carrier.
        - **Signal strength** - Indicates the radio signal strength.
        - **Mobile network type** - Indicates the mobile network type.
        - **Service state** - Indicates the state of service.
        - **Roaming** - Indicates if the device is roaming outside the network.
        - **Mobile network state** - Indicates the mobile network state.
        - **IMS Registration State** - Indicates the IP Multimedia Subsystem status.
        - **My phone number** - Displays the phone number associated with the device.
        - **ICCID** - Displays the ICCID number for the device.
    - **IMEI Information** - Displays the IMEI information for the device (ET56 only).
        - **IMEI** - Displays the IMEI number for the device.
        - **IMEI SV** - Displays the IMEI SV number for the device.
    - **IP address** - Displays the IP address of the device.
    - **Wi-Fi MAC address** - Displays the Wi-Fi radio MAC address.
    - **Ethernet MAC address** - Displays the Ethernet driver 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 device has been running since being turned on.
- **Battery Information** - Displays information about the battery.
- **SW components** - Lists filenames and versions for various software on the device.
- **Legal information** - Opens a screen to view legal information about the software included on the device.
- **Model** - Displays the devices model number.
- **Android version** - Displays the operating system version.
- **Android security patch level** - Displays the security patch level date.
- **Baseband version** - Displays WAN radio firmware version (ET56 only).
- **Kernel version** - Displays the kernel version.
- **Build Fingerprint** - Defines Device Manufacturer, Model, Android version and Build version together in one location.
- **Build number** - Displays the software build number.

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.

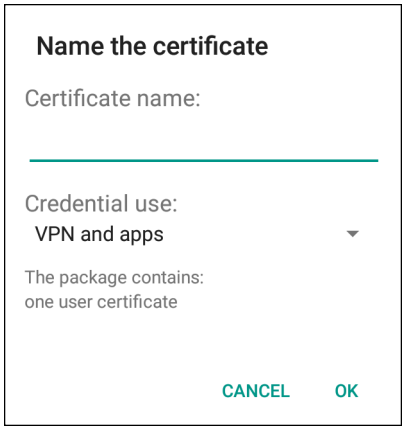
Installing a Secure Certificate

To install a secure certificate:

1. Copy the certificate from the host computer to the root of the microSD card or the device's internal memory. See USB Communication for information about connecting the device to a host computer and copying files.
2. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
3. Touch **Security & location** > **Advanced** > **Encryption & credentials**.
4. Touch **Install from storage**.
5. Navigate to the location of the certificate file.
6. Touch the filename of the certificate to install.
7. If prompted, enter the password for credential storage. If a password has not been set for the credential storage, enter a password for it twice and then touch **OK**.
8. If prompted, enter the certificate's password and touch **OK**.

9. Enter a name for the certificate and in the Credential use drop-down, select **VPN and apps** or **Wi-Fi**.

Figure 97 Name the Certificate Dialog Box



10. Touch **OK**.

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

Development Tools

Android Application Development

Development Workstation

Android development tools are available at developer.android.com.

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

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

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

Target Device

Open the **Developer options** screen to set development related settings.

By default, the Developer Options are hidden. To un-hide the developer options, swipe down from the Status bar to open the Quick Access panel and then touch ⚙.

Touch **System > About device**. Scroll down to **Build number**. Tap **Build number** seven times until **You are now a developer appears**.

Touch **System > Developer options**. Slide the switch to the **ON** position to enable developer options.

EMDK for Android

EMDK for Android provides developers with a comprehensive set of tools to easily create powerful line-of-business applications for enterprise mobile computing devices. It's designed for Google's Android SDK and Android Studio, and includes class libraries, sample applications with source code, and all associated documentation to help your applications take full advantage of what Zebra devices have to offer.

The kit also delivers Profile Manager, a GUI-based device configuration tool providing exclusive access to the Zebra MX device management framework. This allows developers to configure Zebra devices from within their applications in less time, with fewer lines of code and with fewer errors.

For more information go to: techdocs.zebra.com.

StageNow

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

The StageNow Staging Solution includes the following components:

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

For more information go to: techdocs.zebra.com.

GMS Restricted

GMS Restricted mode deactivates Google Mobile Services (GMS). All GMS apps are removed from the device and communication with Google (analytics data collection and location services) is disabled. It also provides enhanced security and privacy.

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

ADB USB Setup

To use the ADB, install the USB driver. This assumes that the development SDK has been installed on the host computer. Go to developer.android.com/sdk/index.html for details on setting up the development SDK.

ADB driver for Windows and Linux are available on the Zebra Support Central web site at 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:

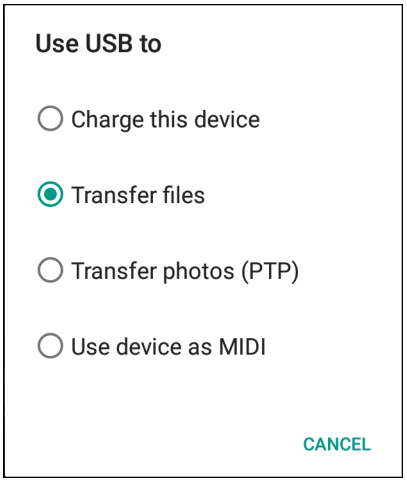
- USB connection, see Installing Applications Using the USB Connection on page 121.
- Android Debug Bridge, see Installing Applications Using the Android Debug Bridge on page 122.
- Mobile device management (MDM) platforms that have application provisioning. Refer to the MDM software documentation for details.

Installing Applications Using the USB Connection

CAUTION: When connecting the device to a host computer and mounting the 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 the USB cable.
2. Pull down the Notification panel and touch **USB for Charging**.

Figure 98 Use USB Dialog Box

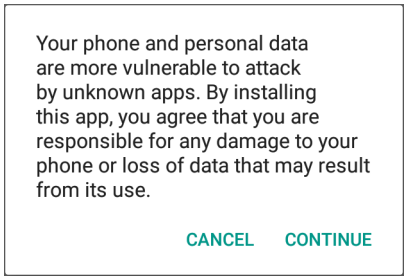


3. Touch **Transfer files**.
4. On the host computer, open a **Files** application.
5. On the host computer, copy the application .apk file from the host computer to the device.

CAUTION: Carefully follow the host computer's instructions to unmount the microSD card and disconnect USB devices correctly to avoid losing information.

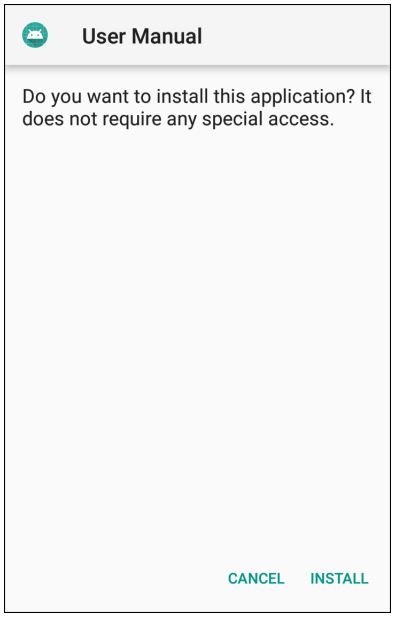
6. Disconnect the device from the host computer.
7. Swipe the screen up and select to view files on the microSD card or Internal Storage.
8. Locate the application .apk file.
9. Touch the application file.

Figure 99 Install App Permission Dialog Box



10. Touch **Continue** to install the app or **Cancel** to stop the installation.

Figure 100 Accept Installation Screen



11. To confirm installation and accept what the application affects, touch **Install** otherwise touch **Cancel**.
12. Touch **Open** to open the application or **Done** to exit the installation process. The application appears in the App list.

Installing Applications Using the Android Debug Bridge

Use ADB commands to install 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 120.

1. Connect the device to a host computer using a USB cable. See USB Communication on page 57.
2. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
3. Touch **System** > **Developer options**.
4. Slide the switch to the **ON** position.

5. Touch **USB Debugging**. A check appears in the check box. The **Allow USB debugging?** dialog box appears.
6. Touch **OK**.
7. 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.

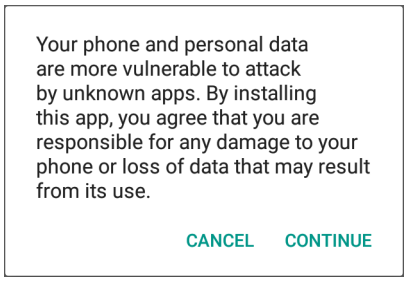
Disconnect the device from the host computer. See USB Communication on page 57.

Installing Applications Using a microSD Card

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.

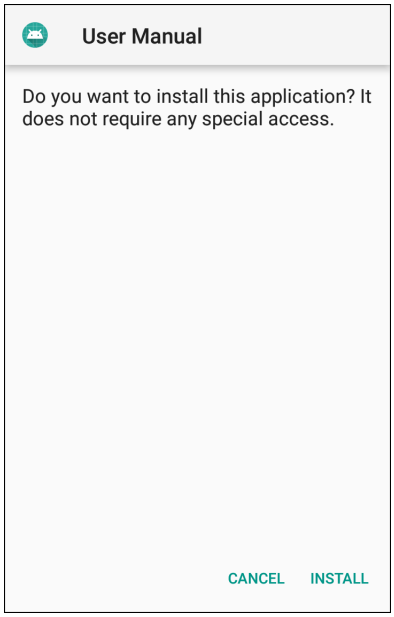
1. Copy the application APK file from the host computer to the microSD card.
2. Remove the microSD card from the host computer.
3. Press and hold the Power button until the menu appears.
4. Touch **Power off**.
5. Press the two battery latches in.
6. Lift the battery from the device.
7. Lift the access door.
8. Insert the microSD card.
9. Replace the access door.
10. Insert the battery, bottom first, into the battery compartment in the back of the device.
11. Press the battery down until the battery release latches snap into place.
12. Press and hold the Power button to turn on the device.
13. Swipe the screen up and select to view files on the microSD card.
14. Touch ≡ > **SD card**.
15. Locate the application .apk file.
16. Touch the application file.

Figure 101 Install App Permission Dialog Box



17. Touch **Continue**. to install the app or **Cancel** to stop the installation.

Figure 102 Accept Installation Screen



18. To confirm installation and accept what the application affects, touch **Install** otherwise touch **Cancel**.
19. Touch **Open** to open the application or **Done** to exit the installation process. The application appears in the App list.

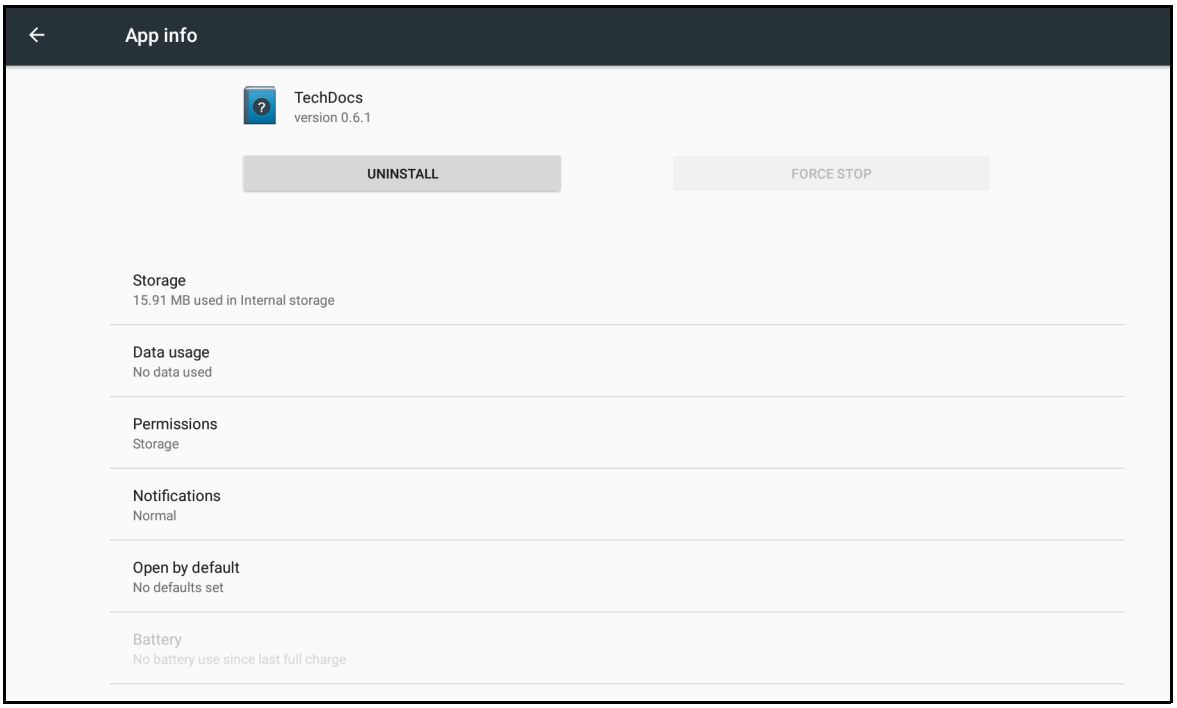
Uninstalling an Application

To uninstall an application:

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Apps & notifications**.
3. Touch **See all apps** to view all apps in the list.
4. Scroll through the list to the app.

5. Touch the app. The **App info** screen appears.

Figure 103 App Info Screen



6. Touch **Uninstall**.
7. Touch **OK** to confirm.

System Update

CAUTION: These update procedures are only for updating an Android tablet (ET51CE, ET51CT, ET56DE, ET56DT). Do not attempt to update a Windows Tablet (ET51AE, ET56BE, ET51AT, ET56BT) with Android software.

Performing a System Update

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

Downloading the System Update Package

To download the system update package:

1. Go to the Zebra Support & Downloads web site, www.zebra.com/support.
2. Download the appropriate System Update package to a host computer.

Using ADB

To update the system using ADB:

1. Connect a USB Cable to the USB-C port on the side of the device.
2. Connect the USB cable to the host computer.
3. On the device, swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
4. Touch **System** > **Developer options**.
5. Slide the switch to the **ON** position.
6. Touch **USB Debugging**. A check appears in the check box. The **Allow USB debugging?** dialog box appears.
7. Touch **OK**.
8. On the host computer, open a command prompt window and use the adb command:
   `adb devices`
   The following displays:
   `List of devices attached`
   `XXXXXXXXXXXXXXX device` (where XXXXXXXXXXXXXXX is the device number).

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

9. Type:
   `adb reboot recovery`
10. Press Enter. The System Recovery screen appears.
11. Press the Volume Up and Volume Down buttons to navigate to **apply from adb**.
12. Press the Power button.
13. Press the Volume Up and Volume Down buttons to navigate to **Full OTA Package** or **Diff OTA Package**.
14. Press the Power button.
15. On the host computer command prompt window type:
    `adb sideload <file>`
    where: <file> = the path and filename of the zip file.
16. Press Enter. The System Update installs (progress appears as percentage in the Command Prompt window) and then the Recovery screen appears.
17. Press the Power button to reboot the device.

NOTE: If installing GMS software on a device that had Non-GMS software or Non-GMS software on a device that had GMS software, perform a Factory or Enterprise reset (retains enterprise data).

Using microSD Card

1. Copy the System Update zip file to the root of the microSD card.
   - Copy the zip file to a microSD card using a host computer (see USB Communication for more information), and then installing the microSD card into the device (see Replacing the microSD Card for more information).
   - Connect the device with a microSD card already installed to the host computer, and copy zip file to the microSD card. See USB Communication for more information. Disconnect the device from the host computer.
2. Press and hold the Power button until the menu appears.
3. Touch **Restart**.
4. Touch **OK**. The device resets.
5. When the device vibrates, press and hold the volume up button until the System Recovery screen appears.
6. Press the Volume Up and Volume Down buttons to navigate to **apply upgrade from sdcard**.
7. Press the Power button.
8. Press the Volume Up and Volume Down buttons to navigate to **Full OTA Package** or **Diff OTA Package**.
9. Press the Power button.
10. Press the Volume Up and Volume Down buttons to navigate to the System Update file.
11. Press the Power button. The System Update installs and then the device returns to the Recovery screen.
12. Press the Power button to reboot the device.

NOTE: If installing GMS software on a device that had Non-GMS software or Non-GMS software on a device that had GMS software, perform a Factory or Enterprise reset (retains enterprise data).

Performing an Enterprise Reset

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

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

Perform Enterprise Reset using ADB.

Downloading the Enterprise Reset Package

To download the system update package:

1. Go to the Zebra Support & Downloads web site, www.zebra.com/support.
2. Download the Enterprise Reset file to a host computer.

Using ADB

To perform an Enterprise Reset using ADB:

1. Connect the device to the USB cable.
2. Connect the cable or cradle to the host computer.
3. On the device, swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
4. Touch **System** > **Developer options**.
5. Slide the switch to the **ON** position.
6. Touch **USB Debugging**. A check appears in the check box. The **Allow USB debugging?** dialog box appears.
7. Touch **OK**.
8. On the host computer, open a command prompt window and type:

   `adb devices`.

   The following displays:

   `List of devices attached`

   `XXXXXXXXXXXXXXX device` (where XXXXXXXXXXXXXXX is the device number).

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

Type:

`adb reboot recovery`

9. Press Enter. The System Recovery screen appears.
10. Press the Volume Up and Volume Down buttons to navigate to **apply from adb**.
11. Press the Power button.
12. Press the Volume Up and Volume Down buttons to navigate to **Full OTA Package**.
13. Press the Power button.
14. On the host computer command prompt window type:

    `adb sideload <file>`

    where: <file> = the path and filename of the zip file.
15. Press Enter. The Enterprise Reset package installs and then the Recovery screen appears.
16. Press the Power button to reboot the device.

Using microSD Card

1. Copy the Enterprise Reset zip file to the root of the microSD card.
   - Copy the zip file to a microSD card using a host computer (see USB Communication for more information) and then installing the microSD card into the device (see Replacing the microSD Card for more information).
   - Connect the device with a microSD card already installed to the host computer and copy zip file to the microSD card. See USB Communication for more information. Disconnect the device from the host computer.
2. Press and hold the Power button until the menu appears.
3. Touch **Restart**.

4. Touch **OK**. The device resets.
5. When the device vibrates, press and hold the volume up button until the System Recovery screen appears.
6. Press the Volume Up and Volume Down buttons to navigate to **apply upgrade from sdcard**.
7. Press the Power button.
8. Use the Volume Up and Volume Down buttons to navigate to **Full OTA Package**.
9. Press the Power button.
10. Use the Volume Up and Volume Down buttons to navigate to the Enterprise Reset file.
11. Press the Power button. The Enterprise Reset occurs and then the device returns to the Recovery screen.
12. Press the Power button.

Performing a Factory Reset

A Factory Reset erases all data in the **/data** and **/enterprise** partitions in internal storage and clears all device settings. A Factory Reset returns the device to the last installed operating system image. To revert to a previous operating system version, re-install that operating system image. See Performing a System Update on page 125 for more information.

Downloading the Factory Reset Package

To download the Factory Reset package:

1. Go to the Zebra Support & Downloads web site, www.zebra.com/support.
2. Download the appropriate Factory Reset file to a host computer.

Using ADB

To perform an Factory Reset using ADB:

1. Connect the device to the USB cable.
2. Connect the cable or cradle to the host computer.
3. On the device, swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
4. Touch **System > Developer options**.
5. Slide the switch to the **ON** position.
6. Touch **USB Debugging**. A check appears in the check box. The **Allow USB debugging?** dialog box appears.
7. Touch **OK**.
8. On the host computer, open a command prompt window and use the adb command:
   ```
   adb reboot recovery
   ```
9. Press Enter. The System Recovery screen appears.
10. Press the Volume Up and Volume Down buttons to navigate to **apply from adb**.

11. Press the Power button.
12. On the host computer, open a command prompt window and use the adb command:
    `adb devices`.
    The following displays:
    `List of devices attached`
    `XXXXXXXXXXXXXXX device` (where XXXXXXXXXXXXXXX is the device number).

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

13. Type:
    `adb reboot recovery`
14. Press Enter. The System Recovery screen appears.
15. Press the Volume Up and Volume Down buttons to navigate to **apply from adb**.
16. Press the Power button.
17. Press the Volume Up and Volume Down buttons to navigate to **Full OTA Package**.
18. Press the Power button.
19. On the host computer command prompt window type:
    `adb sideload <file>`
    where: <file> = the path and filename of the zip file.
20. Press Enter. The Factory Reset package installs and then the Recovery screen appears.
21. Press the Power button to reboot the device.Replace the top cover.

Using microSD Card

1. Copy the Factory Reset zip file to the root of the microSD card.
   - Copy the zip file to a microSD card using a host computer (see USB Communication for more information) and then installing the microSD card into the device (see Replacing the microSD Card for more information).
   - Connect the device with a microSD card already installed to the host computer and copy zip file to the microSD card. See USB Communication for more information. Disconnect the device from the host computer.
2. Press and hold the Power button until the menu appears.
3. Touch **Restart**.
4. Touch **OK**. The device resets.
5. When the device vibrates, press and hold the volume up button until the System Recovery screen appears.
6. Press the Volume Up and Volume Down buttons to navigate to **apply upgrade from sdcard**.
7. Press the Power button.
8. Use the Volume Up and Volume Down buttons to navigate to **Full OTA Package**.
9. Press the Power button.
10. Use the Volume Up and Volume Down buttons to navigate to the Factory Reset file.

11. Press the Power button. The Factory Reset occurs and then the device returns to the Recovery screen.
12. Press the Power button.

Storage

The device contains four types of file storage:

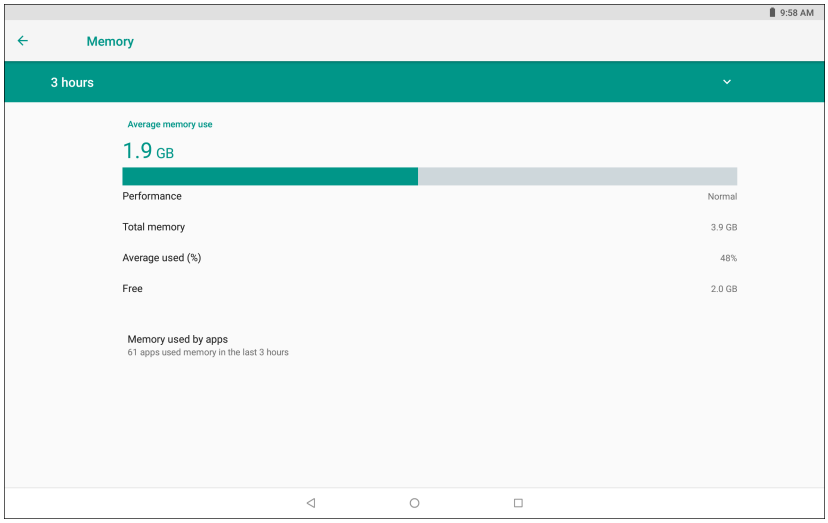
- Random Access Memory (RAM)
- Internal storage
- External storage (microSD card) or (USB drive)
- Enterprise folder.

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.

1. To view the amount of free and used memory, swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **System** > **Developer options** > **Memory**.

Figure 104 Memory Screen



The screen displays the amount of used and free RAM.

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

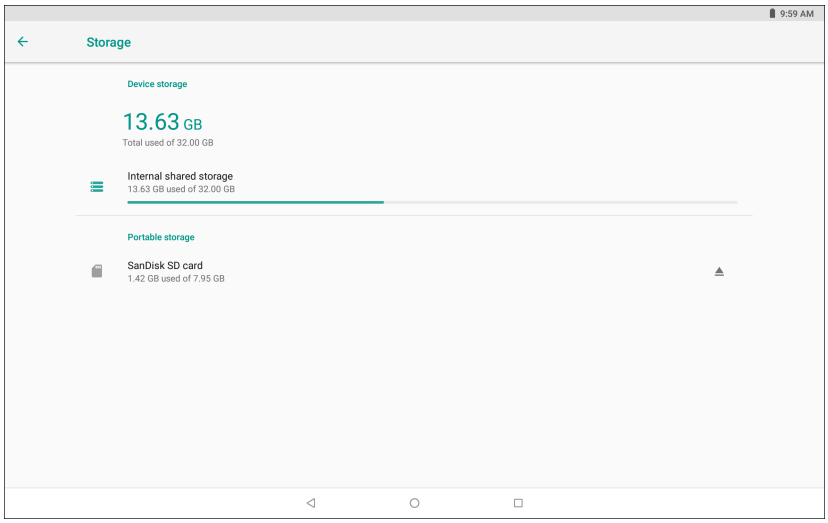
Internal Storage

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

To view the used and available space on the internal storage:

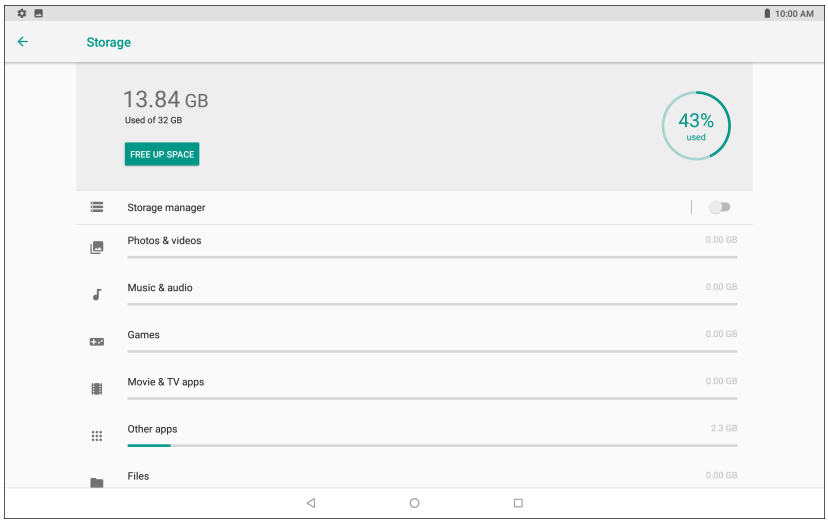
1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Storage**.

Figure 105 Storage Screen



Touch **Internal shared storage** to display a the amount of storage used by apps, photos, videos, audio and other files.

Figure 106 Internal Storage Screen



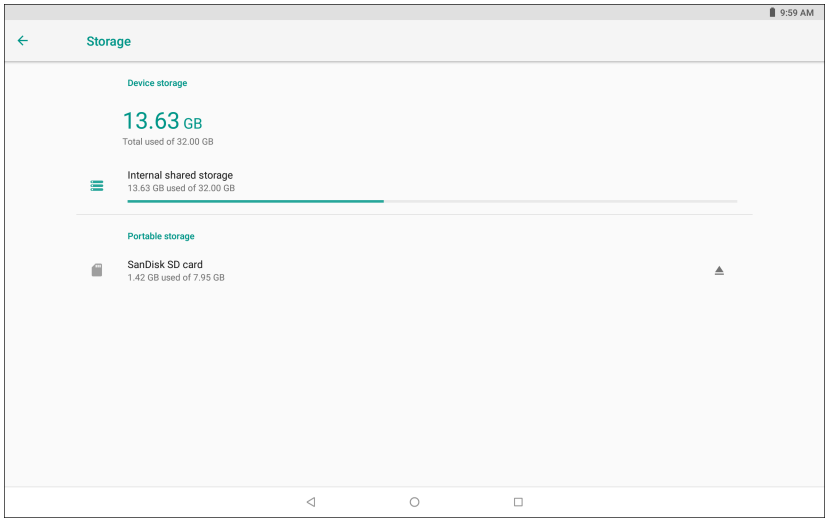
External Storage

The device can have a removable microSD card or USB drive. The microSD card or USB drive content can be viewed and files copied to and from when the device is connected to a host computer.

To view the used and available space on the microSD card or USB drive:

1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Storage**.

Figure 107 External Storage Screen



Portable storage displays the total amount of space on the installed microSD card or USB drive and the amount used.

To unmount the microSD card or USB drive, touch ⏏.

Touch the **SD card** or **USB Drive** to view the contents of the card or drive.

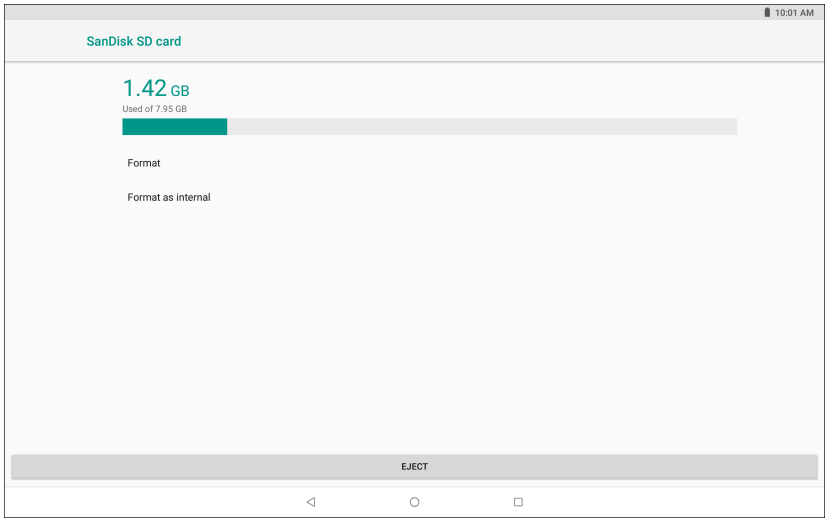
Formatting a microSD Card or USB Drive as Portable Storage

To format an installed microSD card or USB drive as portable storage:

1. Touch **SD card**.

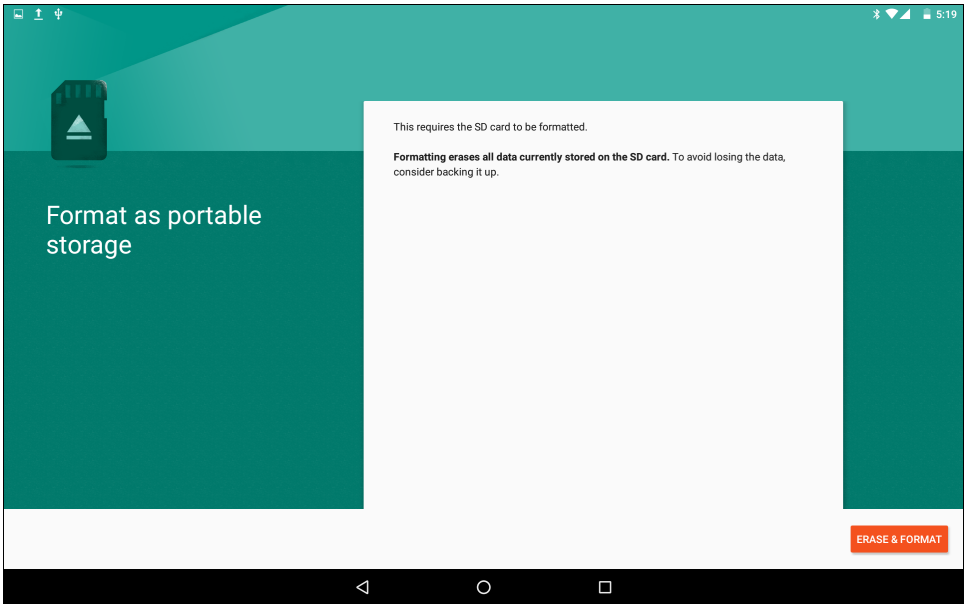
2. Touch ⋮ > **Storage settings**.

Figure 108 SD Card Settings Screen



3. Touch **Format**.

Figure 109 Format Screen



4. Touch **ERASE & FORMAT**.
5. Touch **DONE**.

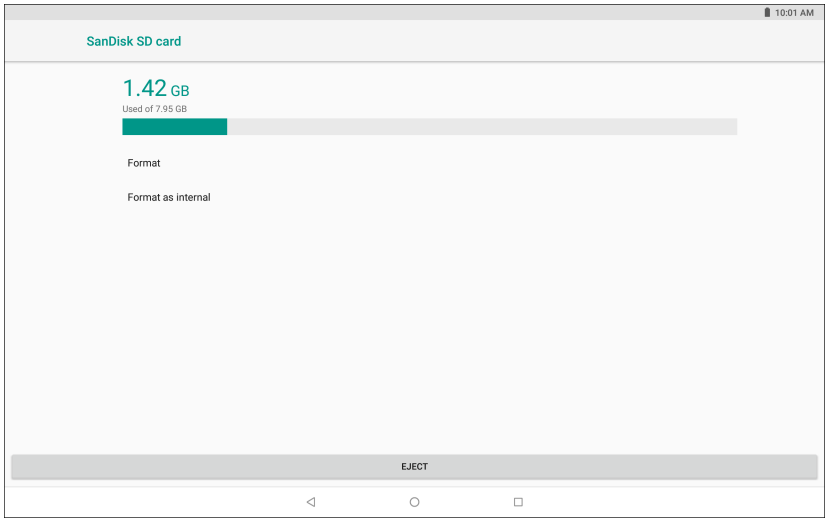
Formatting a microSD Card as Internal Memory

You can format a microSD card as internal memory to increase the actual amount of the device's internal memory. Once formatted, the microSD card can only be read by this device. To format an installed microSD card as internal memory:

1. Touch **SD card**.

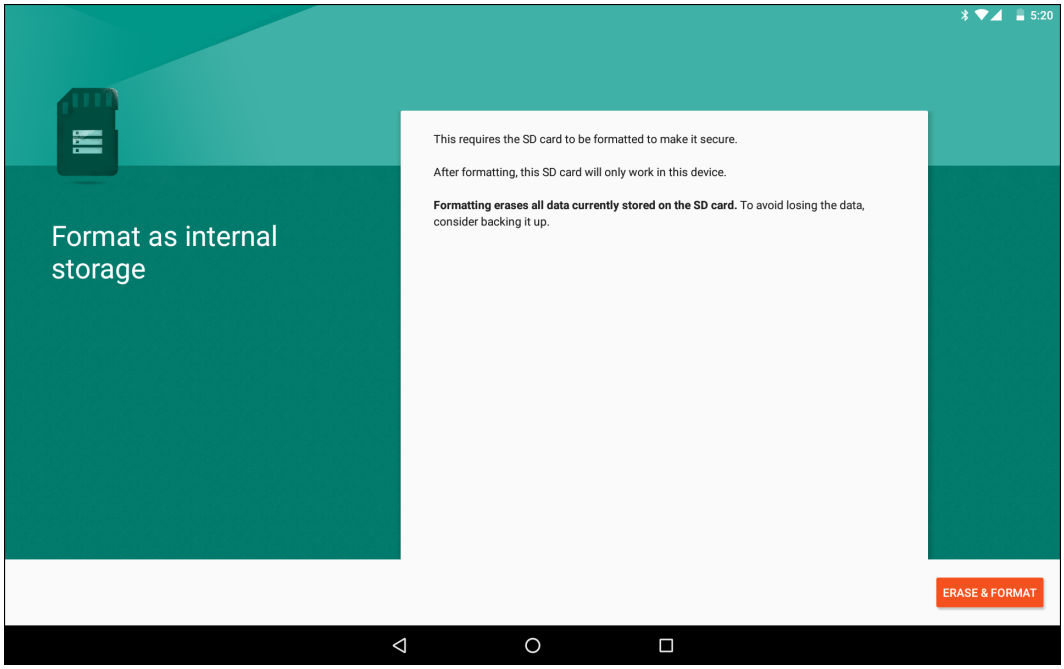
2. Touch ⋮ > **Storage settings**.

Figure 110 SD Card Settings Screen



3. Touch **Format as internal**.

Figure 111 Format Screen



4. Touch **ERASE & FORMAT**.
5. Touch **DONE**.

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

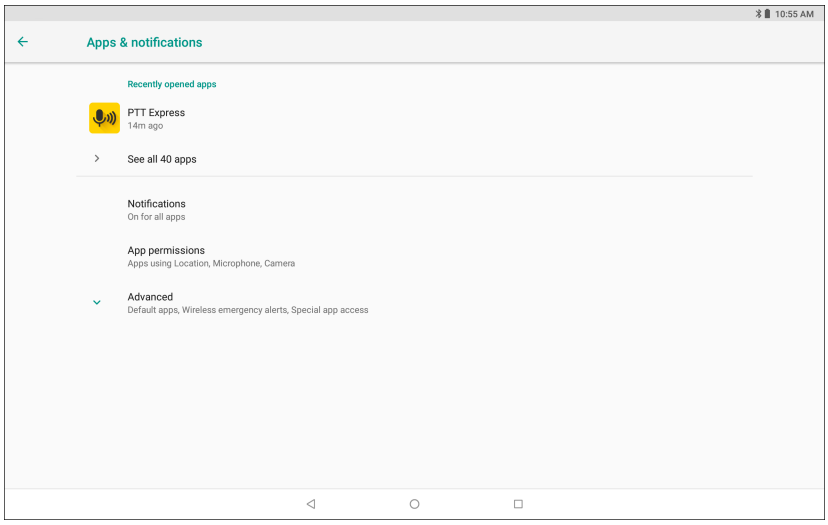
can persist data after an Enterprise Reset by saving data to the enterprise/user folder. The folder is ext4 formatted and is only accessible from a host computer using ADB or from an MDM.

App Management

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

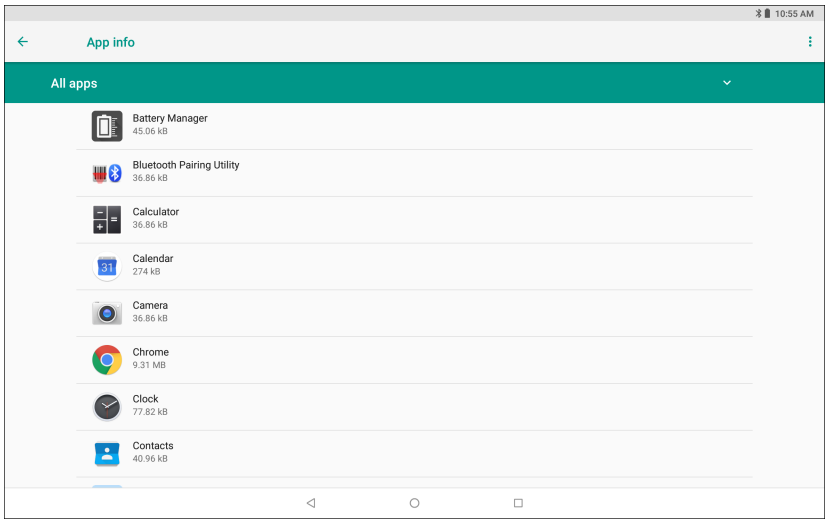
1. Swipe down from the Status bar to open the Quick Access panel and then touch ⚙.
2. Touch **Apps & notifications**.

Figure 112 Apps & Notifications Screen



3. Touch **See all XX apps** to view all apps on the device.

Figure 113 App Info Screen



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

Viewing App Details

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

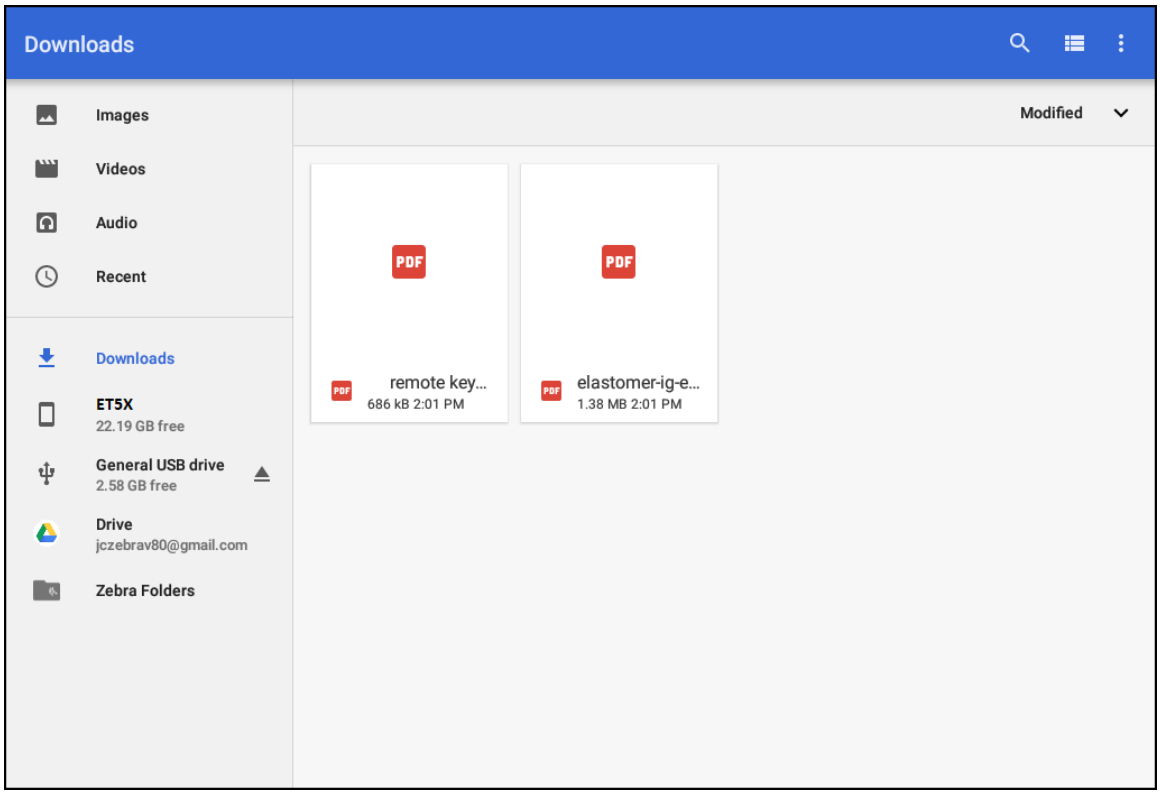
- **Force stop** - stop an app.
- **Disable** - disable an app.
- **Uninstall** - remove the app and all of its data and settings from the device. See Uninstalling an Application for information about uninstalling apps.
- **Storage** - lists how much information is stored, and includes a button for clearing it.
- **Data usage** - provides information about data (Wifi) consumed by an app.
- **Permissions** - lists the areas on the device that the app has access to.
- **Notifications** - set the app notification settings.
- **Open by default** - clears If you have configured an app to launch certain file types by default, you can clear that setting here.
- **Battery** - lists the amount of computing power used by the app.
- **Memory** - lists the average app memory usage.
- Advanced
  - **Draw over other apps** - allows an app to display on top of other apps.

Managing Downloads

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

1. Swipe the screen up and touch .
2. Touch ≡ > **Downloads**.

Figure 114 Files - Downloads Screen



3. Touch and hold an item, select items to delete and touch . The item is deleted from the device.

Maintenance and Troubleshooting

Introduction

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

Maintaining the Device

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

- To avoid scratching the screen, use the supplied stylus or plastic-tipped pens intended for use with a touch-sensitive screen. Never use an actual pen or pencil or other sharp object on the surface of the device screen.
- The touch-sensitive screen of the device is glass. Do not drop the device or subject it to strong impact.
- Protect the device from temperature extremes. Do not leave it on the dashboard of a car on a hot day, and keep it away from heat sources.
- Do not store the device in any location that is dusty, damp, or wet.
- Use a soft lens cloth to clean the device. If the surface of the device screen becomes soiled, clean it with a soft cloth moistened with an approved cleanser. For a list of approved cleansers, see Approved Cleanser Active Ingredients.
- Periodically replace the rechargeable battery to ensure maximum battery life and product performance. Battery life depends on individual usage patterns.

Battery Safety Guidelines

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

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

Cleaning Instructions

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

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

Approved Cleanser Active Ingredients

100% of the active ingredients in any cleaner must consist of one or some combination of the following: isopropyl alcohol, bleach/sodium hypochlorite[1] **(see important note below)**, or mild dish soap.

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

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

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

Harmful Ingredients

The following chemicals are known to damage the plastics on the device and should not come in contact with the device: acetone; ketones; ethers; aromatic and chlorinated hydrocarbons; aqueous or alcoholic alkaline solutions; ethanolamine; toluene; trichloroethylene; benzene; carbolic acid and TB-lysoform.

Many vinyl gloves contain phthalate additives, which are often not recommended for medical use and are known to be harmful to the housing of the device.

Device Cleaning Instructions

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

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

Special Cleaning Notes

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 device.

IMPORTANT: If the battery connectors are exposed to cleaning agents, thoroughly wipe off as much of the chemical as possible and clean with an alcohol wipe. It is also recommended to install the battery in the terminal prior to cleaning and disinfecting the device to help minimize buildup on the connectors.

When using cleaning/disinfectant agents on the device, it is important to follow the directions prescribed by the cleaning/disinfectant agent manufacturer.

Cleaning Materials Required

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

Cleaning Frequency

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

Cleaning Battery Connectors

To clean the battery connectors:

1. Remove the main battery from the mobile computer.
2. Dip the cotton portion of the cotton-tipped applicator in isopropyl alcohol.
3. To remove any grease or dirt, rub the cotton portion of the cotton-tipped applicator back-and-forth across the connectors on the battery and terminal sides. Do not leave any cotton residue on the connectors.

4. Repeat at least three times.
5. Use a dry cotton-tipped applicator and repeat steps 3 and 4. Do not leave any cotton residue on the connectors.
6. Inspect the area for any grease or dirt and repeat the cleaning process if necessary.

CAUTION: After cleaning the battery connectors with bleach-based chemicals, follow the Battery Connector Cleaning instructions to remove bleach from the connectors.

Troubleshooting

Table 8 *Troubleshooting the tablet*

Problem	Cause	Solution
Tablet does not turn on.	Battery not charged.	Charge the battery in the tablet.
	Battery not installed properly.	Ensure battery is installed properly.
	System crash.	If the tablet does not turn on, perform a hard reset. See Performing a Hard Reset on page 17.
Battery did not charge.	Battery failed.	Replace battery. If the tablet still does not operate, try a hard reset. See Performing a Hard Reset on page 17.
	Tablet removed from cradle before charging completed.	Insert the tablet 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).
Unable to connect to the wireless network.	SIM card is valid.	Ensure that the micro SIM card is valid and workable if using a mobile network.
	Not within range of network.	Move within the network's service range and the signal strength is good.
	device is in airplane mode.	Ensure that device is not in Airplane mode.
The multi-touch screen responds slowly or improperly.	Finger or screen is wet.	Ensure that your hands are clean and dry when touching the screen. Restart the tablet to try again.
Tablet turns itself off.	Tablet is inactive.	The tablet turns off after a period of inactivity. If the tablet is running on battery power.
	Battery is depleted.	Place the tablet in the cradle to re-charge the battery.
	The tablet's battery is low and it powers down to protect memory content.	Place the tablet in a cradle to re-charge the battery.

Charge Only Cradle

Table 9 *Troubleshooting the Charge only Cradle*

Symptom	Possible Cause	Solution
Battery is not charging.	Tablet was removed from cradle or cradle was unplugged from AC power.	Ensure cradle is receiving power. Ensure tablet 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.
	The tablet is not fully seated in the cradle.	Remove and re-insert the tablet 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).

Communication and Charging Cradles

Table 10 *Troubleshooting the Communication and Charging Cradles*

Symptom	Possible Cause	Solution
Battery is not charging.	Tablet was removed from cradle or cradle was unplugged from AC power.	Ensure cradle is receiving power. Ensure tablet 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.
	The tablet is not fully seated in the cradle.	Remove and re-insert the tablet 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).
During communication, no data transmits, or transmitted data was incomplete.	Tablet removed from cradle during communications.	Replace tablet in cradle and retransmit.
	Incorrect cable configuration.	Ensure that the correct cable configuration.
Tablet does not lock into cradle.	Access cover closed.	Open tablet access cover and re-insert tablet onto cradle.
	Tablet with Rugged Frame and IO Adapter does not mate with Communication and Charging Cradle.	Use Rugged Communication and Charging Cradle.

Expansion Backs

Table 11 *Troubleshooting the Expansion Backs*

Symptom	Possible Cause	Solution
Aiming laser does not display when pressing trigger.	On 8.4" tablet, did not remove rubber gasket during installation.	See system administrator to re-install Expansion Back.
	Tablet is in suspend mode.	Press power button to wake the tablet.
	Battery is low.	If the scanner stops emitting a laser beam upon a scan button press, check the battery level. When the battery is low, the scanner shuts off before the tablet low battery condition notification. Note: If the scanner is still not reading bar codes, contact system administrator.
Laser comes on, but scanner does not decode the bar code.	Tablet is not programmed for the bar code.	Ensure the application is programmed to read the type of bar code being scanned. Contact system administrator.
	Unreadable bar code.	Check the symbol to ensure it is not defaced. Try scanning another bar code of the same type.
	Distance between exit window and bar code is incorrect.	Move the tablet within proper scanning range.
	Scanning application is not loaded.	Load a scanning application. See the system administrator.

4-Slot Charge Only Cradle

Table 12 *Troubleshooting the 4-Slot Charge only Cradle*

Symptom	Possible Cause	Solution
Tablet battery is not charging.	Tablet was removed from cradle or cradle was unplugged from AC power.	Ensure cradle is receiving power. Ensure tablet is seated correctly. Confirm main battery is charging. The battery fully charges in approximately four hours.
	Battery is faulty.	Verify that other tablet batteries charge properly. If so, replace the faulty battery.
	The Tablet is not fully seated in the cradle.	Remove and re-insert the tablet into the cradle, ensuring it is firmly seated. Ensure that an insert is not used with tablet with Rugged Frame. Ensure that an insert is used with tablet without Rugged Frame.
	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).

Charging Adapter

Table 13 *Troubleshooting the Charging Adapter*

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

4-Slot Battery Charger

Table 14 *Troubleshooting the 4-Slot Battery Charger*

Symptom	Possible Cause	Solution
Power Pack Charging LED does not light when inserted.	Power Pack is not correctly seated.	Remove and re-insert the spare battery into the charging slot, ensuring it is correctly seated.
Power Pack is not charging.	Power Pack was removed from charger or charger was unplugged from AC power.	Ensure charger is receiving power. Ensure Power Pack is seated correctly. Confirm Power Pack is charging. The Power Pack fully charges in approximately four hours.
	Power Pack is faulty.	Verify that other Power Pack charge properly. If so, replace the faulty Power Pack.
	The Power Pack is not fully seated in the charger.	Remove and re-insert the Power Pack into the charger, ensuring it is firmly seated.
	Ambient temperature of the charger is too warm or too cold.	Move the charger to an area where the ambient temperature is between 0°C and 40°C (32°F and 104°F).

Specifications

Technical Specifications

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

Table 15 Technical Specifications

Item	Description
Physical and Environmental Characteristics	
Dimensions	**8.4" Configuration**: 228 mm W x 150 mm H x 12.7 mm D (9.0 in. L x 5.9 in. W x 0.5 in. H) **10.1" Configuration**: (269 mm W x 181 mm H x 12.7 mm D) 10.6 in. L x 7.1 in. W x 0.5 in. H
Weight	**ET51 8.4" Configuration**: 509 g (1.12 lbs) **ET56 8.4" Configuration**: 523 g (1.15 lbs) **ET56 10.1" Configuration**: 725 g (1.60 lbs)
Display	**8.4" Configuration**: 8.4 in (diagonal) 1600 x 2560 WQXGA with backlight **10.1" Configuration**: 10.1 in (diagonal) 1600 x 2560 WQXGA with backlight
Touch panel	Capacitive 10 point multi-touch
Keypad Options	Virtual, Bluetooth or USB-C
Expansion	Integrated connector to easily add accessories
Connectivity	Docking connector (charge and data); rugged connector for use with rugged dock (charge and data); USB-C side port (data only).
Notification	LED flash; bar code decode; system and OS notification LED indicator; charge LED indicator
Audio	Stereo speakers and dual front-facing microphones

Table 15 Technical Specifications (Continued)

Item	Description
Battery	**8.4" Configuration**: 6,440 mAh @ 3.8 VDC (24.4 Wh) rechargeable Lithium Polymer; user replaceable. **10.1" Configuration**: 9,660 mAh @ 3.85 VDC (37.1 Wh) rechargeable Lithium Polymer; user replaceable. Optional hot swappable 3,400 mAh, 7.2 VDC (24.4 Wh) secondary battery (equivalent to 3.6 VDC @ 6,800mAh).
Performance Characteristics	
CPU	Qualcomm Snapdragon 660 octa-core processors @ 2.2 GHz.
Operating System	Google Mobile Services (GMS) 8.1.0 Oreo. Upgradeable through Android R.
Memory	4 GB LPDDR4 SDRAM Discrete/ 32 GB MLC eMMC Flash.
Data Capture	
Front Camera	5 MP 1080p full HD optimized for video collaboration and low lighting conditions.
Rear Camera	Image capture: 13 MP auto-focus camera with user controllable LED flash, illumination and aiming; photographs, video, signatures and documents.
Video	1080p (Full HD, 1920 x 1080), Frame rate = 30fps
Scanning	Optional SE4750 8.4" and 10" Expansion Back Optional RS507 and RS507X Hands-free Imager Optional RS6000 Scanner DS3608SR/ER USB scanners DS3678 SR/ER Bluetooth scanners
User Environment	
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Battery Charging Temperature	0°C to +40°C (32°F to 104°F)
Humidity	5% to 95% RH (non condensing)
Drop Specification	Standard: 1 m (3.28 ft.) drop to concrete per MIL-STD-810G With optional rugged frame: 1.8 m (5.9 ft.) to concrete per MIL STD 810G.
Vibration	Random: 0.02²/Hz, 20Hz to 2khz 4g RMS 1 hour per axis
Environmental Sealing	IP65

Table 15 Technical Specifications (Continued)

Item	Description
ESD	+/-15kVdc air discharge +/-8kVdc direct discharge +/-8kVdc indirect discharge
WWAN Wireless Data Communications	
	Global LTE (data only) North America LTE (data only): AT&T and Verizon
WLAN Wireless Data Communications	
WLAN radio	802.11 a/b/g/n/d/h/i/k/r/ac; IPv4; IPv6; dual band 2x2 MIMO for transmit and receive
Data Rate	2.4 GHz: 802.11b/g/n - up to 144 Mb per second 5 GHz: 802.11a/n/ac - up to 866.7 Mb per second
Operating Channels	Chan 1 - 13 (2412 - 2472 MHz), Chan 36 - 165 (5180 - 5825 MHz) Channel Bandwidth: 20, 40, 80 MHz Actual operating channels/frequencies depend on regulatory rules and certification agency.
Antenna	Dual band antennas for 2x2 MIMO
WLAN Security	WEP (40 or 104 bit); WPA/WPA2 Personal (TKIP and AES); EAP-TTLS (PAP, MSCHAP, MSCHAPv2), EAP-TLS, EAP-FAST (EAP-GTC, MSCHAPv2), PEAPv0-MSCHAPv2, PEAPv1-EAP-GTC, EAP LEAP.
WPAN Wireless Data Communications	
Bluetooth	Bluetooth v5.0 / 2.1+EDR Class 2 (Bluetooth LE)
Near Field Communication	P2P: ISO 18092 Reader/Writer: ISO 14443 – A-B, MIFARE, FeliCa®, ISO 15693, NFC Forum Tag Types 1 to 4 Card emulation: ISO 14443 – A-B-B', MIFARE, FeliCa RF
GPS	GNSS supports GPS, Galileo and Glonass with LTO technology for Assisted-GPS without sacrificing autonomous operation (ET56 only).
Sensors	
Gyroscope	Maintains orientation based on principles of conservation of angular momentum
Motion Sensor	3-axis accelerometer that enables motion-sensing applications for dynamic screen orientation and power management.
Ambient Light Sensor	Automatically adjusts display brightness, display backlight.
Digital Compass	Independent — does not depend on GPS

Table 15 Technical Specifications (Continued)

Item	Description
Peripherals and Accessories	
Cradles	Charge Only Cradle Communication and Charging Cradles Rugged Communication Cradle 4-Slot Charge Only Cradle Charging Adapter 4-Slot Battery Charger
Printers	Supports extensive line of Zebra approved printers
Rugged Frame	Provides additional protection for the tablet.

Table 16 Expansion Back Supported Symbologies

Bar Code Type	Symbologies
1D	Bookland EAN, Chinese 2 of 5, Codabar, Code 11, Code 128, Code 32, Code 39, Code 93, Discrete 2 of 5, EAN-8, EAN-13, GS1-128, Interleaved 2 of 5, Inverse 1D, ISBT-128, ISSN EAN, Korean 2 of 5, MSI, Matrix 2 of 5, Trioptic Code 39, UCC Coupon Code, UPCA, UPCE, UPCE1.
2D	Aztec, Aztec Inverse, Composite AB, Composite C, Data Matrix, Data Matrix Inverse, Maxicode, Micro PDF417, Micro QR, PDF417, QR Code, QR Code Inverse, Han Xin, Han Xin Inverse
Postal	Australian Postal, Japan Postal, UK Postal, US Planet, US Postnet, Netherlands KIX Code, USPS 4CB/One Code/Intelligent Mail, UPU FICS Postal

SE4750 Expansion Back Decode Range

SE4750 SR Decode Ranges

Table 17 *SE4750 SR Decode Distances*

Bar Code Type	Near Distance (in, typical)	Far Distance (in, typical)
3 mil Code 39	2.8	6.2
5 mil Code 128	2.3	8.7
5 mil PDF417	3.0	8.1
6.67mil PDF417	2.2	10.6
10 mil Data Matrix	2.4	10.6
* Limited by width of bar code in field of view. Note: Photographic quality bar code at 18^{o} tilt pitch angle under 30 fcd ambient illumination.		

Table 17 *SE4750 SR Decode Distances (Continued)*

Bar Code Type	Near Distance (in, typical)	Far Distance (in, typical)
100% UPCA	1.6*	23.0
15 mil Code 128	2.4*	25.2
20.0 mil Code 39	1.6*	36.3
* Limited by width of bar code in field of view. Note: Photographic quality bar code at 18° tilt pitch angle under 30 fcd ambient illumination.		

Accessory Specifications

Charge Only Cradle

Table 18 *Charge Only Cradle Technical Specifications*

Feature	Description
Dimensions	Height: 7.9 cm (3.1 in.) Width: 14.2 cm (5.6 in.) Depth: 11.9 cm (4.7 in.)
Weight	550 g (19.4 oz)
Input Voltage	12 VDC
Power Consumption	60 watts
Operating Temperature	0°C to 40°C (32°F to 104°F)
Humidity	10% to 90% non-condensing
Electrostatic Discharge (ESD)	+/- 8 kV air +/- 4 kV contact

Communication and Charging Cradle

Table 19 *Communication and Charging Cradle Technical Specifications*

Feature	Description
Dimensions	Height: 7.9 cm (3.1 in.) Width: 14.2 cm (5.6 in.) Depth: 11.9 cm (4.7 in.)
Weight	550 g (19.4 oz)
Input Voltage	12 VDC
Power Consumption	60 watts

Table 19 *Communication and Charging Cradle Technical Specifications (Continued)*

Feature	Description
Operating Temperature	0°C to 40°C (32°F to 104°F)
Humidity	5% to 90% non-condensing
Electrostatic Discharge (ESD)	+/- 8 kV air +/- 4 kV contact

Rugged Communication and Charging Cradle

Table 20 *Rugged Communication and Charging Cradle Technical Specifications*

Feature	Description
Dimensions	Height: 7.9 cm (3.1 in.) Width: 14.2 cm (5.6 in.) Depth: 11.9 cm (4.7 in.)
Weight	550 g (19.4 oz)
Input Voltage	12 VDC
Power Consumption	60 watts
Operating Temperature	0°C to 40°C (32°F to 104°F)
Humidity	5% to 90% non-condensing
Electrostatic Discharge (ESD)	+/- 8 kV air +/- 4 kV contact

Expansion Backs

Table 21 *8.4" Expansion Back Technical Specifications*

Feature	Description
Dimensions	Height: 137 mm (5.4 in.) Width: 157.5 mm (6.2 in.) Depth: 54 mm (2.1 in.)
Weight	246 g (8.7 oz)
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 60°C (-40°F to 158°F)
Humidity	5% to 95% non-condensing
Drop	1.2 m (4 ft) drop to plywood over concrete per MIL-STD 810G across operating temperatures with rugged frame.
Electrostatic Discharge (ESD)	+/- 8 kV air +/- 4 kV contact

Table 22 *8.4" SE4750 Expansion Back Technical Specifications*

Feature	Description
Dimensions	Height: 137 mm (5.4 in.) Width: 157.5 mm (6.2 in.) Depth: 54 mm (2.1 in.)
Weight	273 g (9.6 oz)
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 60°C (-40°F to 158°F)
Humidity	5% to 95% non-condensing
Drop	1.0 m (3.28 ft) drop to plywood over concrete per MIL-STD 810G across operating temperatures with rugged frame.
Electrostatic Discharge (ESD)	+/- 8 kV air +/- 4 kV contact

Table 23 *10.1" Expansion Back Technical Specifications*

Feature	Description
Dimensions	Height: 157.7 mm (6.2 in.) Width: 184 mm (7.2 in.) Depth: 54 mm (2.1 in.)
Weight	307 g (10.8 oz)
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 60°C (-40°F to 158°F)
Humidity	5% to 95% non-condensing
Drop	1.0 m (3.28 ft) drop to plywood over concrete per MIL-STD 810G across operating temperatures with rugged frame.
Electrostatic Discharge (ESD)	+/- 8 kV air +/- 4 kV contact

Table 24 *10.1" SE4750 Expansion Back Technical Specifications*

Feature	Description
Dimensions	Height: 157.7 mm (6.2 in.) Width: 184 mm (7.2 in.) Depth: 54 mm (2.1 in.)
Weight	336.5 g (11.9 oz)
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 60°C (-40°F to 158°F)

Table 24 *10.1" SE4750 Expansion Back Technical Specifications (Continued)*

Feature	Description
Humidity	5% to 95% non-condensing
Drop	1.0 m (3.28 ft) drop to plywood over concrete per MIL-STD 810G across operating temperatures with rugged frame.
Electrostatic Discharge (ESD)	+/- 8 kV air +/- 4 kV contact

Index

W