ET5X

Enterprise Tablet

User Guide for Microsoft® Windows® 10

MN-002940-04

ET5X ENTERPRISE TABLET USER GUIDE FOR MICROSOFT® WINDOWS® 10

MN-002940-04
Rev. A
October 2019

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Revision History

Changes to the original guide are listed below:

Change	Date	Description
A01 Rev A	11/2016	Initial release.
A02 Rev A	7/2017	Update WLAN specifications. Update battery charge times. Add additional accessories.
A03 Rev A	10/2017	Correct Battery Charging icon status on page 13. Remove CCX4 reference on page A-3. Add cold boot procedures on page 1-17.
A04 Rev A	10/2019	Update cradle drawings and accessory list.

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ABOUT THIS GUIDE

Introduction

This guide provides information about using the ET5X tablet and accessories.

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

Documentation Set

The documentation set for the ET5X is divided into guides that provide information for specific user needs.

- **ET5X Quick Reference Guide** - describes how to get the ET5X tablet up and running.
- **ET5X User Guide** - describes how to use the ET5X tablet.
- **ET5X Integrator Guide** - describes how to configure the ET5X and accessories.

Configurations

This guide covers the following configurations:

Configuration	Operating System	Radios	Display	Memory	Data Capture
ET50NE	Windows® 10 Pro	WLAN: 802.11a/b/g/n WPAN: Bluetooth	8” color	4 GB RAM/ 64 GB Flash	Optional SE4710 or SE4750 Expansion Backs
ET55AE	Windows® 10 Pro	WLAN: 802.11a/b/g/n WPAN: Bluetooth WWAN: NA - LTE	8” color	4 GB RAM/ 64 GB Flash	Optional SE4710 or SE4750 Expansion Backs
ET55RE	Windows® 10 Pro	WLAN: 802.11a/b/g/n WPAN: Bluetooth WWAN: ROW - LTE	8” color	4 GB RAM/ 64 GB Flash	Optional SE4710 or SE4750 Expansion Backs

Configuration	Operating System	Radios	Display	Memory	Data Capture
ET50NT	Windows® 10 Pro	WLAN: 802.11a/b/g/n WPAN: Bluetooth	10” color	4 GB RAM/ 64 GB Flash	Optional SE4710 or SE4750 Expansion Backs
ET55AT	Windows® 10 Pro	WLAN: 802.11a/b/g/n WPAN: Bluetooth WWAN: NA - LTE	10” color	4 GB RAM/ 64 GB Flash	Optional SE4710 or SE4750 Expansion Backs
ET55RT	Windows® 10 Pro	WLAN: 802.11a/b/g/n WPAN: Bluetooth WWAN: ROW - LTE	10” color	4 GB RAM/ 64 GB Flash	Optional SE4710 or SE4750 Expansion Backs

Chapter Descriptions

Topics covered in this guide are as follows:

- Chapter 1, Getting Started, provides information on getting the tablet up and running for the first time.
- Chapter 2, Using the Tablet, explains how to use the tablet. This includes instructions for powering on and resetting the tablet, entering and capturing data.
- Chapter 3, Wireless, explains how to perform Bluetooth functionality on the tablet.
- Chapter 4, Data Capture, explains how to capture data using the optional scanners.
- Chapter 5, Accessories, describes the accessories available for the tablet and how to use the accessories with the tablet.
- Chapter 6, Maintenance and Troubleshooting, includes instructions on cleaning and storing the tablet, and provides troubleshooting solutions for potential problems during tablet operation.
- Appendix A, 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 ET5X tablet.
- *Italics* are used to highlight the following:
  - Chapters and sections in this guide
  - Related documents
- **Bold** text is used to highlight the following:
  - Dialog box, window and screen names
  - Drop-down list and list box names
  - Check box and radio button names
  - Icons on a screen
  - Key names on a keypad
  - Button names on a screen.

- Bullets (•) indicate:
  - Action items
  - Lists of alternatives
  - Lists of required steps that are not necessarily sequential.
- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.

Related Documents and Software

The following documents provide more information about the ET5X tablets.

- *ET5X Quick Reference Guide, p/n MN001844Axx*
- *ET5X Integrator Guide for Microsoft Windows 10, p/n MN-002941-xx*

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

Service Information

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

When contacting support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number. See *Checking Operating System Version on page xi*.

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

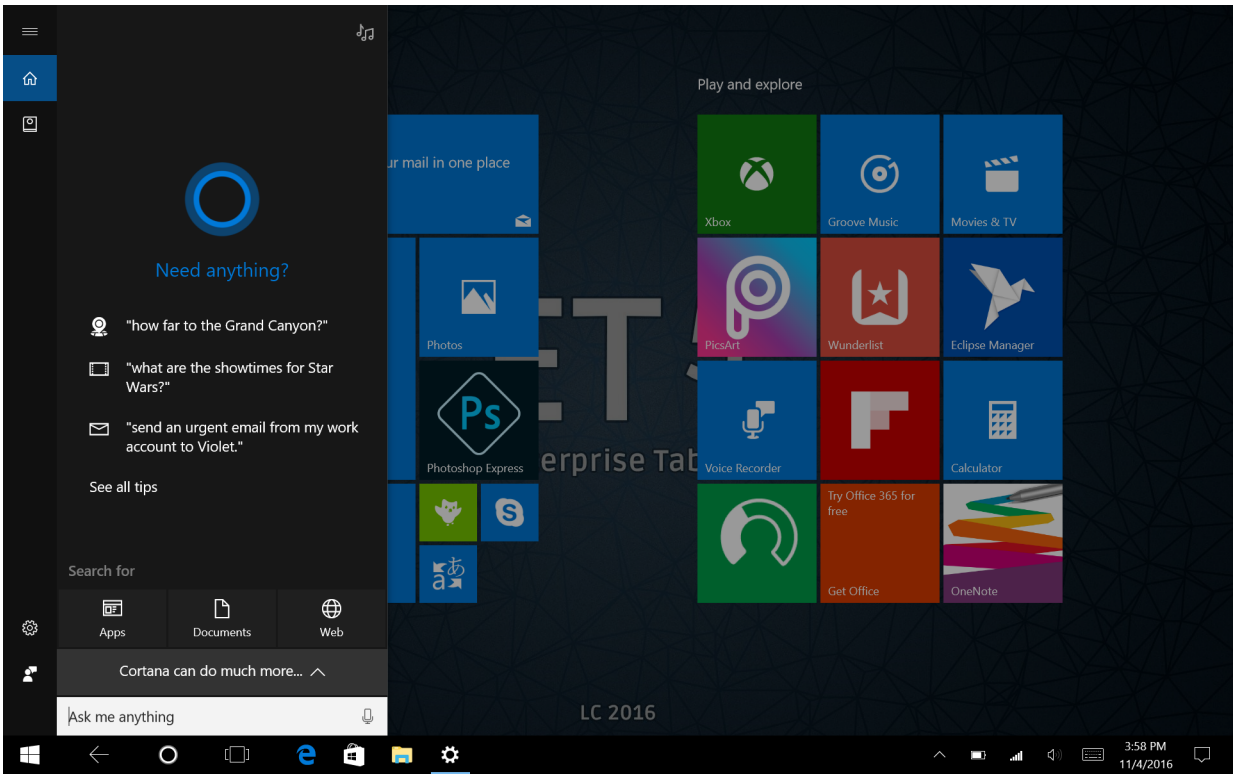
If your problem cannot be solved by Zebra Customer Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly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

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

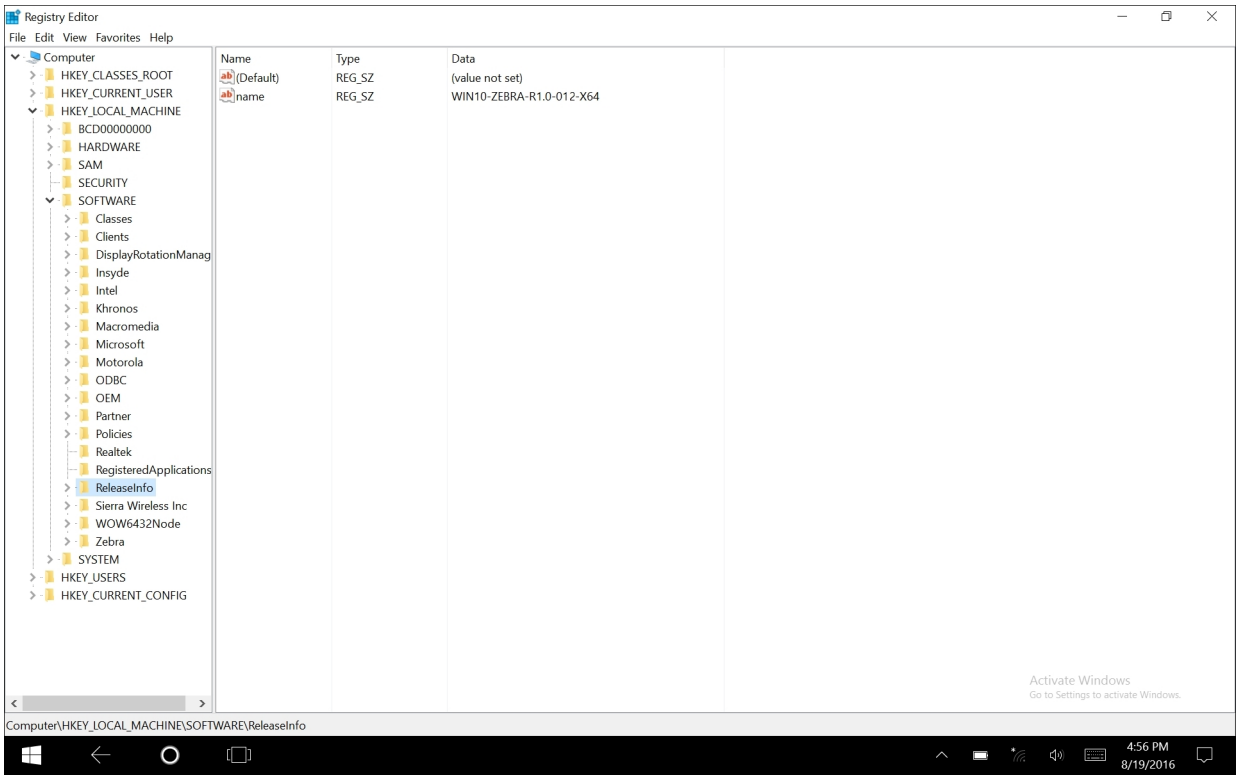
Checking Operating System Version

To check the current version of the operating system:

1. Touch the Cortana icon.



2. In the Search text box, type **`regedit`**.
3. Touch **Enter**.
4. In **User Account Control** dialog box, touch **Yes**. The **Registry Editor** window appears.
5. Navigate to **HKEY_LOCAL_MACHINE** > **SOFTWARE** > **releaseinfo**. The version appears in the **Data** column.


Registry Editor
File Edit View Favorites Help
Computer
HKEY_CLASSES_ROOT
HKEY_CURRENT_USER
HKEY_LOCAL_MACHINE
BCD00000000
HARDWARE
SAM
SECURITY
SOFTWARE
Classes
Clients
DisplayRotationManag
Insyde
Intel
Khronos
Macromedia
Microsoft
Motorola
ODBC
OEM
Partner
Policies
Realtek
RegisteredApplications
ReleaseInfo
Sierra Wireless Inc
WOW6432Node
Zebra
SYSTEM
HKEY_USERS
HKEY_CURRENT_CONFIG
Name Type Data
(Default) REG_SZ (value not set)
name REG_SZ WIN10-ZEBRA-R1.0-012-X64
Activate Windows
Go to Settings to activate Windows.
Computer\HKEY_LOCAL_MACHINE\SOFTWARE\ReleaseInfo
4:56 PM
8/19/2016

CHAPTER 1 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 ET5X 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 *Service Information on page xi* for contact information.

Features

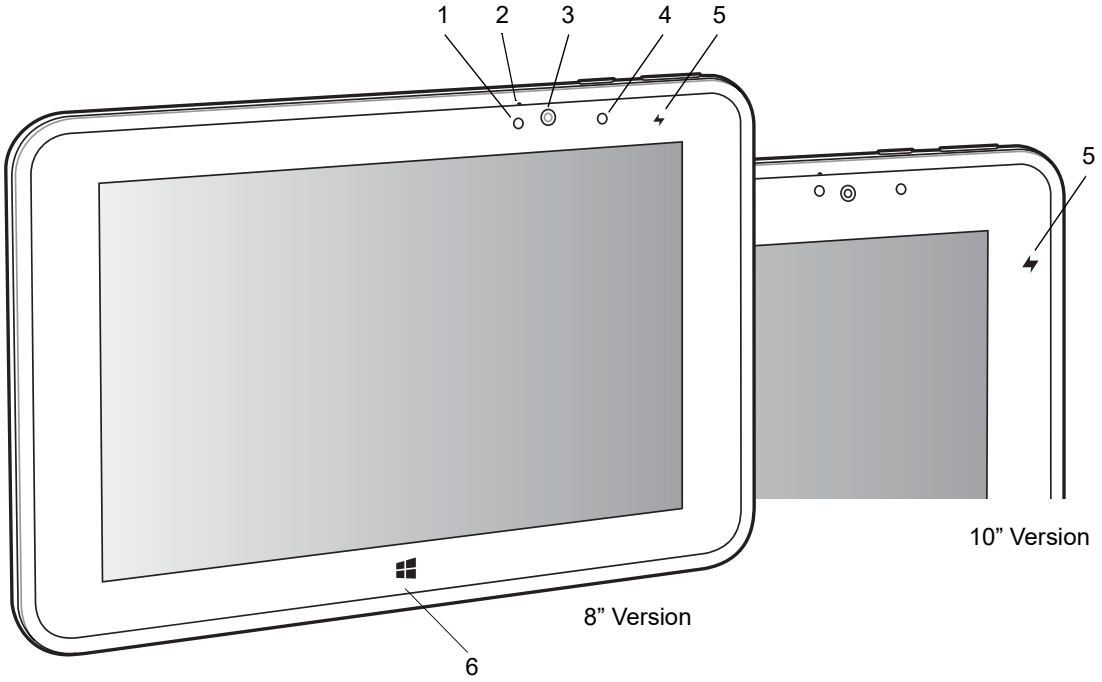


Figure 1-1 *Front View*

Table 1-1 *Front View*

Item	Description
1	Ambient Light Sensor - Recognizes the ambient light and adjusts the display brightness (if enabled).
2	Front Microphone - Use for voice communications.
3	Front Facing Camera - Use for video conferencing.
4	Camera Indicator LED - Lights red when the camera is activate. Momentarily lights red when the device boots and shuts down.
5	Charging Indicator LED - Indicates charging status. • OFF - device is not connected to charger. • ORANGE - device is charging. • GREEN - device is connected and fully charged. • RED - charge error.
6	Windows Button - Press to launch the Windows Start screen.

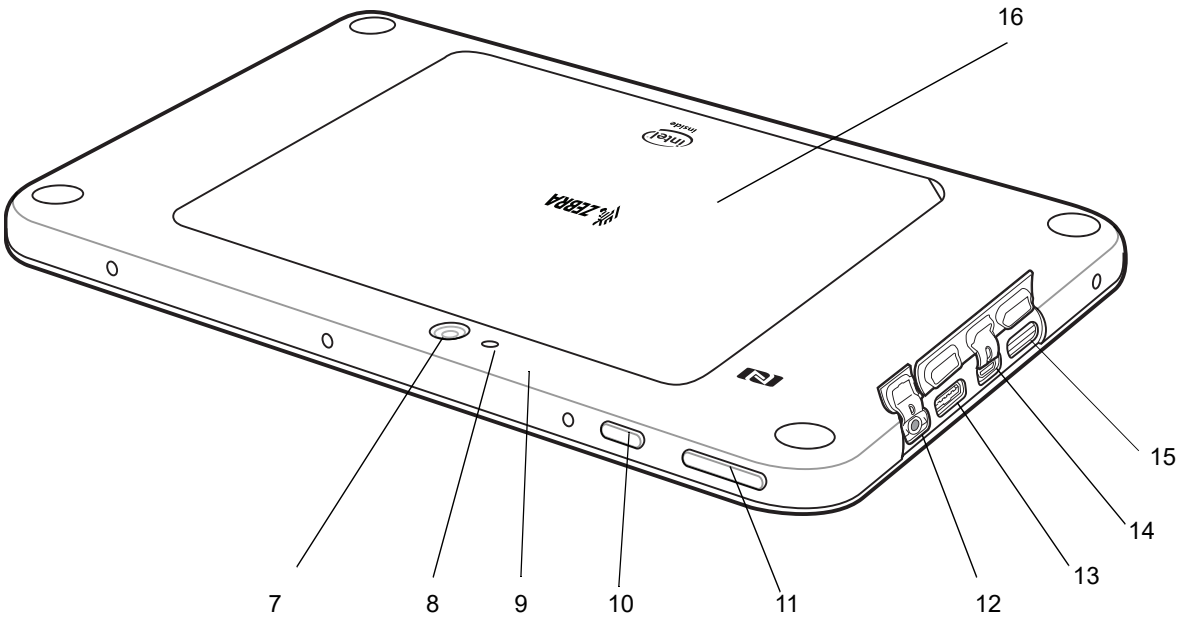


Figure 1-2 *Back View*

Table 1-2 *Back View*

Item	Description
7	Rear Camera - 8MP auto-focus camera for high resolution images and video.
8	Camera LED Flash - Provides illumination for the camera.
9	Rear Microphone - Use during video recordings.
10	Power Button - Push once to start the ET5X; push it again to enable sleep mode. Push and hold it to shut down the ET5X.
11	Volume Key - Push the left side to reduce the volume. Press the right side to increase the volume.
12	3.5 mm Audio Jack - Use to connect to headset with microphone.
13	USB 2.0 Port - Provides input for USB devices.
14	Micro USB Interface (charging only) - Provides for charging the ET5X using USB cable and power supply.
15	MicroSD Card Slot - Provides storage for microSD Card (up to 2 TB).
16	Back Cover - Covers the service replaceable battery.

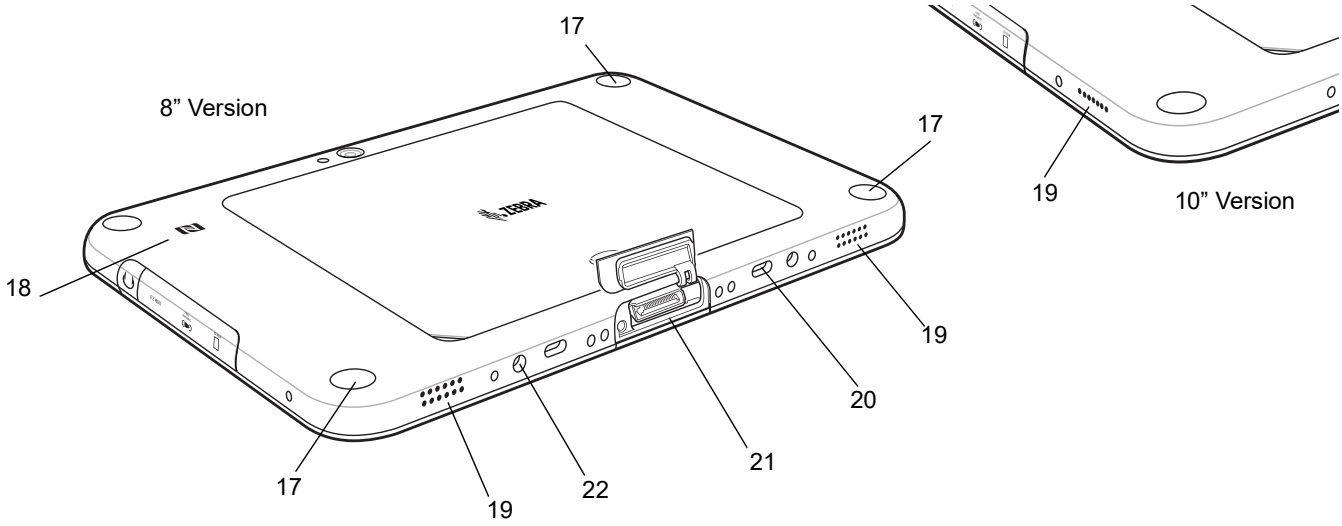


Figure 1-3 *Bottom View*

Table 1-3 *Bottom View*

Item	Description
17	Mechanical Fixing Points - Use to attach accessories. Three mounting points under discs (8” version only).
18	NFC Antenna Position - Use to read NFC cards and RFID tags.
19	Stereo Speakers - Provides audio playback.
20	Latching Slots - Provides locking mechanism when docking the tablet to the Communication and Charging Cradles.
21	Docking Connector - Interfaces with the cradle.
22	Alignment Holes - Use to align the tablet with the cradles.

Getting Started

In order to start using the ET5X for the first time:

- install the micro SIM Card (ET55 only)
- install microSD card (optional)
- start the ET5X
- configure the ET5X.

The main battery can be charged before or after it is installed. Use one of the spare battery chargers to charge the main battery (out of the ET5X), or one of the cradles to charge the main battery installed in the ET5X.

Installing a micro SIM Card (ET55 Only)

CAUTION Do not use nano to micro SIM card adapters.

NOTE If changing the SIM card with another SIM card, after rebooting the device, in Network settings, re-select **Connect automatically** before using device.

To install a micro SIM card:

1. Press the Power button to turn off the ET55.
2. Lift the notched corner of the battery cover.

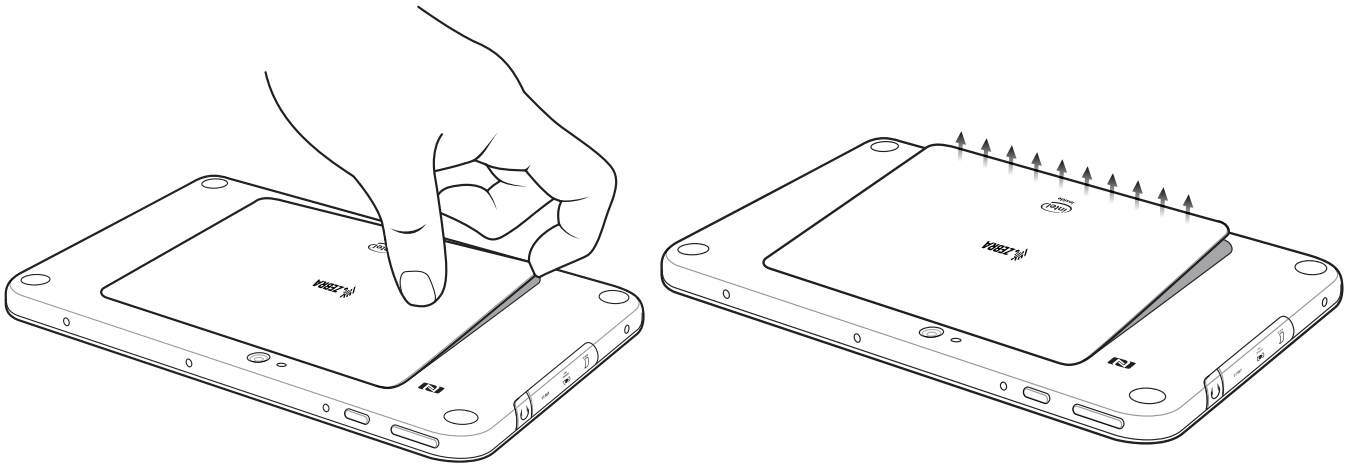


Figure 1-4 *Removing the Battery Cover*

3. Carefully lift the battery cover off the ET55.
4. On the 8” version, push the two locking tabs up, then pull up on the tab to remove battery.

   On the 10” version, push the two locking tabs up (1), then, using index fingers, lift the battery up (2).

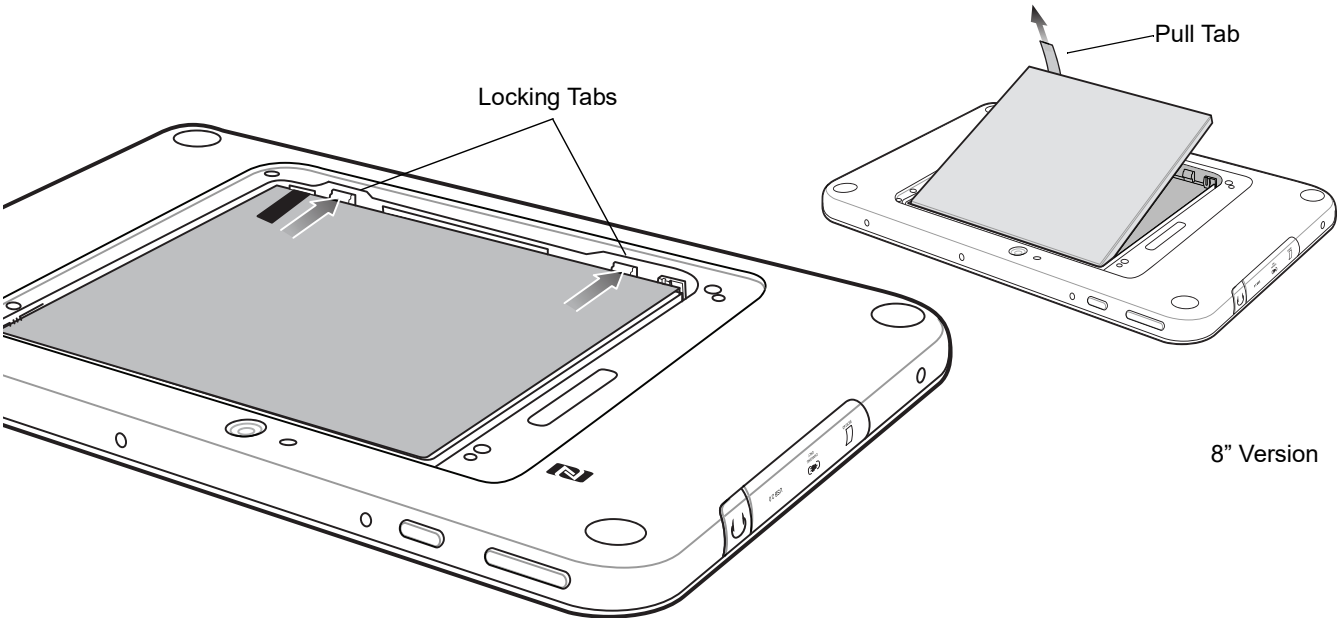


Figure 1-5 *Removing the Battery - 8”*

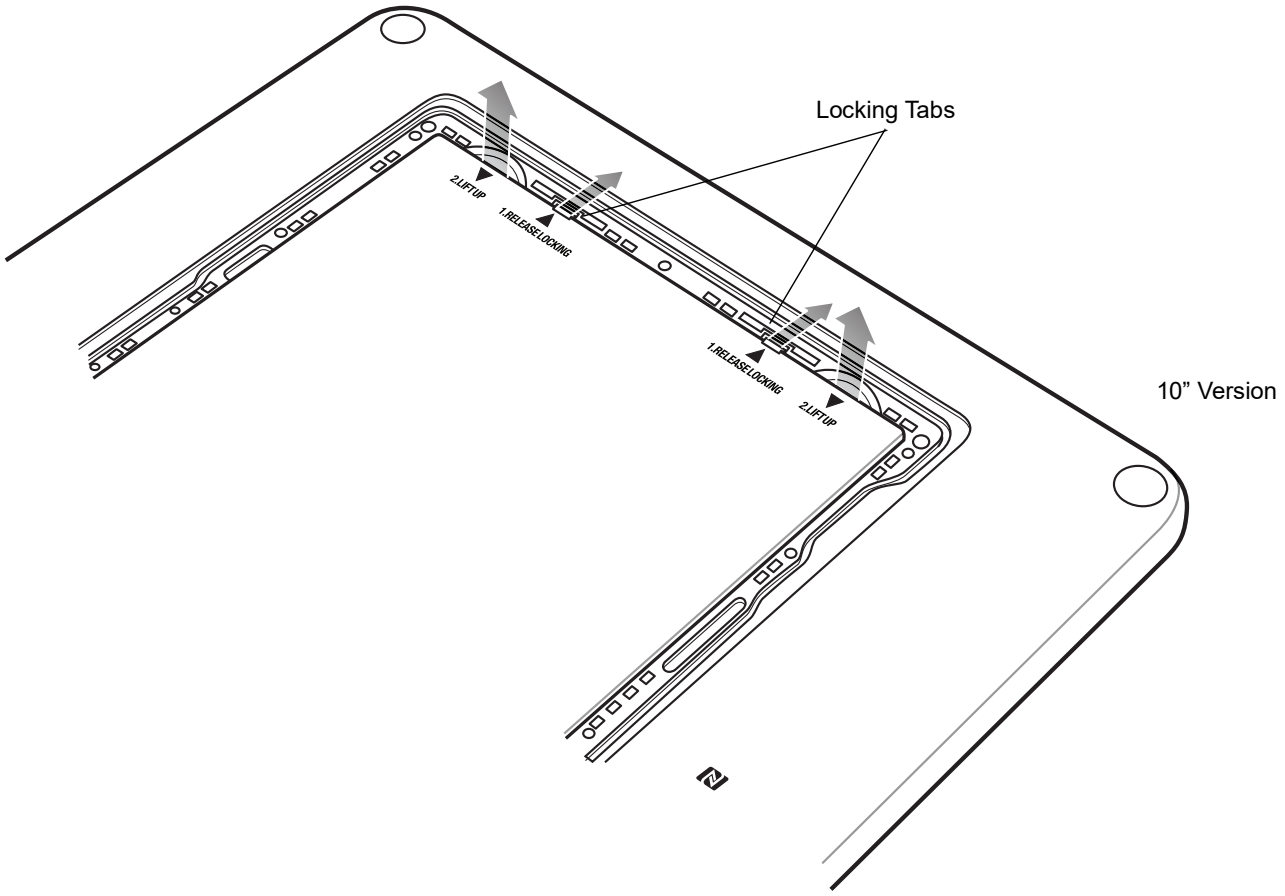
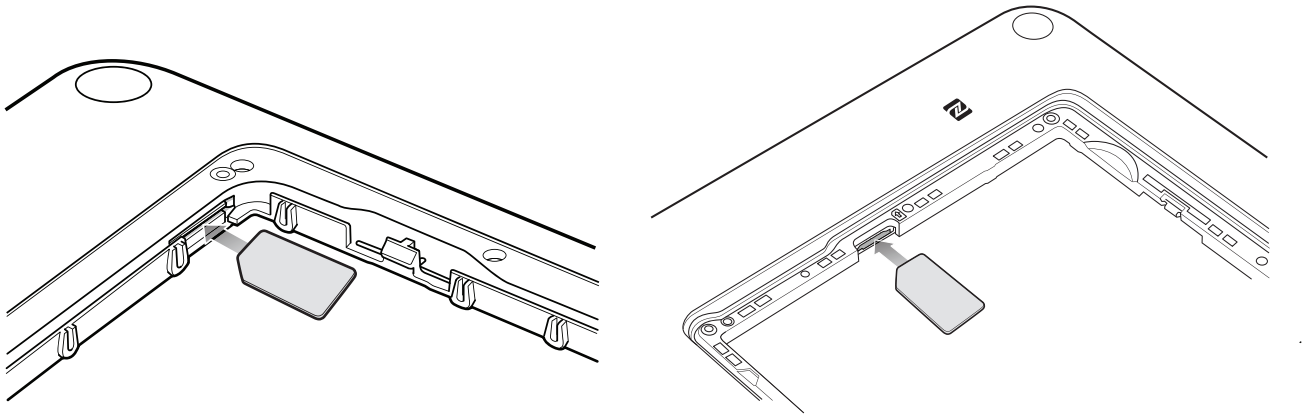


Figure 1-6 *Removing the Battery - 10”*

5. Insert the micro SIM card with contacts facing down.



8” Version 10” Version

Figure 1-7 *Insert micro SIM Card*

6. Push the micro SIM card in and ensure that it locks into place.
7. Replace the battery.

   On the 10” version, ensure that the two battery latches engage.

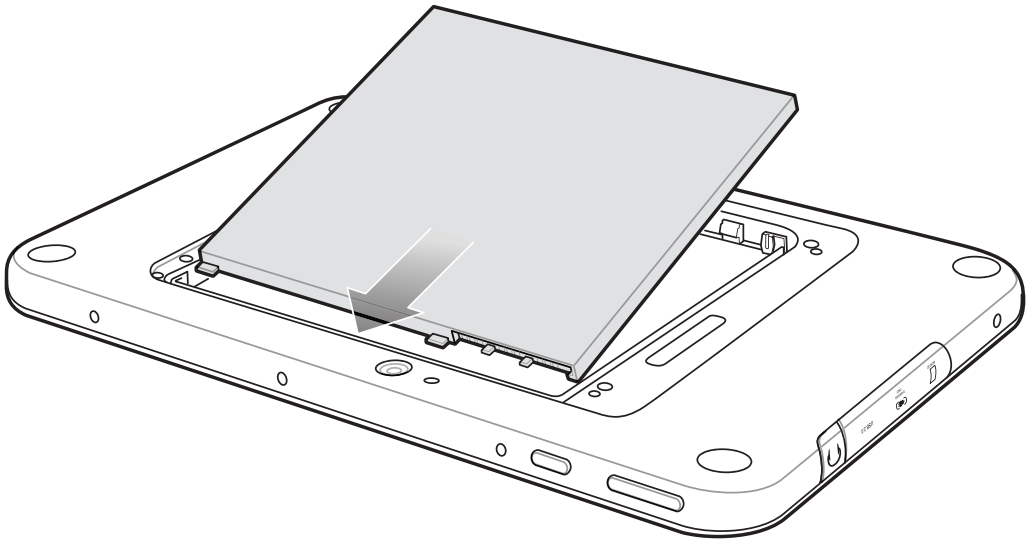


Figure 1-8 *Insert Battery*

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

8. 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 ET5X.

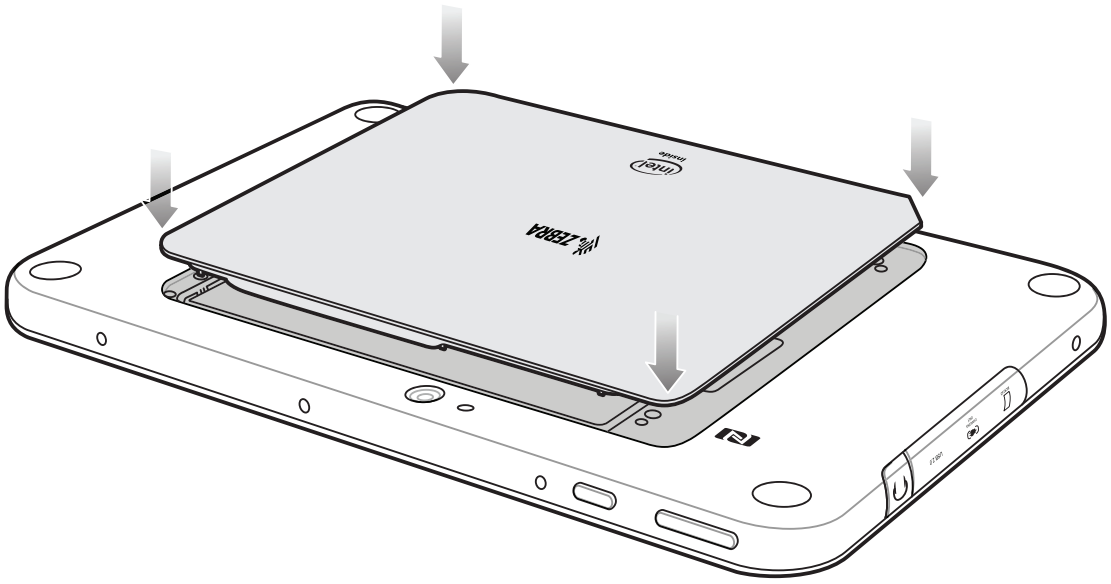


Figure 1-9 *Align Battery Cover*

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

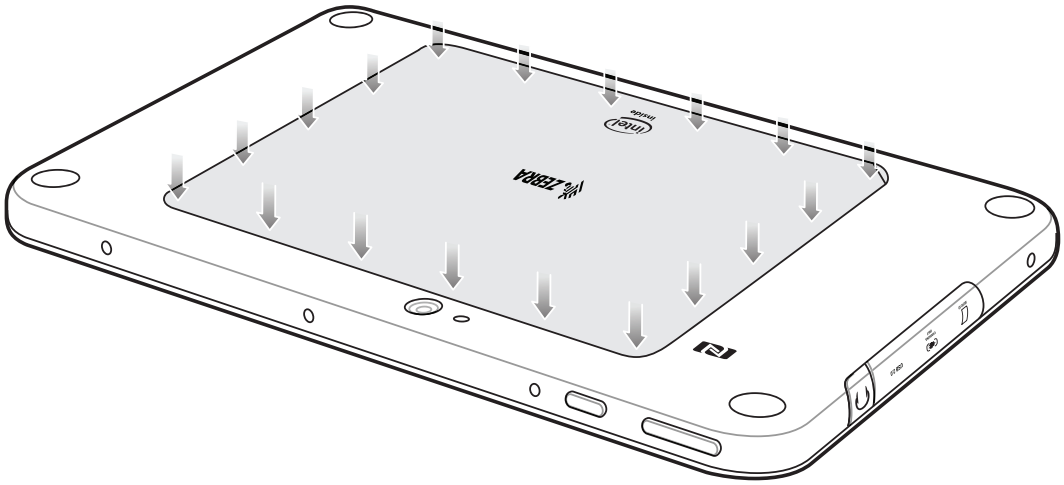


Figure 1-10 *Press Down on Battery Cover*

10. Press Power button to turn on the ET55.

Install a microSD Card

To install a microSD card:

1. Open access door.

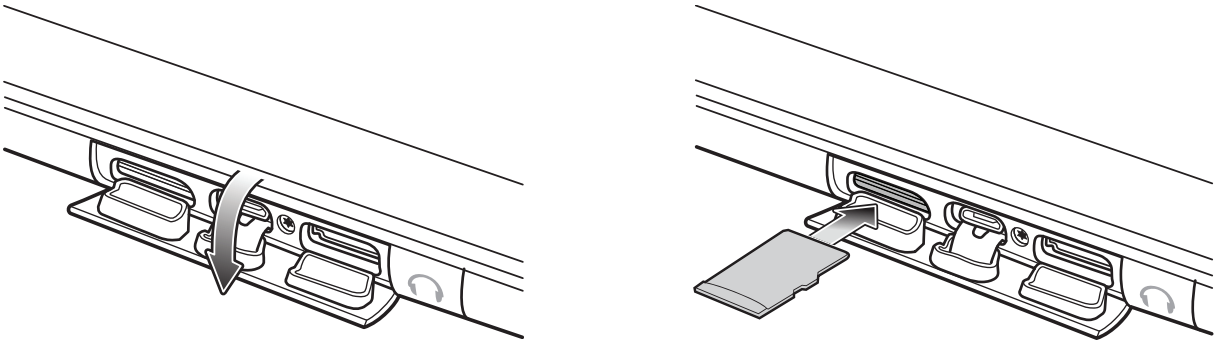


Figure 1-11 *Open Access Door*

2. Insert microSD card into slot with contacts facing down.
3. Press the card in to ensure that it is seated properly.
4. Close access door.

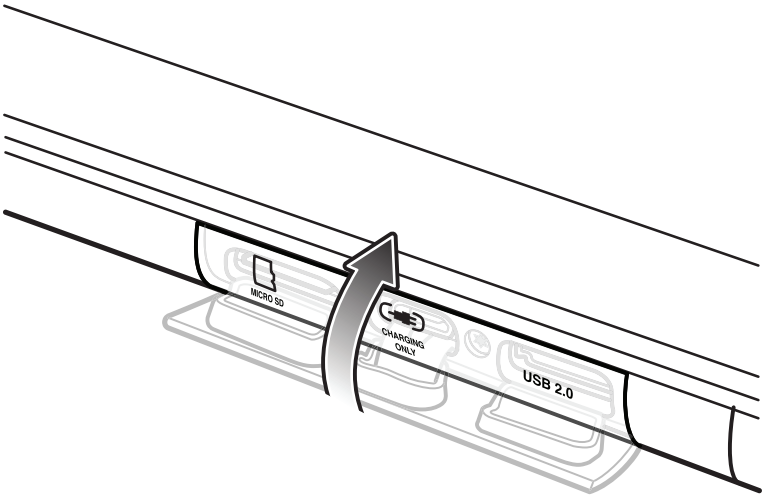


Figure 1-12 *Close Access Door*

Charging the ET5X

Use the one of the available accessories to charge the ET5X. See Chapter 5, Accessories for charging accessories.

The 8” 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” 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 ET5X is connected to AC power.

Table 1-4 *Charging Indicator*

LED	Indication
Off	ET5X is not in cradle. ET5X is not seated properly. Cradle is not powered.
Orange	ET5X is charging.
Green	Charging complete. Note: When the battery is initially inserted in the ET5X.
Red	Error in charging; check placement of the ET5X.

Removing the microSD Card

To remove the microSD card:

1. Touch the Desktop tile to enter Desktop mode.
2. Touch Safely Remove Hardware in the notification area at the bottom-right corner of the screen.
3. Touch Eject SD Memory Card. A message appears confirming that the microSD card can be safely removed. If a warning message appears stating the microSD card cannot be removed, make sure all data transfers involving the microSD card are complete.
4. Open access door.

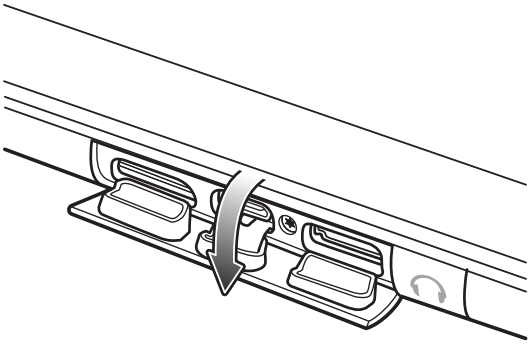


Figure 1-13 *Open Access Door*

5. Press on the microSD card to release it.
6. Close access door.

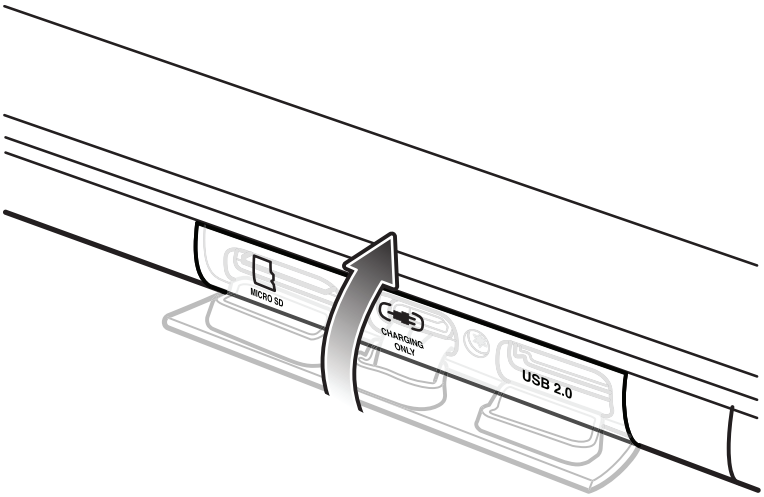


Figure 1-14 *Close Access Door*

Turning Off the ET5X

Using the power button:

1. Press and hold the power button for at least 4 seconds.
2. Swipe-down the shutdown confirmation screen to the bottom edge of the display to turn off the ET5X.

Using Settings:

1. Swipe-in from the right edge of the display.
2. Touch **Settings** > **Power** > **Shut down** to turn off the tablet.

Turning Off the Screen

- Using the power button:
  Press the power button to turn off the screen.
- Using Settings:
  Swipe-in from the right edge of the display then touch **Settings** > **Power** > **Sleep**.

NOTE If the ET5X is in a sleep mode (tablet is on, but screen is off), press the power button or Windows button once to turn on the screen.

Turning Off the Radios

Turn on Airplane mode when traveling on an airplane or when you don't need Wi-Fi or Bluetooth for a while. Airplane mode extends the amount of time before the battery needs recharging. To place the ET5X in Airplane mode:

1. In the Task Tray, touch .

Figure 1-15 *Wi-Fi Options*

2. Touch **Airplane mode** option.

   The option box turns blue and the airplane icon appears in the Taskbar indicating that the tablet is in Airplane mode.

When Airplane mode is on, the Wi-Fi, Bluetooth, GNSS and NFC radios are turned off. You can turn on these radios but the WAN radio.

To turn on the radios in Airplane Mode:

1. In the Task Tray, touch .
2. Touch **Wi-Fi** option.

   The option box turns blue indicating that Wi-Fi is on.

Adjusting the Volume

You can adjust the volume:

- **Volume -** Use the volume-up /volume-down button on the top of the ET5X
- **Taskbar** - Touch on the Task Tray and adjust the slider.

Checking Battery Status

Main Battery

To check the charge level of the main battery:

- **Taskbar** - Battery status appears on the taskbar. Tap the battery icon to see the percentage remaining.

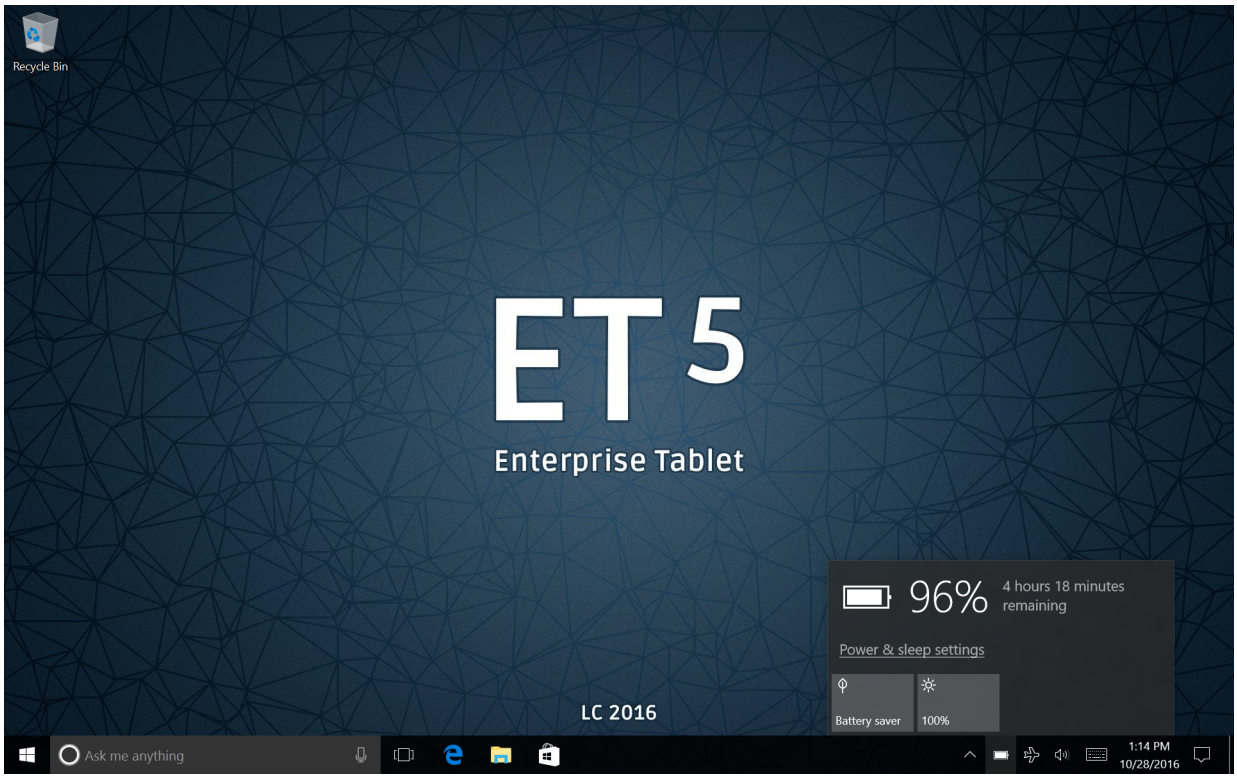


Figure 1-16 *Taskbar*

When a low battery warning displays, dock the ET5X into a cradle. If you don't recharge the battery, the ET5X eventually saves your work and shut down.

Table 1-5 *Battery Status*

Icon	Description
	ET5X is connected to external power and the main battery is fully charged.
	ET5X is connected to external power and the main battery is charging.
	ET5X is on battery power and the main battery is discharging.

Table 1-5 *Battery Status (Continued)*

Icon	Description
	ET5X is on battery power and the main battery charge is low.
	ET5X is on battery power and the main battery charge is critically low.

IMPORTANT When the Power Pack is installed and charging the ET5X main battery, the Battery Status icon does not indicate charging. This is normal behavior.

Power Pack

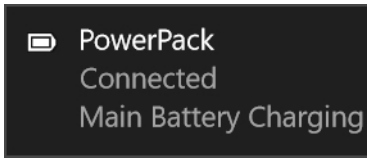
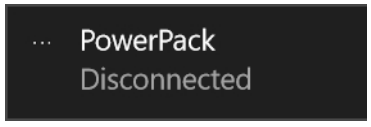
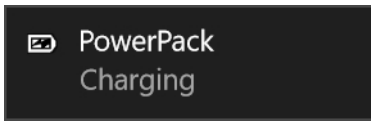
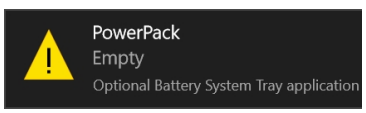
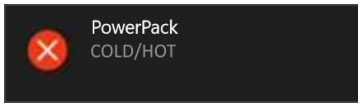
The optional Power Pack provides additional power to charge the main battery.

Power Pack status appears on the desktop taskbar.

NOTE The Power Pack Status icon appears when a notification occurs. To always display the icon, select > **Customize**. In the **Notification Area Icons** window, check the **Always show all icons and notifications on the taskbar** and then select **OK**.

Tap the Power Pack icon to see the status.

Table 1-6 *Power Pack Status*

Icon	Message Box	Description
		Power Pack is connected to the ET5X.
		Power Pack is removed from to the ET5X.
		Power Pack is connected to the ET5X and the ET5X is in the dock changing.
		Power Pack is fully discharged.
		Power Pack is outside its operating temperature (-10°C to 50°C/14°F to 122°F).

To view the Power Pack charge level:

1. Remove the Power Pack from the Expansion Back.
2. Press the Charge Status button. The Charge Status LEDs light to indicate the charge level.

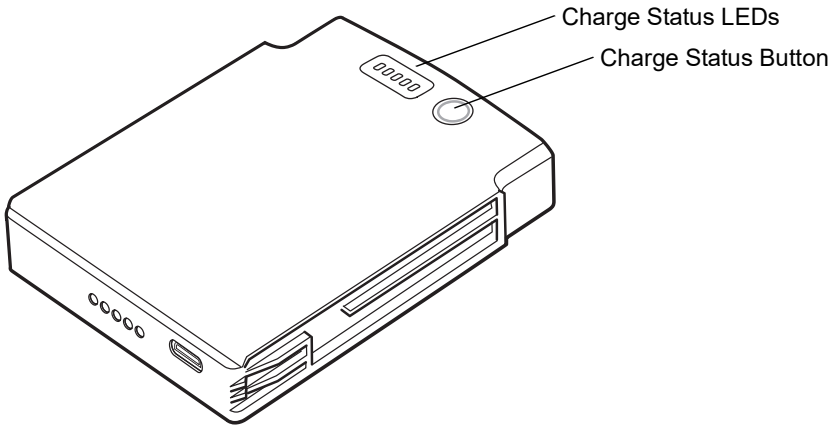


Table 1-7 *Power Pack Charge Status Indicators*

Power Pack Indicators	Description
	Charge level is 100%.
	Charge level is 80%.
	Change level is 60%.
	Charge level is 40%.
	Charge level is 20%.
Blinking	Charge level is below 20%.

Battery Management

Battery Saving Tips

- Set the ET5X to turn off after a short period of non-use.
- Set the display to turn off or dim backlight.
- Turn off all wireless radio activity when not in use.

Changing the Power Settings

To set the ET5X to turn off after a short period of non-use:

1. In the Task Tray, touch .
2. Touch **All Settings** > **System** > **Power and sleep**.
3. Under **Sleep**, choose when you want the ET5X to go to sleep (on battery power and when plugged in).

Manually Changing the Display Brightness

To manually change the display brightness:

1. In the Task Tray, touch .
2. Touch **All Settings** > **System** > **Display**.
3. Under **Adjust brightness level**, move the slider to adjust the brightness.

Automatically Changing the Display Brightness

To toggle automatic brightness:

1. In the Task Tray, touch .
2. Touch **All Settings** > **System** > **Display**.
3. Under **Change brightness automatically when lighting changes**, slide the switch to the **On** or **OFF** position.

Screen Orientation

For optimal viewing experience, the screen orientation changes automatically to portrait or landscape depending on how you hold the ET5X. You can disable automatic screen rotation and lock the screen in portrait or landscape mode.

NOTE Some applications may not support automatic screen rotation and are designed to work only in one orientation.

To lock the screen orientation:

1. In the Task Tray, touch .
2. Touch **All Settings** > **System** > **Display**.
3. Rotate the screen to the desired orientation.
4. Under **Lock rotation of this display**, slide the switch to the **On**.

Restarting the ET5X

If the ET5X is running slow or some applications are not functioning properly, reset the device:

1. Touch .
2. Touch > **Reset**.
3. The device restarts.

Performing a Cold Boot

If the ET5X does not respond to any input, perform a cold boot:

1. Press and hold the power button for at least 10 seconds. The ET5X shuts down.
2. Press the Power button to turn on the device.

CHAPTER 2 USING THE TABLET

Introduction

This chapter provides instructions on how to use some basic applications and many of the ET5X features.

Start Screen

By default, the Start screen displays in either Tablet mode.

Live Tiles on the Start screen change and update in real time to show news and sports updates, weather updates, social-networking feeds, etc.

The tile-based user interface gives direct access to the most recently used applications, emails, photos, contacts, updates from social-networking sites, and frequently viewed websites. User can pin favorite apps as tiles to customize the Start screen.

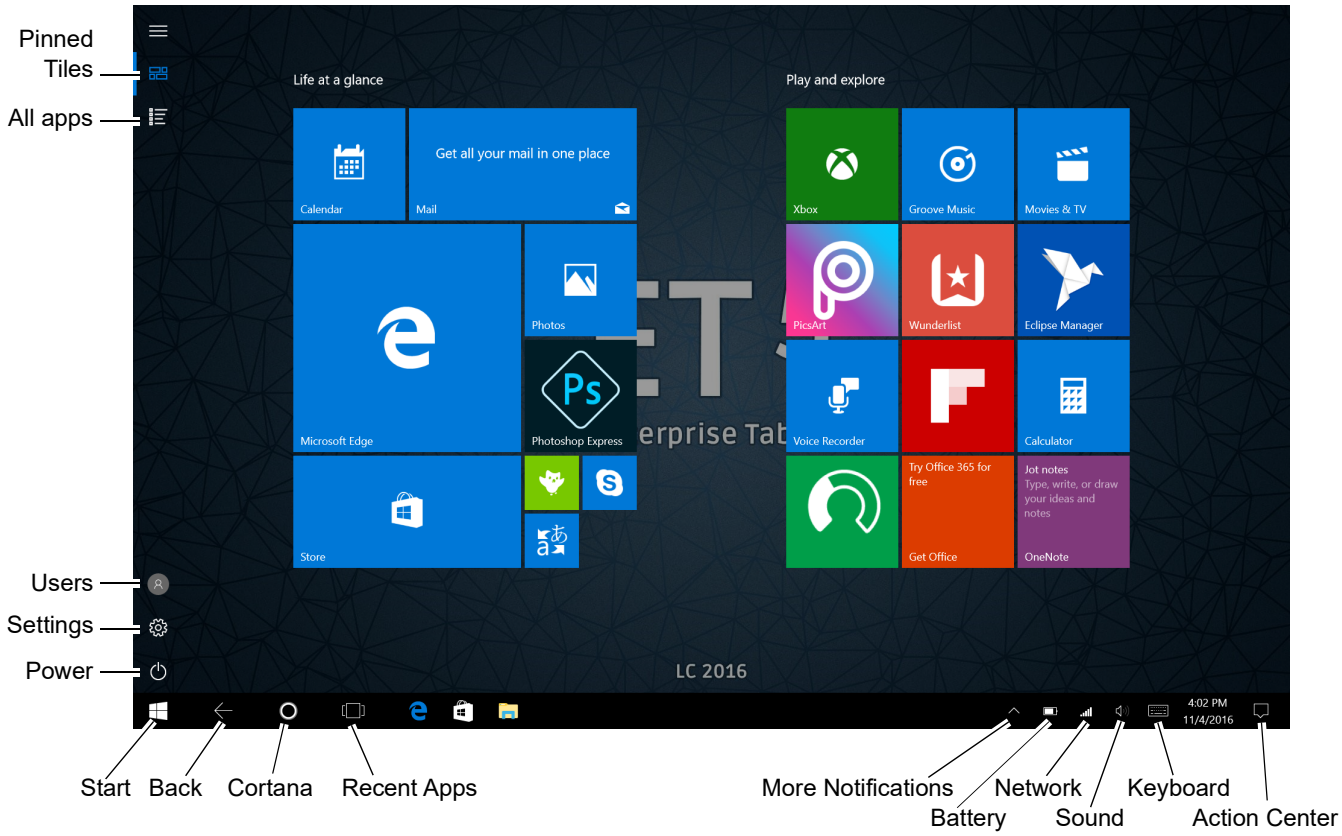


Figure 2-1 *Start Screen - Tablet Mode*

- Pinned tiles - Places the Home screen in Tile view.
- All apps - Lists all applications alphabetically.
- Users - Opens user account window, locks screen or logs user off the device.
- Settings - Opens the **Settings** window.
- Power - Touch to place the device in sleep mode, shutdown or restart.
- Start - Access the Home screen from any other window.
- Back - Displays the previous screen.
- Cortana - Opens voice activated search window.
- Recent Applications - Displays all open applications.
- More Notifications - Open additional notification icons.
- Battery - Display current battery status.
- Network - Opens the network settings Action Center.
- Sound - Use to control audio volume level.
- Keyboard - Opens the virtual keyboard.
- Action Center - Provides easy access to some frequently used settings and notifications. Touch the icon to open the Action Center. The first row of setting option boxes display and any notifications. Touch Expand to view all setting option boxes. See *Action Center on page 2-4* for more information.

Customizing the Start Screen

Choose a background photo and pin a favorite app to the Start screen. Live tiles allows the user to see updates on news, weather, finance, etc., immediately on the Start screen without opening the app.

Moving Tiles

The user can rearrange tiles on the Start screen. To move a tile to a different location:

1. Touch and hold a tile. The tiles float on the screen.
2. Drag the tile to a new location. Other tiles move as the floating tile move over them.
3. Lift finger and drop the tile.
4. Touch the screen.

Resize a Tile

The user can change the size of tiles on the Start screen. To resize a tile:

1. Touch and hold the tile.
2. Touch ⋯.
3. Touch **Resize** > **Small**, **Medium**, **Wide** or **Large**.

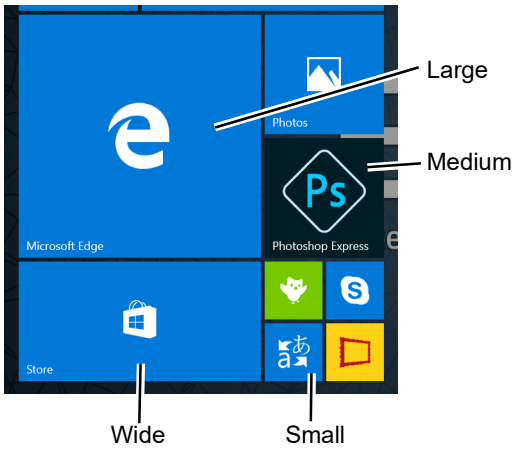


Figure 2-2 *Tile Sizes*

Unpin a Tile

To unpin the tile and remove it from the Start screen:

1. Touch and hold the tile.
2. Touch 📌.

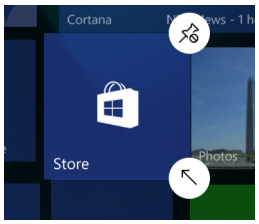


Figure 2-3 *Unpin Tile*

3. The Tile no longer appears in the Start screen.

Pinning an App on the Start Screen

To pin an app onto the Start screen:

1. Touch the **All app** icon to go to the All Apps screen.
2. Touch and hold the app until the menu appears.
3. Touch **Pin to Start**. The app tile appears on the Start screen.

Changing Start Screen Background

To change the Start screen background image:

1. Touch **All settings** > **Personalization** > **Backgrounds**.
2. In the **Background** drop-down list, select **Picture**.
3. Choose a picture or touch **Browse** to locate a picture on the device.
4. Select a photo and touch **Choose picture**.
5. In **Choose a fit** section, select either **Fill, Fit, Stretch**, **Tile**, **Center** or **Span**.
6. Touch .

Action Center

The Action Center provides easy access to some frequently used settings and notifications.

To open the Action Center, touch the Action Center icon. The first row of setting option boxes display and any notifications.

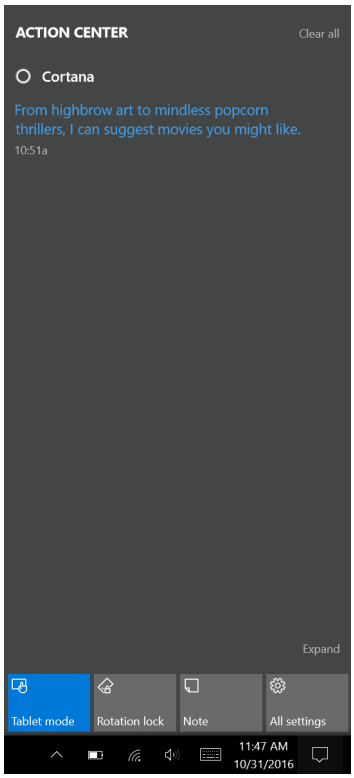


Figure 2-4 *Action Center*

Touch **Expand** to view all setting option boxes.

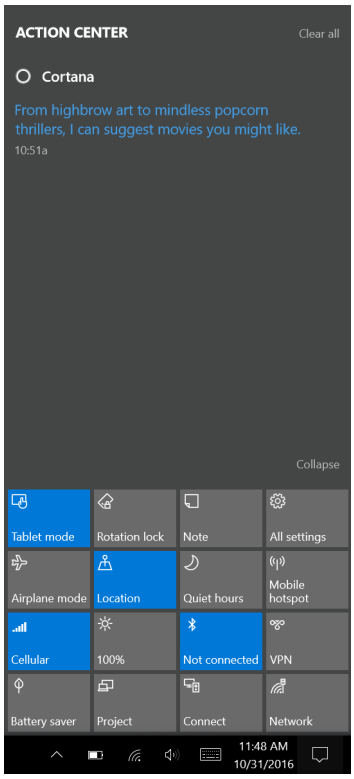


Figure 2-5 *Action Center Expanded*

The Action Center settings:

NOTE Highlighted titles indicate that the setting is enabled.

- **Tablet Mode** - Turns tablet mode on or off.
- **Rotation lock** - Touch to lock the screen in the current orientation.
- **Note** - Opens the OneNote application, if installed.
- **All settings** - Opens the Settings screen.
- **Airplane Mode** – Displays the Airplane mode status. Touch to toggle Airplane mode on and off. Turn on Airplane mode to turn off all the radios.
- **Location** - Displays the current state of the Location settings. Touch to enables or disables locationing. Default - Enabled.
- **Quiet hours** - Enable to hide notifications. Requires Contana to set quiet hours.
- **Mobile Hotspot** - Share internet connection with other devices (ET55 only).
- **Cellular** - Turns cellular connection on or off (ET55 only).
- **Screen Brightness** - Touch to change the screen brightness settings. Options: **Automatic** (default), **25%**, **50%**, **75%** or **100%**.
- **Bluetooth** – Displays the current state of the Bluetooth radio. Touch to turn Bluetooth on or off.
- **VPN** - Opens the VPN settings screen to add or connect to a VPN.
- **Battery Saver** - Places the device in battery saver mode.
- **Project** - Use to project the tablet screen onto a projector or monitor.
- **Connect** - Connects the device to Bluetooth audio devices and wireless displays.
- **Flashlight** - Turns the rear camera flash LED on or off.
- **Camera** - Opens the Camera application.
- **Network** - Indicates Wi-Fi network connection status. Touch to turn Wi-Fi on or off.

To close the Action Center, touch the icon or touch .

Notifications

Notification icon reports the arrival of new messages, calendar events, and alarms. When a notification occurs, the icon turns white. Open the Action Center to view a list of all the notifications.

To respond to a notification, open the Action Center and then touch a notification. The Action Center closes and the subsequent activity is dependent on the notification.

To delete a notification, swipe the notification to the right.

To close the Action Center, touch the icon or touch .

Personalize the Action Center

To change the Action Center:

1. Swipe down from the top of the screen.
2. Touch **All settings** > **System** > **Notifications & actions**.
3. Press and hold a quick action. and drag to rearrange. The top four options appear in Collapse view.

To select which notifications to receive and how:

In the **Notification** section, touch the switches to turn off or on the particular notification.

Configuring Tablet Mode

The user can configure how the tablet Start screen displays depending upon if it is being used as a tablet or docked in a cradle.

To configure tablet mode:

1. Touch **All Settings** > **System** > **Tablet mode**.

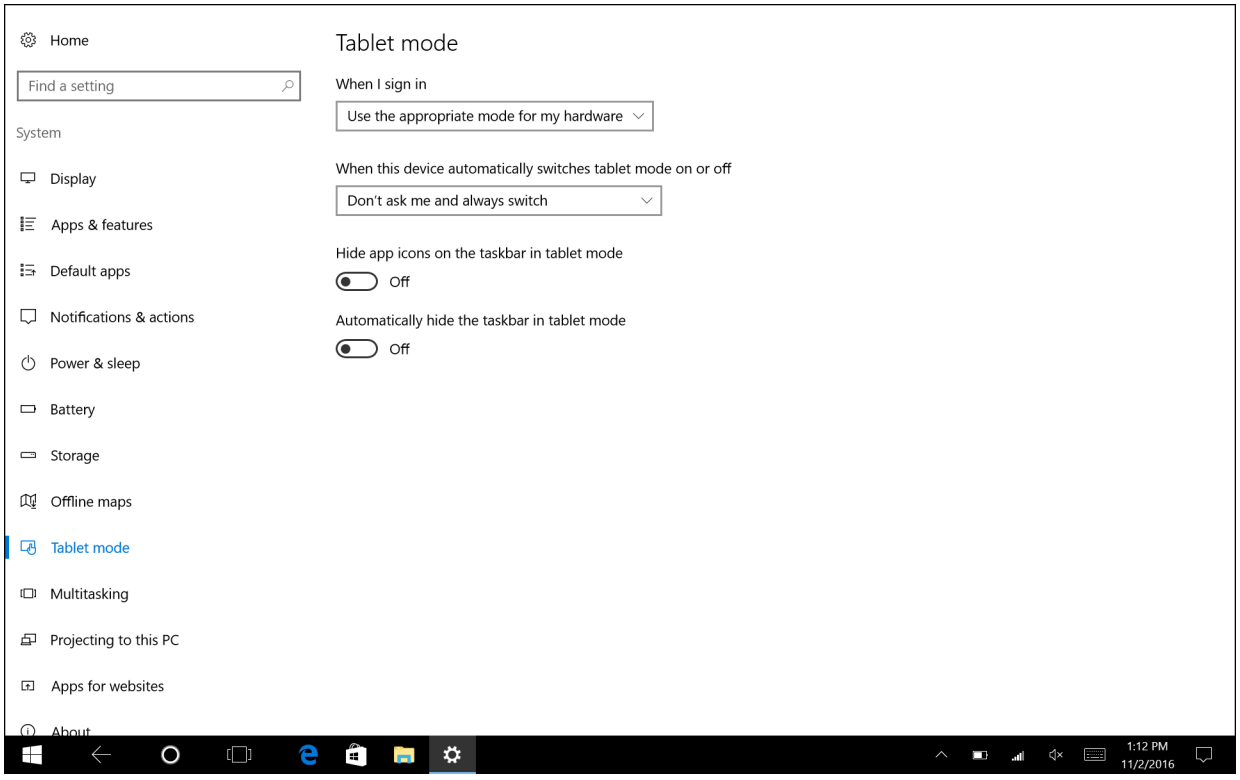


Figure 2-6 *Tablet Mode Settings*

- When I sign in
  - Use tablet mode - set to tablet mode after signing in.
  - Use desktop mode - set to desktop mode after signing in.
  - Use the appropriate mode for my hardware - let the tablet determine if it is

- When this device automatically switches tablet mode on or off
  - Don’t ask me and don’t switch
  - Always ask me before switching
  - Don’t ask me and always switch
- Hide app icons on the taskbar in tablet mode - enable to hide application icons in the taskbar.
- Automatically hide the taskbar in tablet mode - enable to hide the taskbar when in tablet mode.

Using the Multi-Touch Screen

Depending on the application, some gestures might not be available.

- **Touch**: Open an application or perform an action on an open application, such as copy, save and delete, depending on the application.
- **Touch and hold**: Open a menu.
- **Slide**: Scroll through items, such as lists, pages, and photos.
- **Drag**: Move an object.
- **Move two fingers closer together**: Zoom out.
- **Move two fingers farther apart**: Zoom in.
- **Put two or more fingers on an item and then rotate your fingers clockwise or counterclockwise**: Rotate an item.
- **Swipe in from the right edge**: Display the Action Center.
- **Swipe in from the left edge**: Displays open applications.
- **Swipe in from the top or bottom edge of the Start screen,** touch **Customize**, and then tap the desired icon: Customize tiles on the Start screen, or uninstall an application.
- **Swipe in from the top edge to the bottom on an open application**: Close the current application.

Using the On-Screen Keyboard

Use the On-Screen Keyboard to type text, numbers, symbols, and other characters. The touch keyboard and handwriting panel also can be used to perform handwriting.

When you rotate the ET5X, the On-Screen Keyboard or the touch keyboard and handwriting panel automatically rotates to the corresponding portrait or landscape view.

To open the On-Screen Keyboard:

1. Swipe in from the right edge of the screen.
2. Touch the **Search** icon to search for **Keyboard**.
3. Tap **On-Screen Keyboard.**

To open the touch keyboard and handwriting panel:

1. Swipe in from the right edge of the screen.
2. Tap the **Settings** icon.
3. Tap **Keyboard**. Touch **keyboard and handwriting panel**.

To configure the input language:

1. From the desktop, swipe in from the right edge of the screen.
2. Tap **Settings** > **Control Panel**.
3. Tap **Clock, Language, and Region** > **Change input methods**.
4. Follow the instructions on the screen to configure the input language.

Using the Active Stylus

NOTE Active Stylus is only supported on 10” tablet.

The optional Active Stylus provides easy writing, drawing, and navigation and accuracy with the thin tip and hovering capabilities. The stylus is designed to work on the ET5X 10” model as an alternative to finger touch input. Use the stylus to select objects, drawing, taking notes, and signing documents.

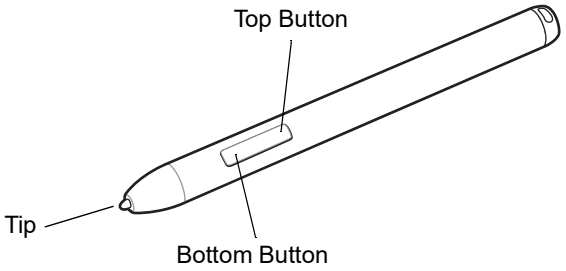


Figure 2-7 *Active Stylus*

To activate the stylus, press the tip against the screen. To save power, the pen automatically deactivates if the tip has no pressure for one minute. If the pen has not been used within the last minute, press the tip against the screen before using the stylus.

To perform a mouse left click, press the tip of the stylus on the object to click.

To drag and select multiple objects or text on the screen, press the tip against the screen and drag.

To perform a mouse right click, place the tip of the stylus on the object, hold down until a circle appears and then release.

To switch from stylus to touch mode, lift the pen off the screen and wait about 1.5 seconds before touching the screen.

The two position button provides additional functionality depending upon the application. For example, in the **Windows Journal** application, press the top potion of the button to activate the erase feature or the bottom of the button to activate the selection feature.

Using the Camera

To take photos or videos:

1. Open the Camera application. The Camera Indicator LED lights red.
2. Point the ET5X camera at an object.
3. Touch the on-screen shutter button to take a photo or record a video.

Figure 2-8 *Taking Photos*

Reading NFC Cards and RFID Tags

The ET5X supports reading NFC cards and RFID tags. The NFC antenna is located on the back of the device under the NFC logo.

With an NFC enabled application open, bring the NFC card toward the antenna. Depending upon the application, an audio or visual indication indicates successful reading of the card.

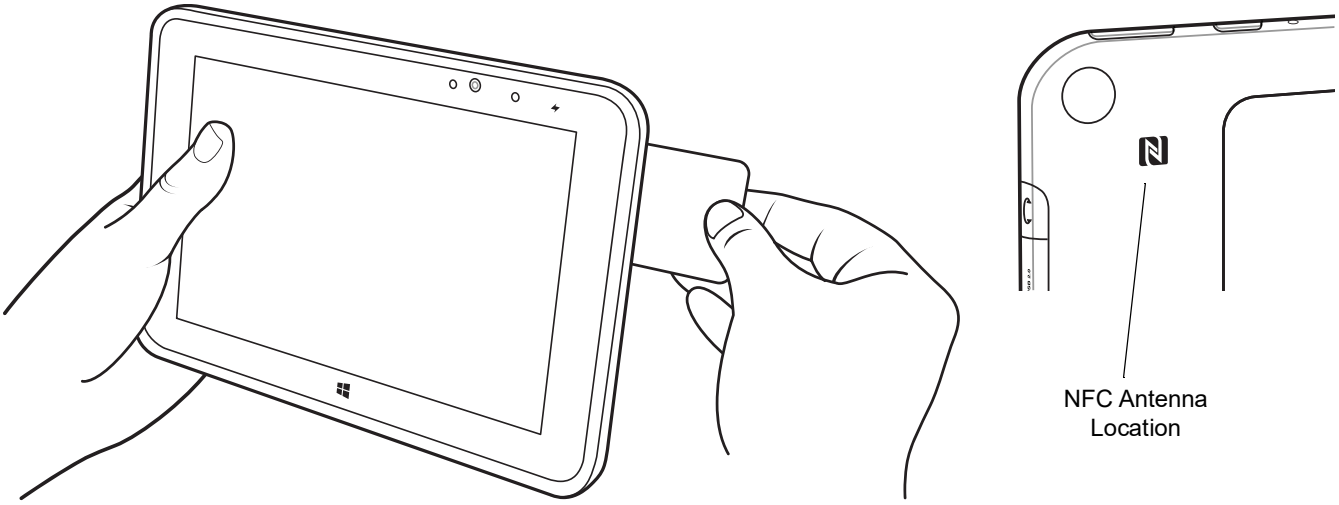


Figure 2-9 *Reading NFC Card*

Taking a Screenshot

To take a screenshot of the ET5X's screen, press the volume up key and the Windows logo below the screen at the same time.

To view or manage the screenshots taken, touch **Photos** > **Albums** > **Screenshots**.

CHAPTER 3 WIRELESS

This section provides information on the wireless features:

- Wireless Wire Area Network (WWAN)
- Wireless Local Area Network (WLAN)
- Bluetooth
- Near Field Communications (NFC).

The ET5X can connect to a variety of networks and devices, including mobile networks (3G or 4G), Wi-Fi data networks, Bluetooth and NFC devices.

NOTE Some configurations can connect to both mobile networks (3G or 4G) and Wi-Fi networks, while others can only connect to Wi-Fi networks. If the tablet supports Wi-Fi connection only, the information related to mobile networks does not apply to the tablet.

Wireless Wide Area Networks

A micro SIM card is required to connect to a mobile network.

CAUTION Do not use nano to micro SIM card adapters.

To connect to a cellular data network:

1. Ensure that an activated SIM card is installed.
2. Touch in the taskbar.
3. Touch the **Cellular** option to turn on the WAN radio if required.
4. Touch the Cellular network in the list.

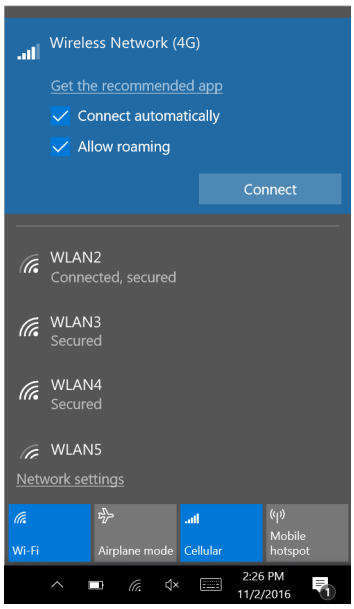


Figure 3-1 *Cellular Connection*

5. Touch **Connect automatically** to automatically connect to the cellular data network when it is available. Clear the check box to manually connect each time you want to use the cellular data connection.
6. Touch **Allow roaming** to allow the cellular data connection to stay on when outside of the mobile operator's network. Leaving the check box cleared can help prevent data roaming charges.
7. Touch **Connect**.
8. The name of the mobile operator appears next to the Cellular network icon .
9. If prompted, type your user name and password and the access point name (APN).

If you select the Network icon (Wi-Fi icon or Ethernet icon) in the taskbar and the Cellular quick action is turned off, select it to turn it on. When off, the cellular radio is turned off, and the user cannot connect to a cellular network.

Add an Internet APN

The Internet access point name (APN) is the address the tablet uses to connect to the Internet when using a cellular data connection. Usually, the Internet APN is set automatically.

If your cellular data connection isn't working, try entering a new Internet APN based on the mobile operator. Contact the system administrator for more information.

To add an Internet APN, type an address in the APN box. The other settings are optional and depend on the mobile operator.

1. Touch > **Settings** > **Network & Internet** > **Cellular**.
2. Touch the cellular connection name.
3. Touch **Advanced options**.
4. Under the **Security** section, touch **Unblock SIM PIN**.
5. Touch **Add an Internet APN**.
6. Update one or more of the following:

- In the **Profile name** box, type a name for the APN profile.
- In the **APN** box, type the address for the APN to use.
- In the **User name** box, type the user name for your mobile account.
- In the **Password** box, type the password for your mobile account.
- Select **Type of sign-in info** drop-down list and then select the authentication method.

NOTE For ET55RE and ET55RT, do not select **IPv6**. IPv6 is not supported on these devices.

- Select **IP type** drop-down list and then select the type of IP address.

7. Touch the **Apply this profile** check box if you want the APN profile to be used right after you save it.
8. Touch **Save** > **OK**.

Use SIM PIN

Determines if you want to use a PIN for the SIM in the device to help prevent other people from using the cellular data connection when not authorized. After setting up the SIM PIN, enter the SIM PIN when trying to connect.

1. Touch > **Settings** > **Network & Internet** > **Cellular**.
2. Touch the cellular connection name.
3. Touch **Advanced options**.
4. Under the **Security** section, touch **Unblock SIM PIN**.
5. Enter the SIM PIN.

   If this is the first time using it, type the default SIM PIN. If you don't know the default SIM PIN, visit your mobile operator's website to see if they list it there. You'll need to restart tablet for the cellular data connection to be locked with a SIM PIN.

   If already set up a PIN for the SIM, type the SIM PIN when prompted, and then select **OK**.

Remove SIM PIN

If you're using a SIM PIN and decide you do not want to use a PIN anymore:

1. Touch > **Settings** > **Network & Internet** > **Cellular**.
2. Touch the cellular connection name.
3. Touch **Advanced options**.
4. Under the **Security** section, touch **Remove SIM PIN**.
5. Enter the current SIM PIN.
6. Touch **OK**.

Change SIM PIN

To change the SIM PIN if you're using one:

1. Touch > **Settings** > **Network & Internet** > **Cellular**.
2. Touch the cellular connection name.
3. Touch **Advanced options**.

4. Under the **Security** section, touch **Change SIM PIN**.
5. In the **Current SIM PIN** box, enter the current SIM PIN.
6. In the **New SIM PIN** box, enter a new SIM PIN.
7. In the **Confirm new SIM PIN** box, enter the same new SIM PIN.
8. Touch **OK**.

Unblock SIM PIN

This appears if you're using a SIM PIN and the incorrect PIN has been entered three times. When this happens, the SIM will be blocked and cannot be used until you unblock it. To unblock it, first you'll need to contact your mobile operator for the PIN Unblocking Key (PUK). After that, select Unblock SIM PIN, and then type the PUK code. If an incorrect PUK code is entered too many times, your SIM card will be permanently blocked, and you'll need to get a new SIM card from your mobile operator.

To find this setting if your SIM is blocked,

1. Touch > **Settings** > **Network & Internet** > **Cellular**.
2. Touch the cellular connection name.
3. Touch **Advanced options** > **Unblock SIM PIN** under the **Security** section.

Wireless Local Area Networks

Wireless local area networks (WLANs) allow the ET5X to communicate wirelessly inside a building. Before using the ET5X on a WLAN, the facility must be set up with the required hardware to run the WLAN (sometimes known as infrastructure). The infrastructure and the ET5X must both be properly configured to enable this communication.

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

Once the infrastructure is set up to enforce the chosen WLAN security scheme, use the **Wireless & networks** settings to configure the ET5X to match the security scheme.

The ET5X supports the following WLAN security options:

- Open (No Authentication required)
- Wired Equivalent Privacy (WEP).
- Wi-Fi Protected Access (WPA)/WPA2 Personal (PSK).
- Extensible Authentication Protocol (EAP).
  - Protected Extensible Authentication Protocol (PEAP) - with MSCHAPV2 and GTC authentication.
  - Transport Layer Security (TLS)
  - TTLS - with MSCHAPv2
  - Subscriber Identity Module (SIM)
  - Authentication and Key Agreement (AKA).

The task tray displays icons that indicate Wi-Fi status.

NOTE Turn off Wi-Fi when not using it, to extend the life of the battery.

Connecting to a Wi-Fi Network

To establish a Wi-Fi network connection:

1. In the Task Tray, touch . A list of available Wi-Fi networks display.
2. Touch the network to connect.

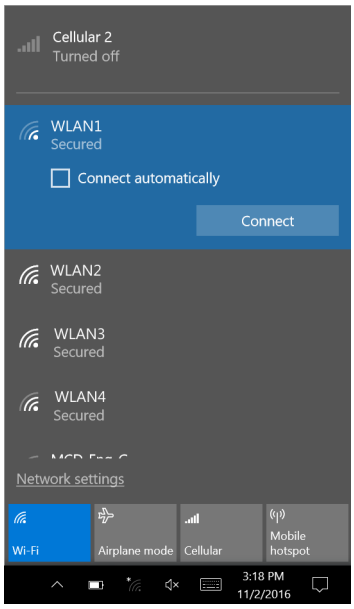


Figure 3-2 *Available Networks*

3. Touch the **Connect automatically** checkbox to allow the ET5X to connect automatically to this network whenever the device is on.
4. Touch **Connect**.
5. If required, enter security key and then touch **Next**.
6. Touch **Yes** to find PCs and devices on the network or **No** to not find these devices. Once connected, **Connected** appears under the network name.

View Network Information

To view security, address, and other information about the connected Wi-Fi network:

1. In the Task Tray, touch . A list of available Wi-Fi networks display.
2. Touch the Wi-Fi network name.
3. Touch **Properties**.

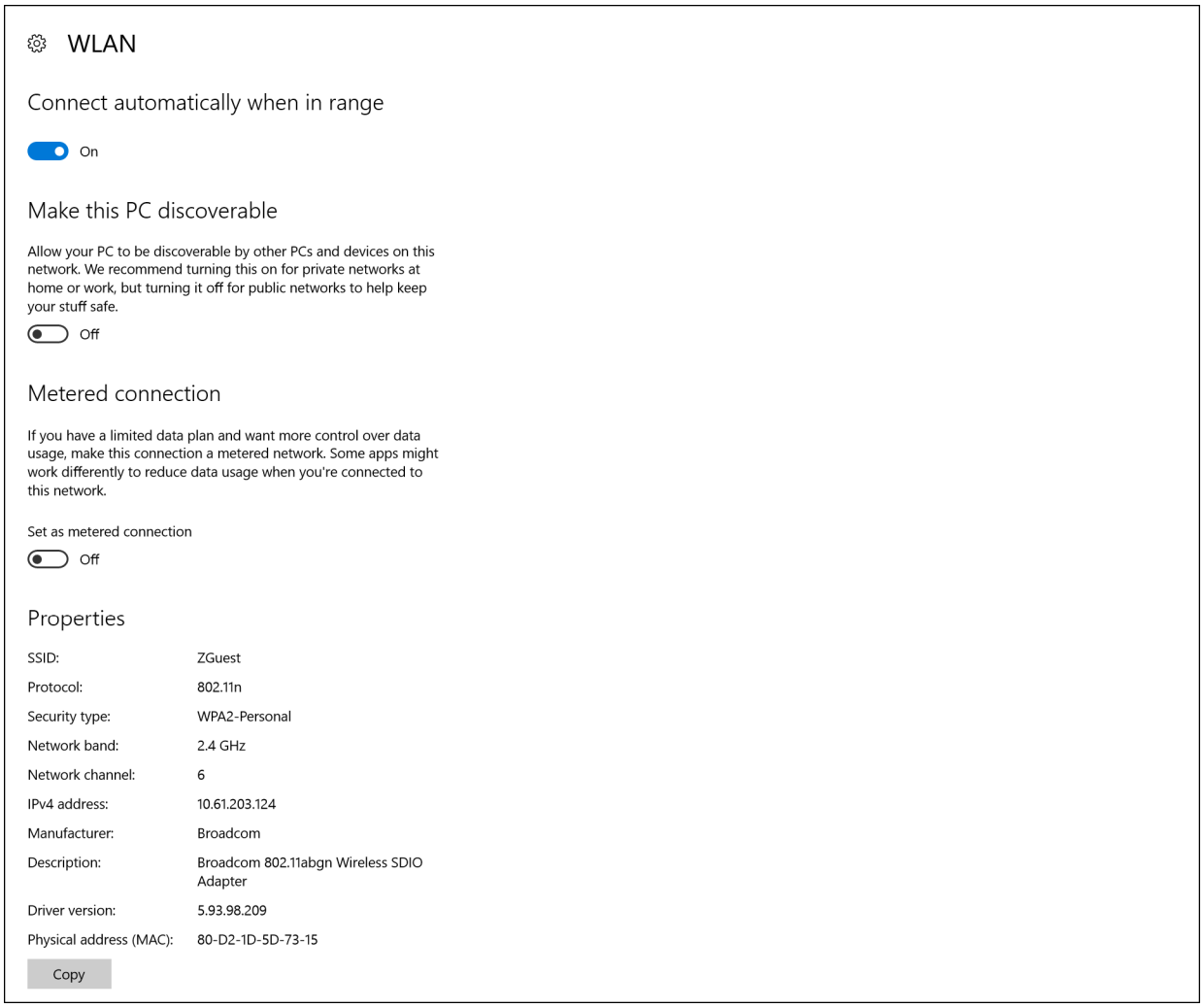


Figure 3-3 *Network Information*

Proxy Settings

The ET5X supports the proxy feature for Wi-Fi connection. The proxy feature enables you to access more Web-based source and browse Internet more securely. To configure the proxy settings when connecting to a Wi-Fi network:

1. In the Task Tray, touch .
2. Touch **All Settings**.
3. Touch **Network & internet**.
4. Touch **Proxy**.

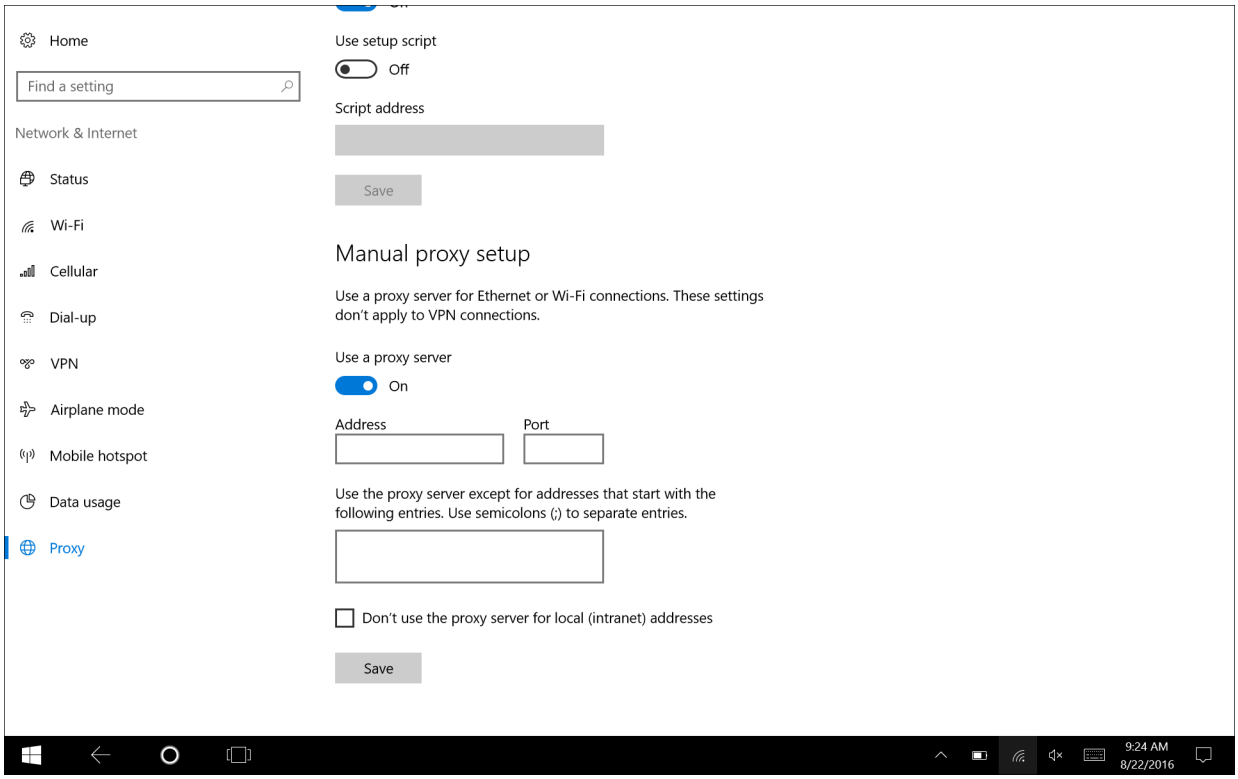


Figure 3-4 *Proxy Setup*

5. In the **Manual proxy setup** section, touch the **Use proxy server** switch to turn on.
6. In the **Address** text box, enter the address of the proxy server.
7. In the **Port** text box, enter the port number for the proxy server.

NOTE When entering proxy addresses, do not use spaces or carriage returns between addresses.

8. In the text box, enter addresses for web sites that do not require to go through the proxy server. Use the semicolons between addresses.
9. Touch **Save**.

Adding a Wi-Fi Network

To access a Wi-Fi network that does not broadcast its network name (also called a service set identifier or SSID), you must add that Wi-Fi network before you can connect to it.

To add a Wi-Fi network:

1. In the Task Tray, touch . A list of available Wi-Fi networks display.
2. Scroll to the bottom of the list and touch **Hidden network**.
3. Follow the instructions on the screen to add a Wi-Fi network.

Bluetooth

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

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

Adaptive Frequency Hopping

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

- **Channel Classification** - A method of detecting an interference on a channel-by-channel basis, or pre-defined channel mask.
- **Link Management** - Coordinates and distributes the AFH information to the rest of the Bluetooth network.
- **Hop Sequence Modification** - Avoids interference by selectively reducing the number of hopping channels.
- **Channel Maintenance** - A method for periodically re-evaluating the channels.

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

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

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

Security

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

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

Recommendations are:

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

Bluetooth Profiles

The device supports the following Bluetooth services:

- Serial Port Profile (SPP) - Allows use of RFCOMM protocol to emulate serial cable connection between two Bluetooth peer devices. For example, connecting the device to a printer.
- Handsfree Profile (HFP) - Allow car hands-free kits to communicate with mobile phones in the car.
- Advanced Audio Distribution Profile (A2DP) - Allows the device to stream stereo-quality audio to a wireless headset or wireless stereo speakers.
- Object Push Profile (OPP) - Allows the device to push and pull objects to and from a push server.
- Audio/Video Remote Control Profile (AVRCP) - Allows the device to control A/V equipment to which a user has access. It may be used in concert with A2DP.
- Human Interface Device Profile (HID) - Allows Bluetooth keyboards, pointing devices, gaming devices and remote monitoring devices to connect to the device.
- HID Over GATT Profile (HOGP) - Connects human interface devices such as keyboards and mice to a host device.
- Personal Area Network (PAN) - Allows the use of Bluetooth Network Encapsulation Protocol to provide L3 networking capabilities over a Bluetooth link. Only PANU role is supported.
- Generic Attribute Profile (GATT) - Provides profile discovery and description services for Bluetooth Low Energy protocol.
- Hard Copy Cable Replacement Profile (HCRP) - Provides a simple wireless alternative to a cable connection between a device and a printer.
- Dial-up Network Profile (DUN) - Allows the device to access the Internet and other dial-up services using a Bluetooth enabled mobile phone.
- Device ID Profile (DIP) - allows a device to be identified above and beyond the limitations of the Device Class already available in Bluetooth. It enables identification of the manufacturer, product id, product version, and the version of the Device ID specification being met.

Pairing with a Bluetooth Device

To connect and exchange data with another Bluetooth device, pair the ET5X with the Bluetooth device:

1. In the Task Tray, touch .
2. Touch **All Settings**.
3. Touch **Devices** > **Bluetooth**.
4. Slide the control to the right to turn it on. The ET5X searches for Bluetooth devices.
5. When the Bluetooth device you want to pair is found, touch the ID of the Bluetooth device.
6. Touch **Pair**.

Unpairing a Bluetooth Device

To unpair a Bluetooth device:

1. In the Task Tray, touch .
2. Touch **All Settings**.
3. Touch **Devices** > **Bluetooth**.
4. Touch the ID of the Bluetooth device to unpair.
5. Touch **Remove device**. A notification prompt displays.
6. Touch **Yes**.

CHAPTER 4 DATA CAPTURE

The ET5X supports data capture using:

- SE4710 Expansion Back
- SE4750 Expansion Back.

Scanning Considerations

Scanning consists of; aim, scan and decode. Scanning performance can be optimized by considering the range and the scanning angle:

- Range

  Any scanning device decodes well over a particular working range (minimum and maximum distances from the bar code). This range varies according to bar code density and scanning device optics.

  Scanning within range brings quick and constant decodes; scanning too close or too far away prevents decodes. Move the scanner closer and further away to find the right working range for the bar codes being scanned. However, the situation is complicated by the availability of various integrated scanning modules. The best way to specify the appropriate working range per bar code density is through a chart called a decode zone for each scan module. A decode zone simply plots working range as a function of minimum element widths of bar code symbols.

- Angle

  The scan angle is important for optimizing decode performance. When laser beams reflect directly back into the scanner from the bar code, this specular reflection can “blind” the scanner.

  To avoid this, scan the bar code so that the beam does not bounce directly back. But do not scan at too sharp an angle; the scanner needs to collect scattered reflections from the scan to make a successful decode. Practice quickly shows what tolerances to work within.

NOTE Contact the Zebra Global Customer Support if chronic scanning difficulties develop. Decoding of properly printed bar codes should be quick and effortless.

Imaging

The RS507 and CS4070 have the following features:

- Omnidirectional (360°) reading of a variety of bar code symbologies, including the most popular linear, postal, PDF417, and 2D matrix code types.
- The ability to capture and download images to a host for a variety of imaging applications.
- Advanced intuitive laser aiming for easy point-and-shoot operation.

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

Expansion Back

The Expansion Backs are bar code scanning solutions for both 1D and 2D bar code symbologies. Expansion Backs are available in the following configurations:

- SE4710 Expansion Back for 8” tablet
- SE4750 Expansion Back for 8” tablet
- SE4710 Expansion Back for 10” tablet
- SE4750 Expansion Back for 10” tablet.

Install the Expansion Back prior to use. Refer to the *ET5X Integration Guide* for installation instructions.

For scanner resources, go to the Zebra Barcode Scanner Drivers and Utilities web page, https://www.zebra.com/us/en/products/software/scanning-systems/scanner-drivers-and-utilities.html.

Using the SE4750 Expansion Back

NOTE The Expansion Backs are configured to communicate with the ET5X using HID protocol. Captured bar code data is sent to the application as keystrokes.

The application text field has to be in-focus prior to scanning.

To read a bar code:

1. Launch an application.
2. Ensure that the text field is in focus.
3. Point the Expansion Back exit window at a bar code.

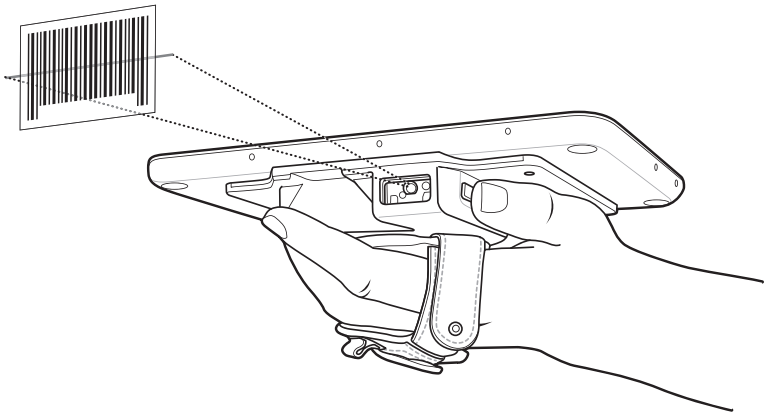


Figure 4-1 *Bar Code Scanning with Expansion Back with SE4750*

4. Press and hold the Scan button.

   The red laser aiming pattern turns on to assist in aiming. Ensure the bar code is within the area formed by the cross-hairs in the aiming pattern. The aiming dot is used for increased visibility in bright lighting conditions.

   The Expansion Back beeps to indicate the bar code was decoded successfully.

Figure 4-2 *SE4750 Expansion Back Aiming Pattern*

5. Release the Scan button. The bar code data displays on the screen.

Using the SE4710 Expansion Back

To read a bar code, a scan-enabled application is required.

1. Launch a scanning application.
2. Point the Expansion Back exit window at a bar code.

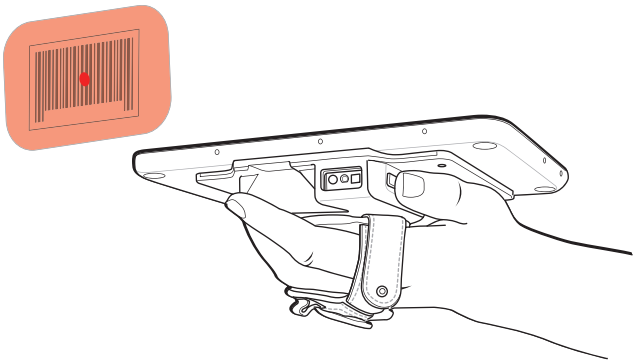


Figure 4-3 *Bar Code Scanning with Expansion Back with SE4710*

3. Press and hold the Scan button.

   The red illumination frame and laser aiming dot turns on to assist in aiming. Ensure the bar code is within the area formed by the red illumination frame. The aiming dot is used for increased visibility in bright lighting conditions.

   The Expansion Back beeps to indicate the bar code was decoded successfully.

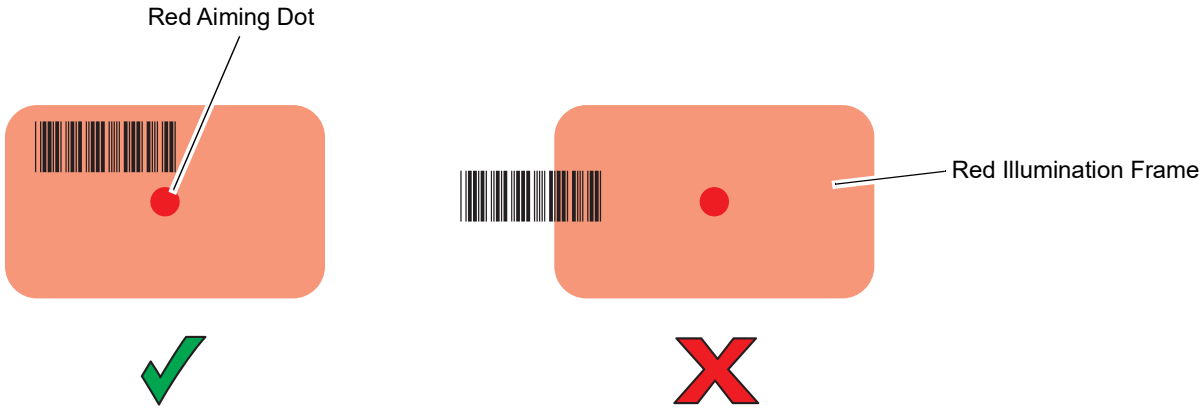


Figure 4-4 *SE4710 Expansion Back Aiming Pattern*

4. Release the Scan button. The bar code data displays on the screen.

CHAPTER 5 ACCESSORIES

Introduction

The ET5X accessories provide a variety of product support capabilities. *Table 5-1* lists the accessories available.

Table 5-1 *ET5X Accessories*

Accessory	Part Number	Description
Cradles		
Charge Only Cradle	CRD-ET5X-1SCG2	Charges the ET5X 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-1SCOM2	Charges the ET5X 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-1SCOM2R	Charges the ET5X main battery and optional Power Pack installed in the Expansion Back. Supports ET5X with 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-SE4CO201	Charges up to four ET5X 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 CBL-DC-378A1-01, and country-specific AC line cord.

Table 5-1 *ET5X Accessories (Continued)*

Accessory	Part Number	Description
Chargers		
Power Supply	PWR-BGA12V108W0WW	Provides power to the 4-Slot Charge Only Cradle.
Power Supply	PWR-BGA12V50W0WW	Provides power to the Charge Only Cradle, the Communication and Charging Cradles, the 4-Slot Battery Charger, and the Rugged Charge Connector.
4-Slot Battery Charger	SAC-ET5X-4PPK1-01	Chargers up to four Power Packs. Requires power supply PWR-BGA12V50W0WWl, DC Line cord CBL-DC-388A1-01, and country-specific AC line cord.
Rugged Charge Connector	CHG-ET5X-CBL2-01	Charges the ET5X 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” Internal Battery	BTRY-ET5X-8IN1-01	Replacement battery for 8” tablet.
Replacement 10” Internal Battery	BTRY-ET5X-10IN1-01	Replacement battery for 10” tablet.
Replacement 8” Battery Cover	KT-ET5X-8BTDR1-01	Replacement battery cover for 8” tablet.
Replacement 10” Battery Cover	KT-ET5X-10BTDR1-01	Replacement battery cover for 10” tablet.
8” Rugged Frame with IO Adapter	SG-ET5X-8RCSE1-02	Add extra protection for the 8” tablet and IO Adapter for connection to the Rugged Communication and Charging Cradle.
10” Rugged Frame with IO Adapter	SG-ET5X-10RCSE1-01	Add extra protection for the 10” tablet and IO Adapter for connection to the Rugged Communication and Charging Cradle.
Replacement Rugged IO Connector	SG-ET5X-RGIO1-01	Replacement rugged IO connector for the Rugged Frames.
8” 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” SE4710 Expansion Back	ZBK-ET5X-8SCN1-01	Provides data capture using the SE4710 scan engine, rotating hand strap and slot for optional Power Pack.
8” Expansion Back	ZBK-ET5X-8RH1-01	Provides rotating hand strap and slot for optional Power Pack.

Table 5-1 *ET5X Accessories (Continued)*

Accessory	Part Number	Description
10” 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” SE4710 Expansion Back	ZBK-ET5X-10SCN1-01	Provides data capture using the SE4710 scan engine, rotating hand strap and slot for optional Power Pack.
10” 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 ET5X battery using an Expansion Back.
Active Stylus	KT-ET5X-ASTY1-01	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 on the Expansion Backs.
10” Screen Protector	KT-ET5X-10SCRN1-01	Provides additional screen protection for 10” tablet (5-pack).
8” Screen Protector	KT-ET5X-8SCRN1-01	Provides additional screen protection for 8” tablet (5-pack).
10” Screen Protector (Rugged Frame)	KT-ET5X-8SCRN1-01	Provides additional screen protection for 10” tablet with Rugged Frame (5-pack).
8” Screen Protector (Rugged Frame)	KT-ET5X-10SCRN1-02	Provides additional screen protection for 8” tablet with Rugged Frame (5-pack).
8” Operations Case	SG-ET5X-8HLST-01	Provides carrying solution for 8” tablet.
10” Operations Case	SG-ET5X-10HLST-01	Provides carrying solution for 10” tablet.
Breakaway Shoulder Strap	58-40000-SG-ET5X-SHDRSTP-01	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 on page 6-1*.

This section describes how to use a Charge Only Cradle with the ET5X. The Charge Only Cradle ships with an insert that must be installed when inserting an ET5X without the protective boot installed.

The Charge Only Cradle:

- Provides power for operating the ET5X.
- Charges the ET5X's battery and optional Power Pack installed in an Expansion Back.

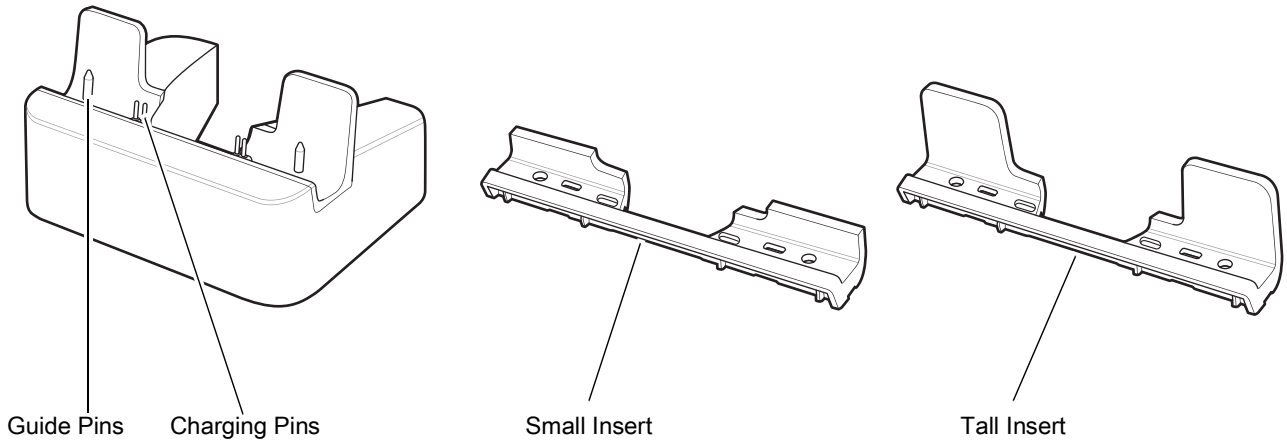


Figure 5-1 *Charge Only Cradle - Front View*

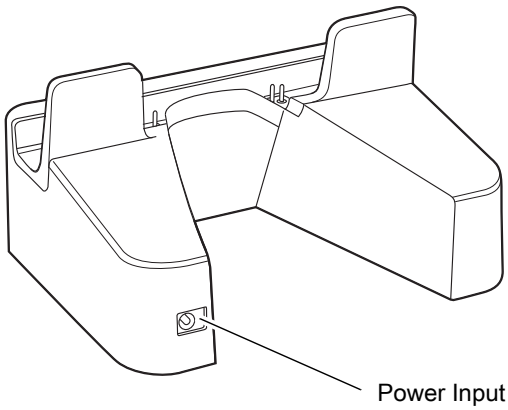


Figure 5-2 *Charge Only Cradle - Rear View*

Installing the Insert

Install the tall insert when using an ET5X without a Rugged Frame or Expansion Back. Install the small insert when using an ET5X with an Expansion Back and without a Rugged Frame.

1. Align the insert over the pins.

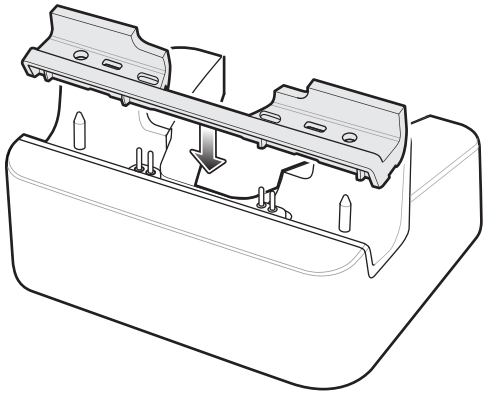


Figure 5-3 *Align Insert with Cradle*

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

Charging the ET5X

To charge the ET5X in the Charge Only Cradle:

1. Align the ET5X with the alignment pins on the cradle.
2. Insert the ET5X into the cradle.

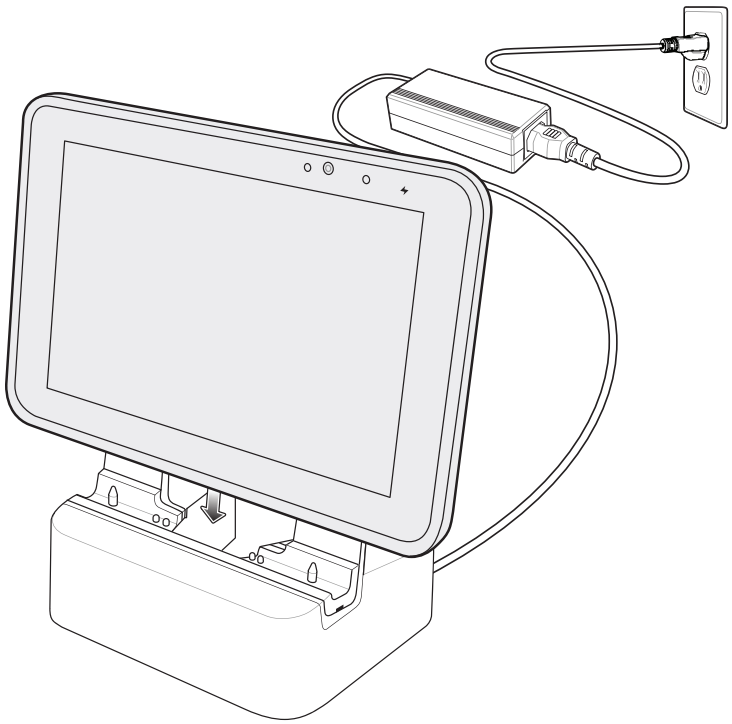


Figure 5-4 *Insert ET5X into Charge Only Cradle*

3. The ET5X Charging LED indicates charging.
4. To remove the ET5X from the Charge Only Cradle, hold the cradle down with one hand and lift the ET5X.

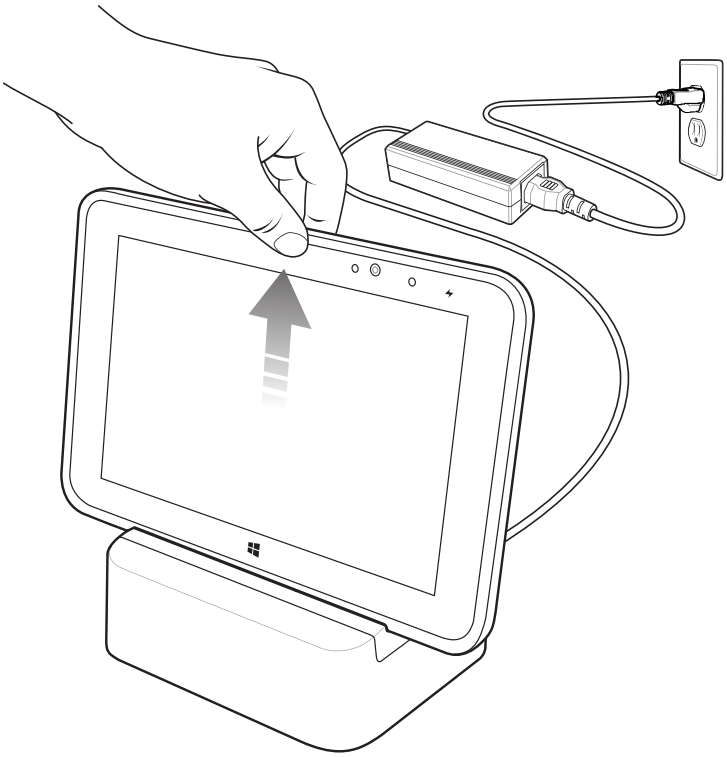


Figure 5-5 *Remove ET5X from Charge Only Cradle*

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 ET5X's amber charge LED shows the status of the battery charging in the ET5X. See *Table 1-4 on page 1-10* for charging status indications.

The 8" 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" 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 ET5X is connected to AC power.

Table 5-2 *Charging Indicator*

LED	Indication
Off	ET5X is not in cradle. ET5X is not seated properly. Cradle is not powered.
Orange	ET5X is charging.
Green	Charging complete.
Red	Error in charging; check placement of the ET5X.

Communication and Charging Cradle

CAUTION Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 6-1*.

This section describes how to use a Communication and Charing Cradle with the ET5X.

The Communication and Charging cradle:

- Provides power for operating the ET5X.
- Provides ports for connecting USB devices to the tablet, video output and connection to a LAN.
- Charges the ET5X's battery and optional Power Pack installed in an Expansion Back.

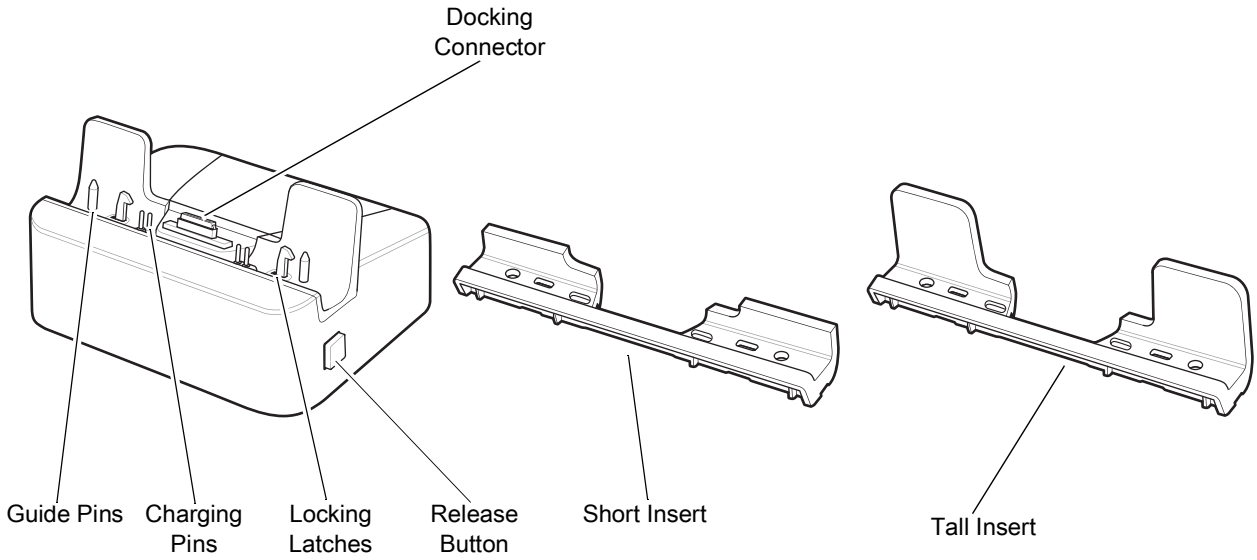


Figure 5-6 *Communication and Charging Cradle - Front View*

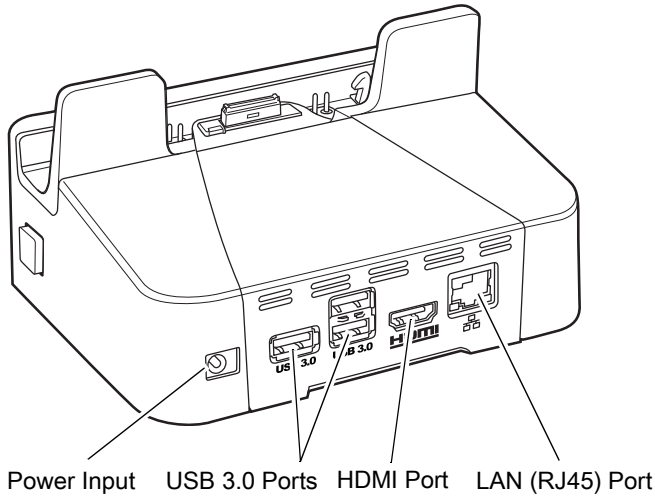


Figure 5-7 *Communication and Charging Cradle - Rear View*

Installing the Insert

Install the tall insert when using an ET5X without a Rugged Frame or Expansion Back. Install the small insert when using an ET5X with an Expansion Back and without a Rugged Frame.

1. Align the insert over the pins.

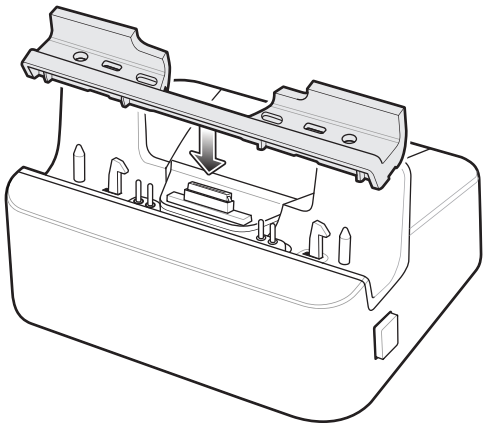


Figure 5-8 *Align Insert with Cradle*

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

Charging the ET5X

To charge the ET5X in the Communication and Charging Cradle:

1. Open the bottom access door and hold it to the back of the tablet.
2. Align the ET5X with the alignment pins on the cradle.
3. Insert the ET5X into the cradle. Note that the Communication and Charging Cradles contains a locking mechanism that locks the ET5X to the cradle.

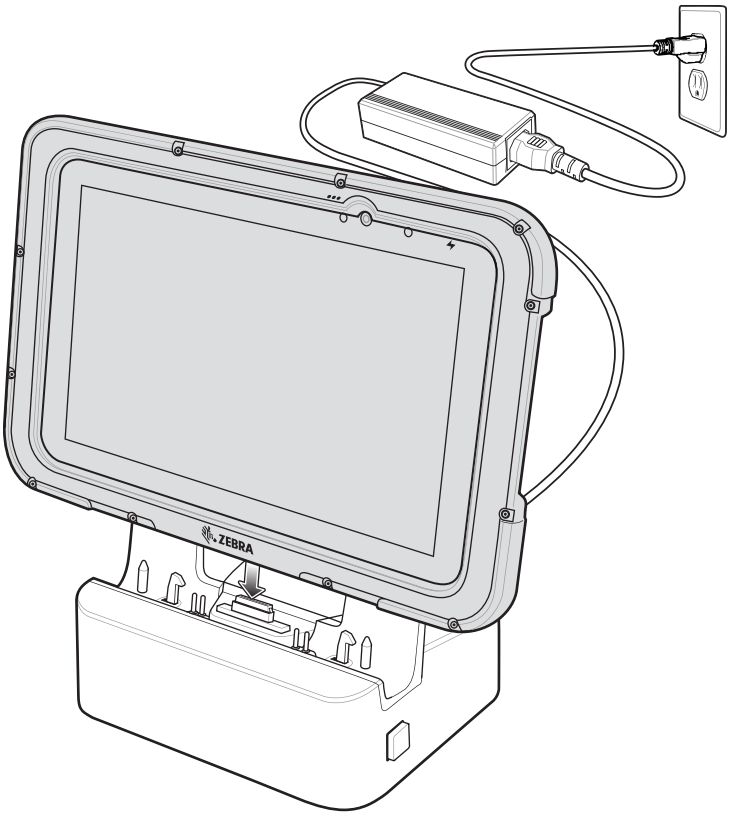


Figure 5-9 *Insert ET5X with Rugged Frame into Communication and Charging Cradle*

4. The ET5X Charging LED indicates charging.
5. To remove the ET5X from the Communication and Charging Cradle, press the release button on the right side of the cradle and lift the ET5X. Use thumb to hold down the cradle.

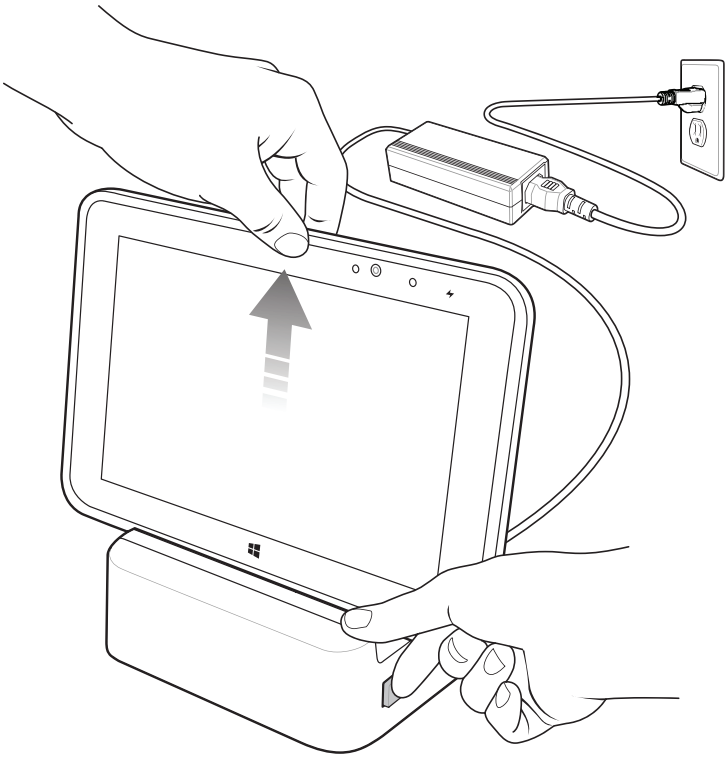


Figure 5-10 *Remove ET5X from Communication and Charging Cradles*

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 ET5X's amber charge LED shows the status of the battery charging in the ET5X. See *Table 1-4 on page 1-10* for charging status indications.

The 8" 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" tablet main battery charges from fully depleted to 90% in approximately three hours and from fully depleted to 100% in approximately four hours.

Rugged Communication and Charging Cradle

CAUTION Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 6-1*.

This section describes how to use a Rugged Communication and Charing Cradle with the ET5X.

The Rugged Communication and Charging cradle:

- Provides power for operating the ET5X.
- Provides ports for connecting USB devices to the tablet, video output and connection to a LAN.
- Charges the ET5X's battery and optional Power Pack installed in an Expansion Back.

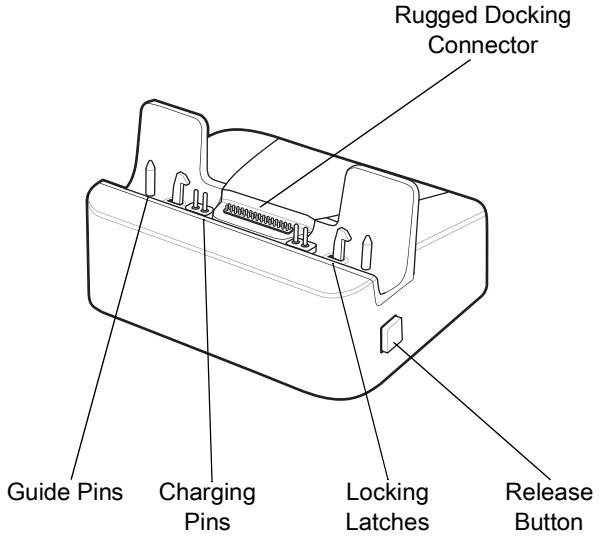


Figure 5-11 *Rugged Communication and Charging Cradle - Front View*

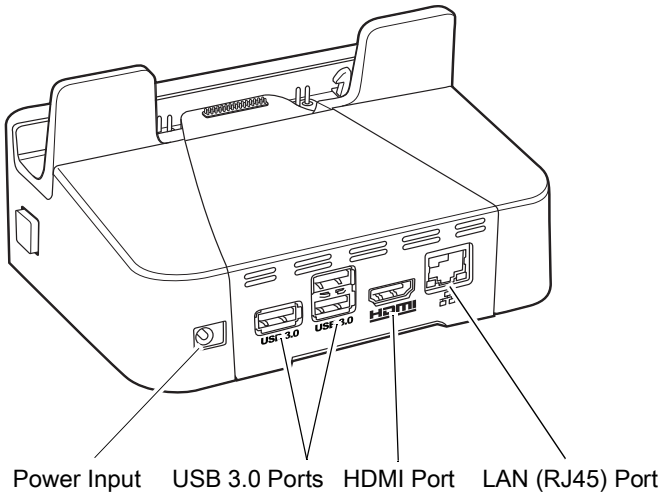


Figure 5-12 *Rugged Communication and Charging Cradle - Rear View*

Charging the ET5X

To charge the ET5X using the Rugged Communication and Charging Cradle:

1. Align the ET5X with the alignment pins on the cradle.
2. Insert the ET5X into the cradle. Note that the Rugged Communication and Charging Cradles contains a locking mechanism that locks the ET5X to the cradle.

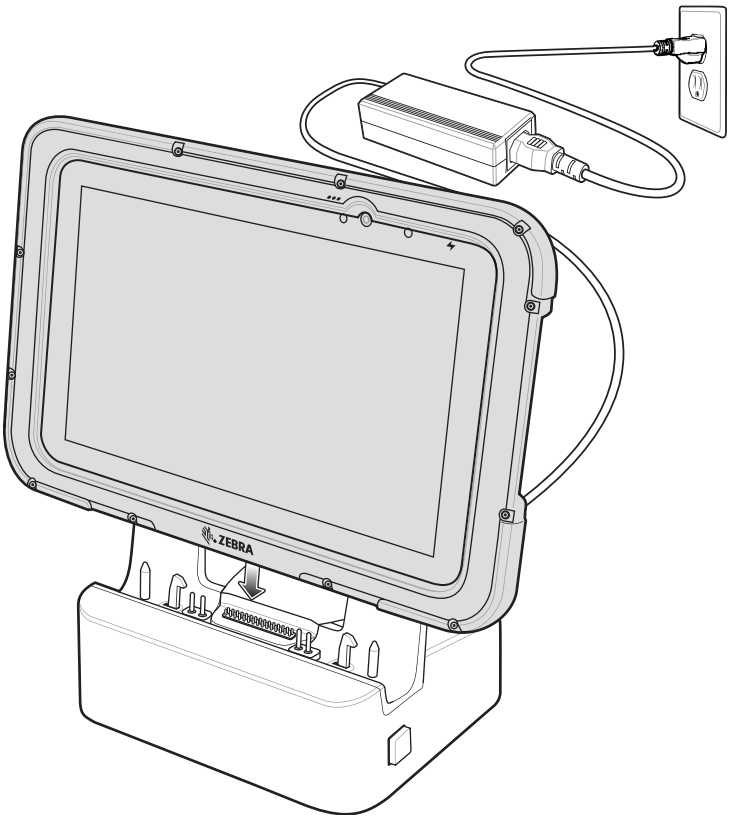


Figure 5-13 *Insert ET5X with Rugged Frame and IO Adapter into Rugged Communication and Charging Cradle*

3. The ET5X Charging LED indicates charging.
4. To remove the ET5X from the Rugged Communication and Charging Cradle, press the release button on the right side of the cradle and lift the ET5X. Use thumb to hold down the cradle.

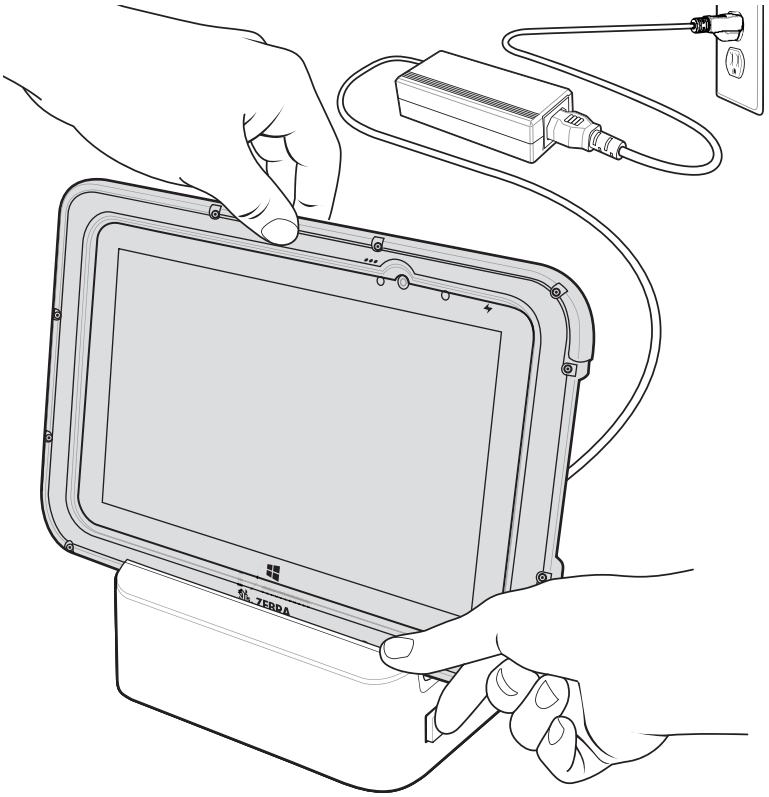


Figure 5-14 *Remove ET5X from Rugged Communication and Charging Cradles*

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 ET5X's amber charge LED shows the status of the battery charging in the ET5X. See *Table 1-4 on page 1-10* for charging status indications.

The 8" 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" tablet main battery charges from fully depleted to 90% in approximately three hours and from fully depleted to 100% in approximately four hours.

4-Slot Charge Only Cradle

CAUTION Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 6-1*.

- Provides 5 VDC power for operating the ET5X.
- Simultaneously charges up to four ET5Xs and up to four Power Packs using the optional Battery Charger Adapter. See the *ET5X Integrator Guide* for information on installing the 4-Slot Battery Charger onto the cradle.

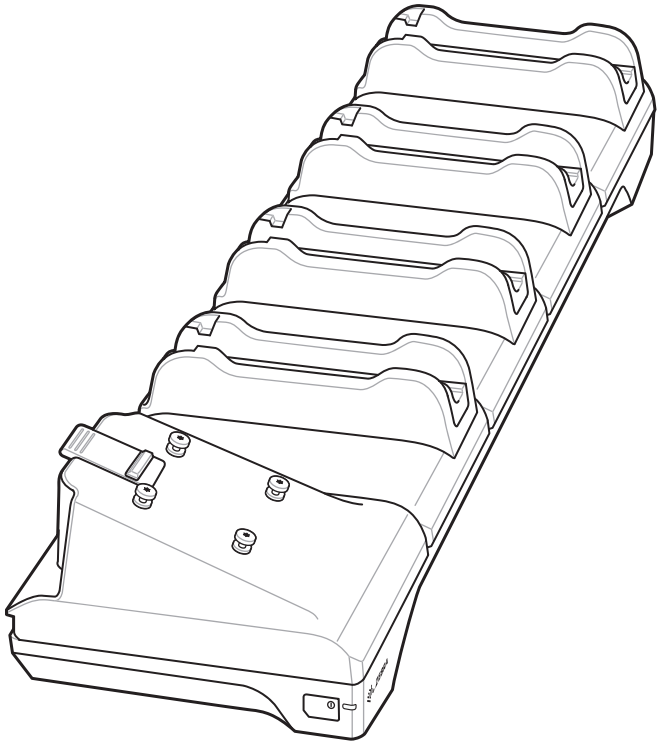


Figure 5-15 *4-Slot Charge Only Cradle*

Insert Installation

Install inserts into slots for ET5X tablets without Rugged Frame.

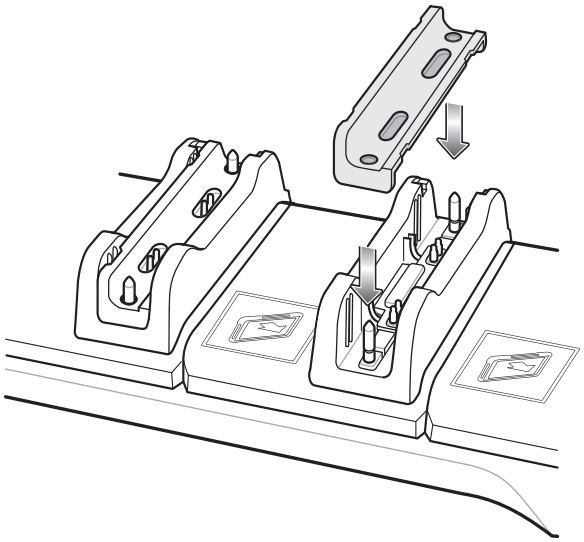


Figure 5-16 *Install Insert in Slot*

Insert Tablet into Slot

ET5X 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.

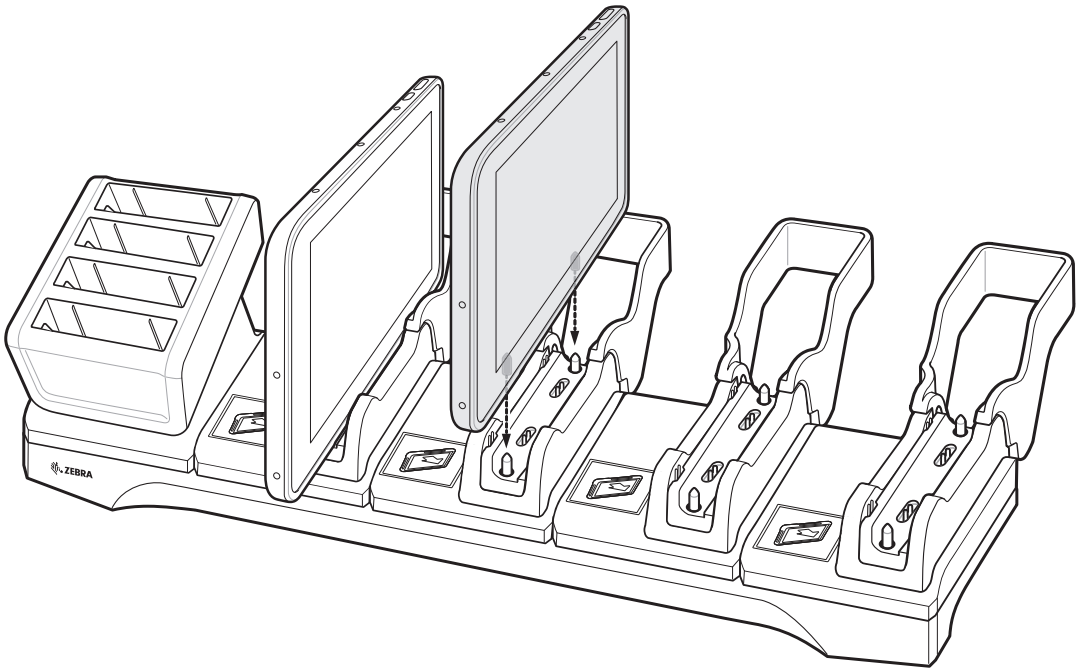


Figure 5-17 *Insert ET5X without Rugged Frame into Slot*

3. Place the ET5X down into the slot with display facing away from Battery Charger.

ET5X with Rugged Frame

1. If applicable, remove insert from slot.
2. Slide ET5X over slot into it touches the guide.

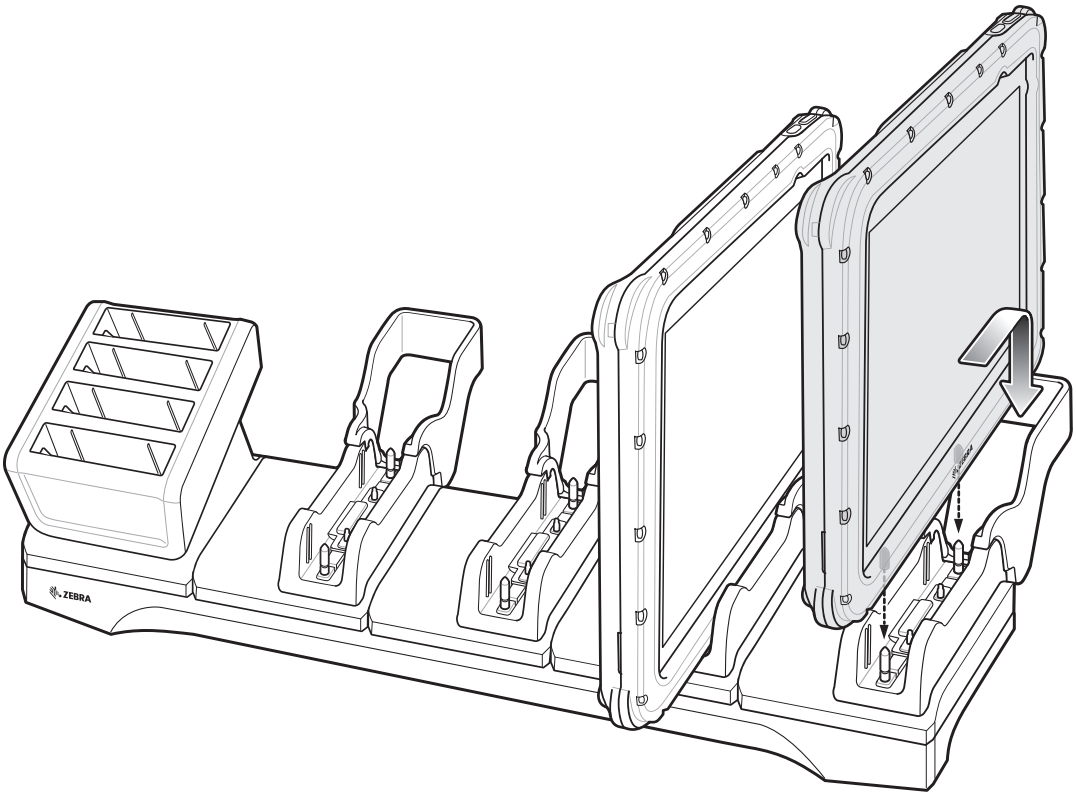


Figure 5-18 *Insert ET5X with Rugged Frame into Slot*

3. Place the ET5X down into the slot with display facing away from Battery Charger.

Charging th 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 ET5X's amber charge LED shows the status of the battery charging in the ET5X. See *Table 1-4 on page 1-10* for charging status indications.

The 8" 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" tablet main battery charges from fully depleted to 90% in approximately three hours and from fully depleted to 100% in approximately four hours.

Rugged Charge Connector

CAUTION Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 6-1*.

Use the Rugged Charge Connector to charge an ET5X tablet.

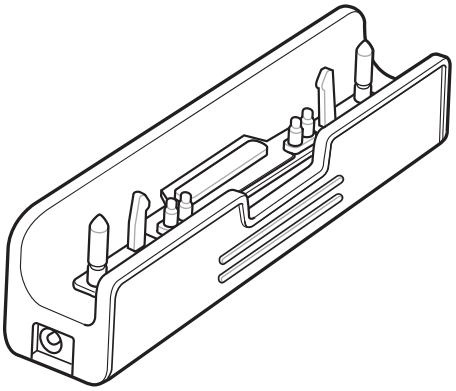


Figure 5-19 *Rugged Charge Connector*

1. Align the pins in the Rugged Charge Connector with the slots in the ET5X.

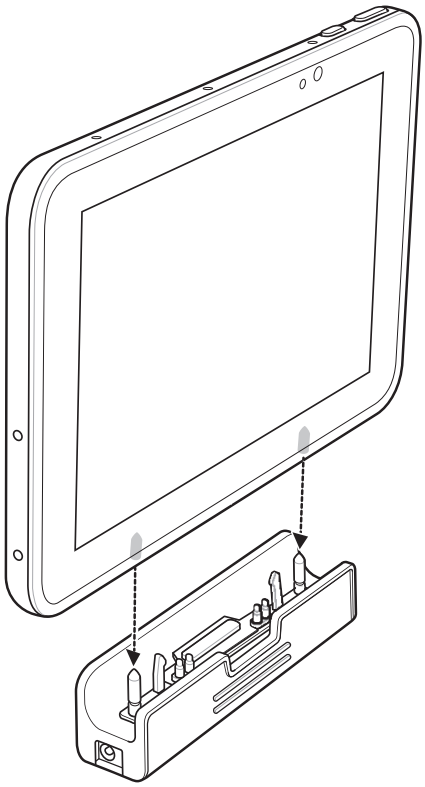


Figure 5-20 *Insert ET5X into Rugged Charge Connector*

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

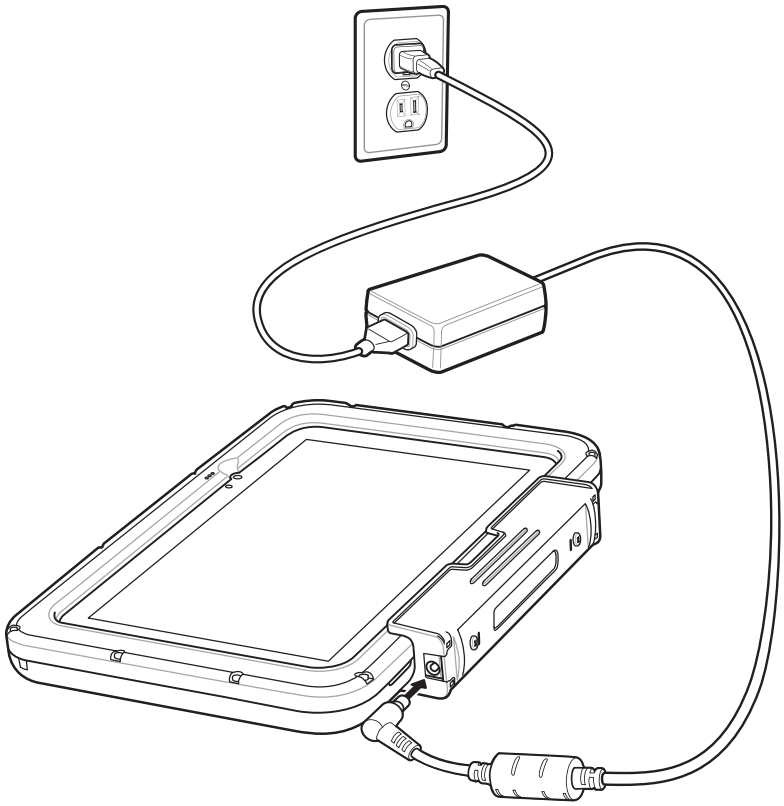


Figure 5-21 *Plug Power Supply into Input Power Port*

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 ET5X's amber charge LED shows the status of the battery charging in the ET5X. See *Table 1-4 on page 1-10* for charging status indications.

The 8" 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" tablet main battery charges from fully depleted to 90% in approximately three hours and from fully depleted to 100% in approximately four hours.

Power Pack

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

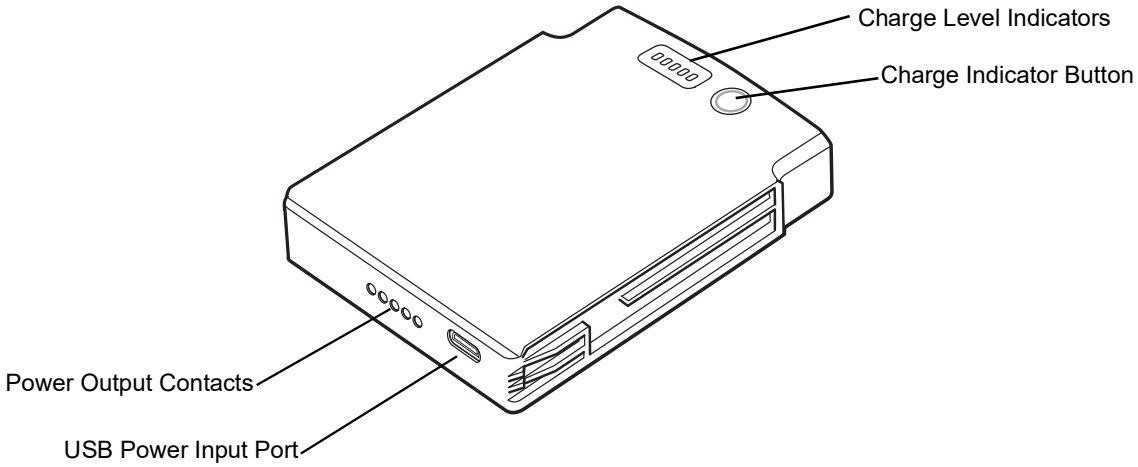


Figure 5-22 *Power Pack*

1. Install one of the optional Expansion Backs. See *ET5X Integrator Guide* for more information.
2. Press the two release buttons on the side of the Expansion Back. The dummy battery insert ejects slightly.

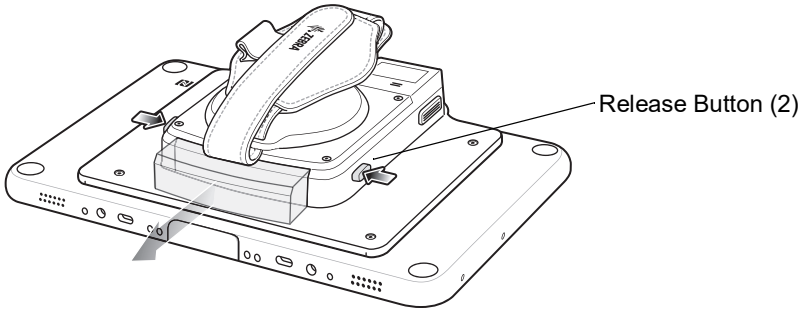


Figure 5-23 *Remove Dummy Battery Insert*

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

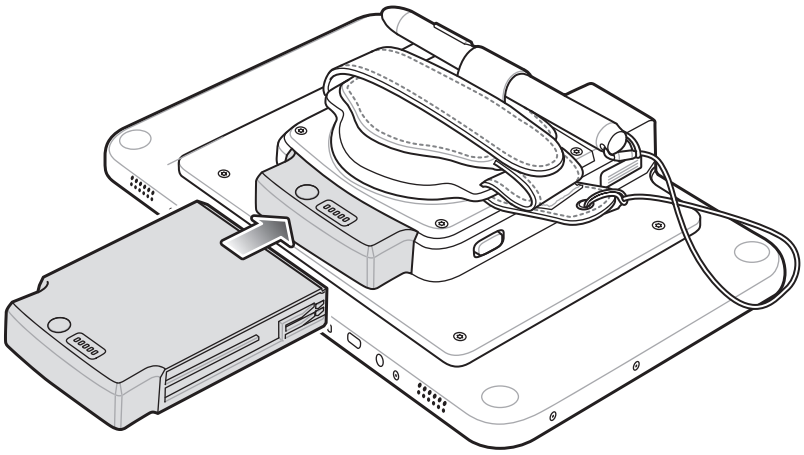


Figure 5-24 *Install Power Pack*

Charging the Power Pack

Charge the Power Pack using:

- a cradle
- USB power adapter
- 4-Slot Charger.

Using Cradle

With the Power Pack installed in an Expansion Back, place the ET5X into a cradle. The Power Pack charges in less than 3.5 hours.

Using USB Power Adapter

Charge the Power Pack using a suitable power source that supplies 5 VDC @ 2A. The Power Pack charges in less than five hours,

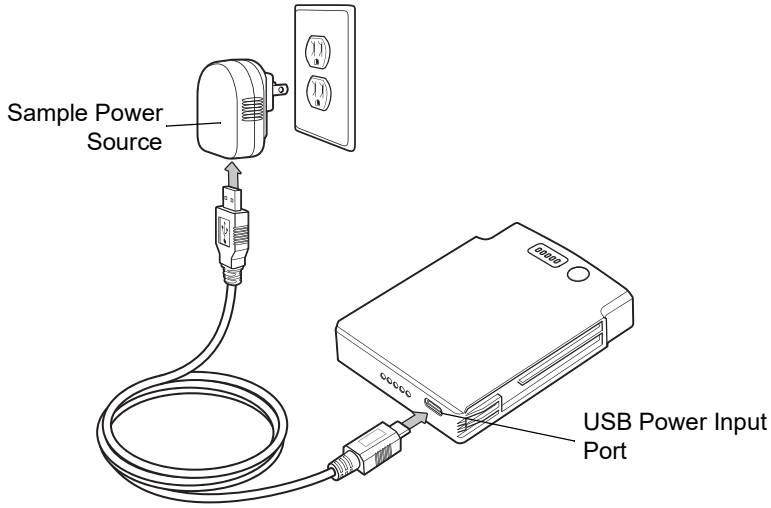


Figure 5-25 *Charging Using Suitable Power Source*

Using the 4-Slot Battery Charger

CAUTION Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 6-1*.

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

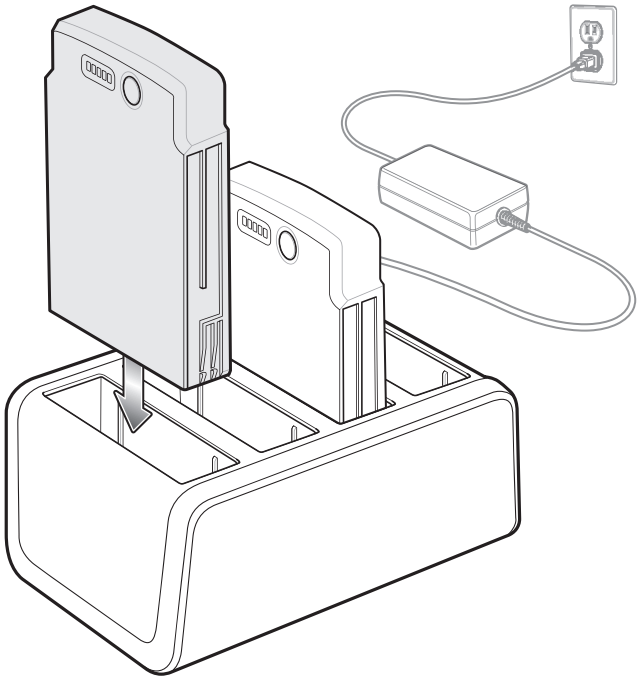


Figure 5-26 *4-Slot Battery Charger*

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 in the charger. See *Table 5-3 on page 5-22* for charging status indications.

The Power Pack charges in less than three hours.

When charging, the Charge LEDs indicate the charge level.

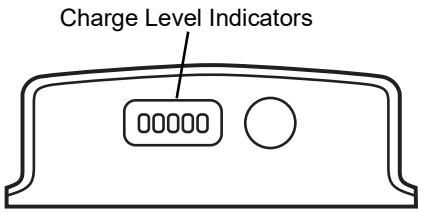
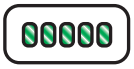


Figure 5-27 *Power Pack Charge LEDs*

Table 5-3 *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

Active Stylus

The Active Stylus comes with one AAAA battery.

Battery Installation

To install the battery:

1. Unscrew the end cap.
2. Turn the end down. The battery holder slides out.
3. Insert the battery into the battery holder with the (+) end of the battery

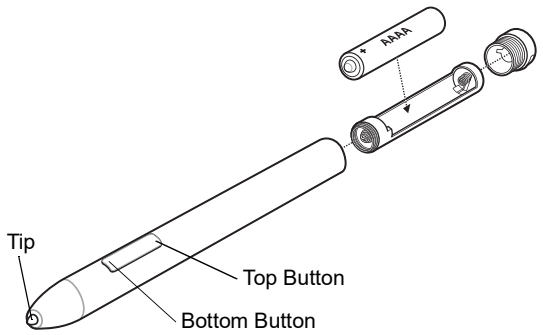


Figure 5-28 *Active Stylus Battery Installation*

4. Insert the battery holder into the Stylus.
5. Secure the end cap onto the stylus.

CHAPTER 6 MAINTENANCE AND TROUBLESHOOTING

Introduction

This chapter includes instructions on cleaning and storing the ET5X, battery maintenance and provides troubleshooting solutions for potential problems during ET5X operations.

Maintaining the ET5X

For trouble-free service, observe the following tips when using the ET5X:

- Protect the ET5X from temperature extremes.
- Do not store or use the ET5X in any location that is extremely dusty, damp, or wet.
- Use a soft lens cloth to clean the screen. If the surface of the ET5X screen becomes soiled, clean it with a soft cloth moistened with a diluted window-cleaning solution. Do not use bleach or ammonia.
- Take care not to scratch the screen of the ET5X.
- The display of the ET5X contains glass. Take care not to drop the ET5X or subject it to strong impact.

Battery Safety Guidelines

- The area in which the ET5X units are charged should be clear of debris and combustible materials or chemicals. Particular care should be taken where the device is charged in a non-commercial environment.
- Do not use incompatible batteries and chargers. If you have any questions about the compatibility of a battery or a charger, contact Zebra Support. See *Service Information on page xi* for contact information.
- Do not crush, puncture, or place a high degree of pressure on the battery.
- Follow battery usage, storage, and charging guidelines found in the *ET5X Quick Reference Guide*.
- Improper battery use may result in a fire, explosion, or other hazard.
- To charge the mobile device battery, the battery and charger temperatures must be between +32°F and +104°F (0°C and +40°C)

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

Cleaning

CAUTION Always wear eye protection.

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

If you have to use any other solution for medical reasons please contact Zebra 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.**

Materials Required

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

Cleaning the ET5X

Housing

Using the alcohol wipes, wipe the housing.

Display

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

Power Connector

1. Remove the main battery from ET5X.
2. Install the battery cover.
3. Dip the cotton portion of the cotton tipped applicator in isopropyl alcohol.
4. Repeat at least three times.
5. Use the cotton tipped applicator dipped in alcohol to remove any grease and dirt near the connector area.
6. Use a dry cotton tipped applicator and repeat steps 3 through 6.
7. Spray compressed air on the connector area by pointing the tube/nozzle about ½ inch away from the surface.

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

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

Cleaning Cradle Connectors

Use this procedure to clean the connectors on a cradle:

1. Remove power from the cradle.
2. Dip the cotton portion of the cotton tipped applicator in isopropyl alcohol.
3. Rub the cotton portion of the cotton tipped applicator along the pins of the connector. Slowly move the applicator back-and-forth from one side of the connector to the other. Do not let any cotton residue on the connector.
4. All sides of the connector should also be rubbed with the cotton tipped applicator.
5. Spray compressed air in the connector area by pointing the tube/nozzle about ½ inch away from the surface.

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

6. Ensure that there is no lint left by the cotton tipped applicator, remove lint if found.
7. If grease and other dirt can be found on other areas of the cradle, use lint free cloth and alcohol to remove.
8. Allow at least 10 to 30 minutes (depending on ambient temperature and humidity) for the alcohol to air dry before applying power to cradle.

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

Cleaning Frequency

The cleaning frequency is up to the customer's discretion due to the varied environments in which the ET5X units are used. They may be cleaned as frequently as required. However when used in dirty environments it may be advisable to periodically clean the scanner exit window to ensure optimum scanning performance.

Troubleshooting

ET5X

Table 6-1 *Troubleshooting the ET5X*

Problem	Cause	Solution
ET5X does not turn on.	Battery not charged.	Charge the battery in the ET5X.
	Battery not installed properly.	Ensure battery is installed properly.
	System crash.	If the ET5X does not turn on, perform a cold boot. See *Performing a Cold Boot on page 1-17*.
Battery did not charge.	Battery failed.	Replace battery. If the ET5X still does not operate, try a cold boot. See *Performing a Cold Boot on page 1-17*.
	ET5X removed from cradle before charging completed.	Insert the ET5X 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.
	ET55 is in airplane mode.	Ensure that ET55 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.
ET5X turns itself off.	ET5X is inactive.	The ET5X turns off after a period of inactivity. If the ET5X is running on battery power.
	Battery is depleted.	Place the ET5X in the cradle to re-charge the battery.
	The ET5X's battery is low and it powers down to protect memory content.	Place the ET5X in a cradle to re-charge the battery.
ET5X clock is not synchronizing with local time after enabling the WAN radio.	Windows Time Services is not set properly.	Open **Control Panel** > **Administrative Tools** > **Services** > **Windows Time**. In the **Startup Type** drop-down list, select **Automatic**. In the **Services status** section, touch **Start**.

Charge Only Cradle

Table 6-2 *Troubleshooting the Charge only Cradle*

Symptom	Possible Cause	Solution
ET5X battery is not charging.	ET5X was removed from cradle or cradle was unplugged from AC power.	Ensure cradle is receiving power. Ensure ET5X 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 ET5X is not fully seated in the cradle.	Remove and re-insert the ET5X 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 6-3 *Troubleshooting the Communication and Charging Cradles*

Symptom	Possible Cause	Solution
ET5X battery is not charging.	ET5X was removed from cradle or cradle was unplugged from AC power.	Ensure cradle is receiving power. Ensure ET5X 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 ET5X is not fully seated in the cradle.	Remove and re-insert the ET5X 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.	ET5X removed from cradle during communications.	Replace ET5X in cradle and retransmit.
	Incorrect cable configuration.	Ensure that the correct cable configuration.
ET5X does not lock into cradle.	Access cover closed.	Open ET5X access cover and re-insert ET5X onto cradle.
	ET5X with Rugged Frame and IO Adapter does not mate with Communication and Charging Cradle.	Use Rugged Communication and Charging Cradle.

Expansion Backs

Table 6-4 *Troubleshooting the Expansion Backs*

Symptom	Possible Cause	Solution
Aiming laser does not display when pressing trigger.	On 8” tablet, did not remove rubber gasket during installation.	See system administrator to re-install Expansion Back.
	ET5X 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 ET5X 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.	ET5X 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 ET5X within proper scanning range.
	Scanning application is not loaded.	Load a scanning application. See the system administrator.

Stylus

Table 6-5 *Troubleshooting the Active Stylus*

Symptom	Possible Cause	Solution
The stylus does not write on the ET5X.	Stylus is not activated.	Tap or apply pressure to the tip of the stylus to activate it.
	Stylus battery is installed corrected or is depleted.	Replace the battery, making sure that you install it with the correct polarity.
	Calibration is incorrect.	Recalibrate the pressure sensor.
	Application is not active.	Check that the application on the screen is selected and active.
The stylus has short battery life.	The stylus tip my be engaged when not in use,	Be sure to store the stylus flat with no pressure applied to the tip.

Table 6-5 *Troubleshooting the Active Stylus (Continued)*

Symptom	Possible Cause	Solution
The touchscreen does not work after using the stylus.	User has not waited long enough after using stylus.	When the stylus is in use, touch does not work. Wait about 1.5 seconds between using your stylus and using touch.
The stylus is not very accurate when selecting objects on the screen.	Out of calibration.	Recalibrate the stylus or try holding the stylus at a different angle.
Cannot scroll within the Windows 8 Start menu using the stylus.	This is by design.	Tap the bottom of the screen and drag the scroll bar on the bottom.
Some programs do not allow scrolling with the stylus in the middle of the screen.	Not all programs will allow finger scrolling.	Use the scroll bars on the side with the stylus.

APPENDIX A SPECIFICATIONS

Technical Specifications

The following tables summarize the ET5X's intended operating environment and general technical hardware specifications.

ET5X

The following table summarizes the ET5X's intended operating environment.

Table A-1 *Technical Specifications*

Item	Description
Physical and Environmental Characteristics	
Dimensions	**8" Configuration**: 228 mm W x 150 mm H x 12.5 mm D (9.0 in. L x 5.9 in. W x 0.5 in. H) **10" Configuration**: (269 mm W x 181 mm H x 12.5 mm D) 10.6 in. L x 7.1 in. W x 0.5 in. H
Weight	**8" Configuration**: 555 g (1.2 lbs) **10" Configuration**: 750 g (1.55 lbs)
Display	**8" Configuration**: 8.3 in (diagonal) 1920 x 1200 WUVGA with backlight **10" Configuration**: 10.1 in (diagonal) 1920 x 1200 WUVGA with backlight
Touch panel	Capacitive 10 point multi-touch
Keypad Options	Virtual, Bluetooth or USB

Table A-1 *Technical Specifications (Continued)*

Item	Description
Expansion	Integrated connector to easily add accessories
Connectivity	Docking connector: USB 3.0, HDMI, charging; rugged connector for use with rugged dock Interfaces: full-size USB2.0 connector, audio jack 3.5mm, USB (for charging)
Notification	LED flash; bar code decode; camera LED indicator
Audio	Stereo speakers and dual microphones (one front and one rear-facing)
Battery	**8" Configuration**: 5,900 mAh rechargeable Smart Li-Ion; user replaceable **10" Configuration**: 8,700 mAh rechargeable Smart Li-Ion; user replaceable
Performance Characteristics	
CPU	Intel quad core 2.4 GHz 64 bit Intel quad core 1.59GHz (Turbo Frequency = 2.39GHz). Frequency supports 64 bit OS.
Operating System	Windows 10 Enterprise with Modern Standby
Memory	4GB LPDDR3 RAM; 64 GB eMMC Flash (128 GB optional); User accessible microSDXC card slot (standard supports up to 2 TB)
Data Capture	
Front Camera	2 MP 1080p full HD optimized for video collaboration and low lighting conditions
Rear Camera	8MP auto-focus camera with user controllable LED flash and illumination; captures photographs and video.
Video	1080p (Full HD, 1920 x 1080), Frame rate = 30fps
Scanning	Optional SE4710 8" Expansion Back Optional SE4750 8" Expansion Back Optional SE4710 10" Expansion Back Optional SE4750 10" Expansion Back
User Environment	
Operating Temperature	32°F to 122°F (0°C to 50°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Battery Charging Temperature	32°F to 104°F (0°C to +40°C)
Humidity	10% to 90% RH (non condensing)

Table A-1 *Technical Specifications (Continued)*

Item	Description
Drop Specification	Standard: 1 m (3.28 ft.) drop to concrete without rugged frame With optional rugged frame: 1.8 m (5.9 ft.) to concrete per MIL STD 810G With optional Expansion Back: Per MIL STD 810G across operating temperatures.
Vibration	Operational: random vibration 10-1000 Hz 1.9g RMS, 1 hour duration per axis. Non-operational: random vibration 10-1000Hz, 4.1 g RMS
Environmental Sealing	IP65
ESD	+/-8kVdc air discharge +/-4kVdc direct discharge +/-4kVdc indirect discharge
WWAN Wireless Data Communications	
	Global LTE with HSPA+ North America multi-carrier LTE with both Verizon (EVDO) and AT&T (HSPA+) 3G fallback
WLAN Wireless Data Communications	
WLAN radio	802.11a/b/g/n/k/r. Dual band 2x2 MIMO for transmit and receive.
Output Power	100mW U.S. and International
Data Rate	802.11a: up to 54Mb per second 802.11b: up to 11Mb per second 802.11g: up to 54Mb per second 802.11n: up to 72.2Mb per second
Operating Channels	Chan 1 - 13 (2412 - 2472 MHz), Chan 36 - 165 (5180 - 5825 MHz) Channel Bandwidth: 20, 40 MHz Actual operating channels/frequencies depend on regulatory rules and certification agency.
Frequency Range	All country dependent: 802.11a - 5 GHz; 802.11b – 2.4 GHz; 802.11g – 2.4 GHz; 802.11n – 2.4 GHz / 5 GHz
Antenna	Internal diversity antenna
WLAN Security	WPA2 Enterprise, 802.1x; EAP-TLS; TTLS (CHAP, MS-CHAP, MS-CHAPv2, PAP or MD5); PEAP (MSCHAPv2); WPA2/AES, FIPS 140-2 compliant and IPv6
WPAN Wireless Data Communications	
Bluetooth	Class 2, Bluetooth v4.0 (Bluetooth® Smart)
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 • Distance up to 3 cm

Table A-1 *Technical Specifications (Continued)*

Item	Description
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, keypad and display backlight.
Electronic Compass	Independent — does not depend on GPS
Proximity Sensor	Shuts down the display when placed in a case.
Peripherals and Accessories	
Accessories	See Chapter 5, Accessories for list of accessories.
Printers	Supports extensive line of Zebra approved printers.

Table A-2 *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

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