


5. Position the icon on the screen and then release.

### Moving Items on the Home Screen

1. Touch and hold the item until it floats on the screen.
2. Drag the item to a new location. Pause at the edge of the screen to drag the item onto an adjacent Home screen.
3. Lift finger to place the item on the Home screen.

### Removing an App or Widget from the Home Screen

1. Go to the desired Home screen.
2. Touch and hold the application shortcut or widget icon until it floats on the screen.
3. Drag the icon to  Remove on the top of the screen and then release.

---

## Folders

Use Folders to organize similar applications together. Tap the folder to open and display items in the folder.

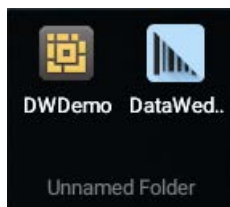
### Creating Folders

To create a folder, there must be at least two app icons on the Home screen.


1. Go to the desired Home screen.
2. Touch and hold on one application icon.
3. Drag the icon and stack on top of another icon.
4. Release the icon. A folder is created containing both icons.

### Naming Folders

1. Touch the folder.



**Figure 2-4** Open Folder


2. Touch the title area and enter a folder name using the keyboard.
3. Touch anywhere on the Home screen or press  to close the folder. The folder name appears under the folder.



Data Capture

Figure 2-5 Renamed Folder

## Removing a Folder

1. Touch and hold the folder icon until it enlarges and the device vibrates.
2. Drag the icon to  Remove and release.

---

## Home Screen Wallpaper



**NOTE** Use of Live Wallpaper may reduce battery life.

## Change the Home Screen Wallpaper

1. Touch and hold on the Home screen until the **Choose Wallpaper from** menu appears.
2. Touch **Gallery**, **Live wallpapers** or **Wallpapers**.
  - **Gallery** - Select to use an image stored on the device.
  - **Live wallpapers** - Select to use an animated wallpaper image.
  - **Wallpapers** - Select to use a wallpaper image.
3. Touch **Save** or **Set wallpaper**.

---

## Using the Touchscreen


Use the screen to operate the device.

- **Touch** - Touch to:
  - select items on the screen
  - type letters and symbols using the on-screen keyboard
  - press on-screen buttons.
- **Touch and Hold** - Touch and hold:
  - an item on the Home screen to move it to a new location or to the trash.
  - an item in the **All Apps** screen to create a shortcut on the Home screen.
  - the Home screen to change the Home screen wallpaper.
- **Drag** - Touch and hold an item for a moment and then move finger on the screen until reaching the new position.

- **Swipe**- Move finger up and down or left and right on the screen to:
  - unlock the screen
  - view additional Home screens
  - view additional application icons in the **All Apps** screen
  - view more information on an application's screen.
- **Double-tap** - Tap twice on a web page, map, or other screen to zoom in and out.

---

## Using the On-screen Keyboard

Use the on-screen keyboard to enter text in a text field. To configure the keyboard settings, touch and hold , (comma) or / (forward slash) >  and then select **Android keyboard settings**.

### Editing Text

Edit entered text and use menu commands to cut, copy, and paste text within or across applications. Some applications do not support editing some or all of the text they display; others may offer their own way to select text.

### Entering Numbers, Symbols and Special Characters

To enter numbers and symbols:

- Touch and hold one of the top-row keys until a menu appears then select a number. Keys with alternate characters display an ellipsis ( ... ) below the character.
- Touch and hold the Shift key with one finger, touch one or more capital letters or symbols to enter them, and then lift both fingers to return to the lowercase keyboard.
- Touch **?123** to switch to the numbers and symbols keyboard.
- Touch the **=\<** key on the numbers and symbols keyboard to view additional symbols.

To enter special characters, touch and hold a number or symbol key to open a menu of additional symbols.

- A larger version of the key displays briefly over the keyboard.
- Keys with alternate characters display an ellipsis ( ... ) below the character.















---

## Applications




The **APPS** screen displays icons for all installed applications. The table below lists the applications installed on the MC32N0. Refer to the *MC32N0 Integrator Guide* for information on installing and uninstalling applications.

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**Table 2-5** *Applications*

Icon	Description
	<b>AppGallery</b> - Provides links to utilities and demonstration applications that can be installed on the MC32N0.
	<b>Battery Manager</b> – Displays battery information, including charge level, status, health and wear level.
	<b>Bluetooth Pairing</b> – Use to pair the RS507 Hands-free imager with the MC32N0 by scanning a bar code.
	<b>Browser</b> - Use to access the Internet or intranet.
	<b>Calculator</b> - Provides the basic and scientific arithmetic functions.
	<b>Calendar</b> - Use to manage events and appointments.
	<b>Clock</b> - Use to schedule alarms for appointments or as a wake-up.
	<b>Contacts</b> - Use to manage contact information.
	<b>DataWedge</b> - Enables data capture using the camera or optional scanner.
	<b>Downloads</b> - lists all downloads files.
	<b>DWDemo</b> - Provides a way to demonstrate the data capture features using the Linear Imager. See DataWedge Demonstration for more information.
	<b>elemez</b> — Use to provide diagnostic information. See <a href="#">Elemesz on page 3-15</a> for more information.
	<b>Email</b> - Use to send and receive email.
	<b>File Browser</b> - Organize and manage files on the MC32N0. See File Browser for more information.

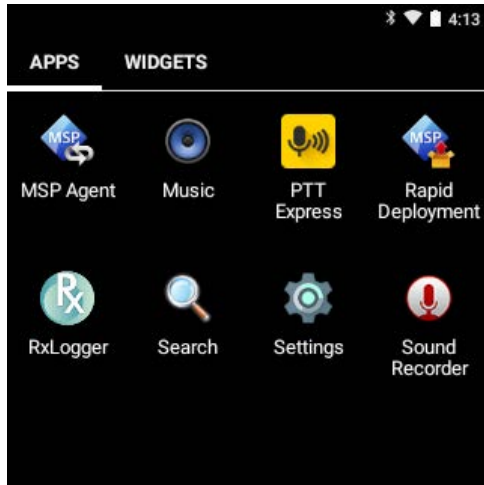
**Table 2-5** *Applications (Continued)*

Icon	Description
	<b>Gallery</b> - Use to view photos stored on the microSD card and internal memory. For more information, see <a href="#">Gallery</a> for more information.
	<b>Mobi Control Stage</b> – Opens the <b>Mobi Control Stage</b> application to stage the MC32N0.
	<b>MSP Agent</b> - Enables management of the MC32N0 from an MSP server. Requires the purchase of an appropriate MSP client license per device to suit the level of management functionality required.
	<b>Music</b> - Play music stored on the microSD card and internal memory.
	<b>PTT Express</b> – Use to launch the PTT Express client for Voice over IP (VoIP) communication.
	<b>Rapid Deployment</b> - Allows the MC32N0 to stage a device for initial use by initiating the deployment of settings, firmware and software. Requires the purchase of an MSP client license per device.
	<b>RxLogger</b> – Use to diagnose device and application issues. See <a href="#">RxLogger on page 3-14</a> for more information.
	<b>Search</b> - Use the Google™ search engine to search the Internet and the MC32N0.
	<b>Settings</b> - Use to configure the MC32N0.
	<b>Sound Recorder</b> - Use to record audio.
	<b>StageNow</b> - Allows the MC32N0 to stage a device for initial use by initiating the deployment of settings, firmware and software.
	<b>Terminal Emulation</b> – Opens Wavelink Terminal Emulation application.
	<b>Velocity</b> - Opens the Wavelink terminal emulation application.
	<b>AppLock Administrator</b> - Use to configure the Application Lock feature. This icon appears after the optional MX feature is installed.
	<b>MultiUser Administrator</b> - Use to configure the MultiUser feature. This icon appears after the optional MX feature is installed.

## Accessing Applications

All applications installed on the device are accessed using the **APPS** window.


1. On the Home screen touch . The **APPS** window displays.

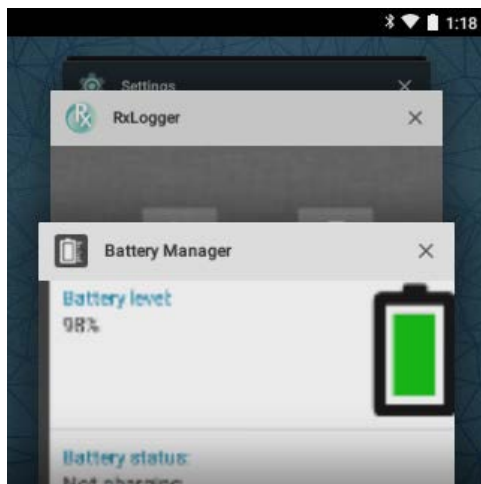


**Figure 2-6** APPS Window


2. Slide the **APPS** window left or right to view more application icons. Touch an icon to open the application.  
See [Application Shortcuts and Widgets on page 2-6](#) for information on creating a shortcut on the Home screen.

## Switching Between Recent Applications

1. Press and hold . A window appears on the screen with icons of recently used applications.



**Figure 2-7** Recently Used Applications

2. Slide the window up and down to view all recently used applications.
3. Swipe left or right to remove application from the list and force close the application.
4. Touch an icon to open it or press  to return to the current screen.

---


## Un-Locking the Screen

Use the Lock screen to protect access to data on the MC32N0. Some email accounts require locking the screen. Refer to the *MC32N0 Integrator Guide* for information on setting up the locking feature. The Locking feature functions differently in Single User mode or Multiple User mode.

### Single User Mode

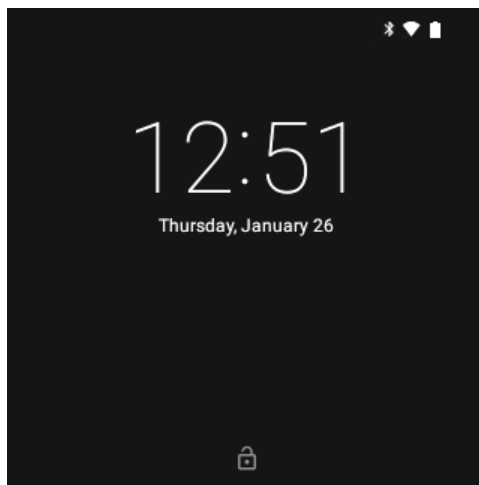
When locked, a pattern, PIN or password is required to unlock the device. Press the Power button to lock the screen. The device also locks after a pre-defined time-out.

Press and release the Power button to wake the device.

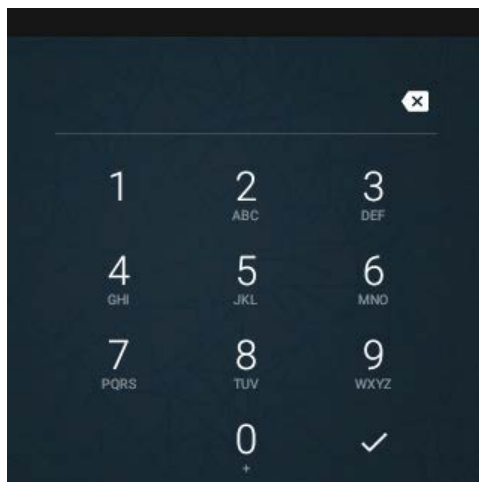
The Lock screen displays. Slide  up to unlock the screen.

If the Pattern screen unlock feature is enabled, the Pattern screen appears instead of the Lock screen.

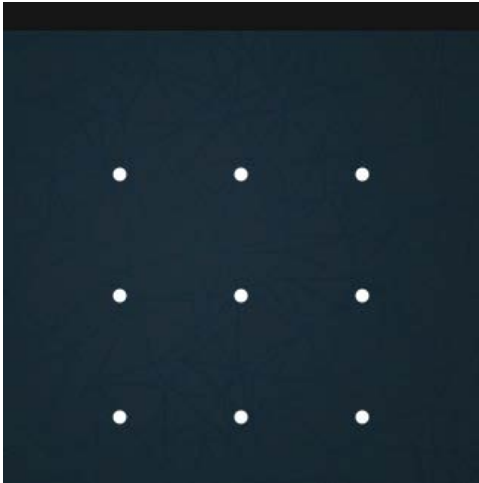
If the PIN or Password screen unlock feature is enabled, enter the PIN or password after unlocking the screen.



**Figure 2-8** Lock Screen



**Figure 2-9** PIN Screen



**Figure 2-10** *Pattern Screen*



**Figure 2-11** *Password Screen*

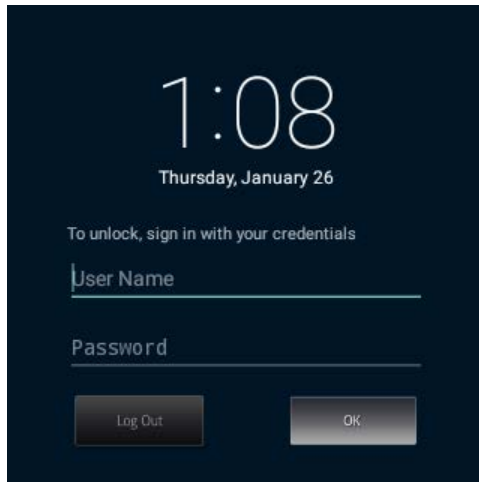
## MultiUser Mode

With MultiUser login, multiple users can log on to the device with each user having access to various applications and features. When enabled, the Login screen appears after powering on, resetting or after the device wakes from suspend mode.

### MultiUser Login

1. In the **Login** text field, enter the username.





**Figure 2-12** Multiple User Log In Screen

2. In the **Password** text field, enter the password.
3. Touch **OK**. After a resume from suspend, the user must enter the password.

### MultiUser Logout

1. Drag the Status Bar down from the top of the screen.
2. Touch **MultiUser is active**.
3. Touch **Logout**.
4. The **Login** screen appears.

---

## Resetting the Device

There are two reset functions, soft reset and hard reset.

### Performing a Soft Reset

Perform a soft reset if applications stop responding.

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

### Performing a Hard Reset



**NOTE** All un-saved data is lost after performing a Hard Reset.

Perform a Hard Reset if the device stops responding. To perform a Hard Reset:


1. Simultaneously press the Power button, 1 and 9 keys.
2. The device reboots.

---

## Suspend Mode

The MC32N0 goes into suspend mode when the user presses the Power button or after a period of inactivity (set in the Display settings window).

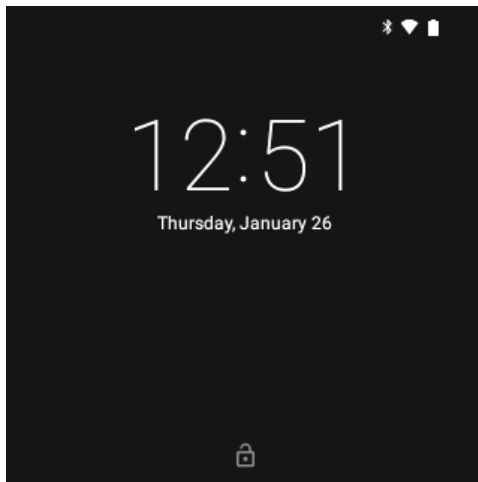
To wake the MC32N0 from Suspend mode, press the Power button.

The Lock screen displays. Slide  up to unlock the screen. See [Un-Locking the Screen on page 2-13](#).



**NOTE** If the user enters the PIN, password or pattern incorrectly five times, they must wait 30 seconds before trying again.

If the user forgets the PIN, password or pattern contact the system administrator.



**Figure 2-13** Lock Screen

# CHAPTER 3 APPLICATIONS

---

## Introduction

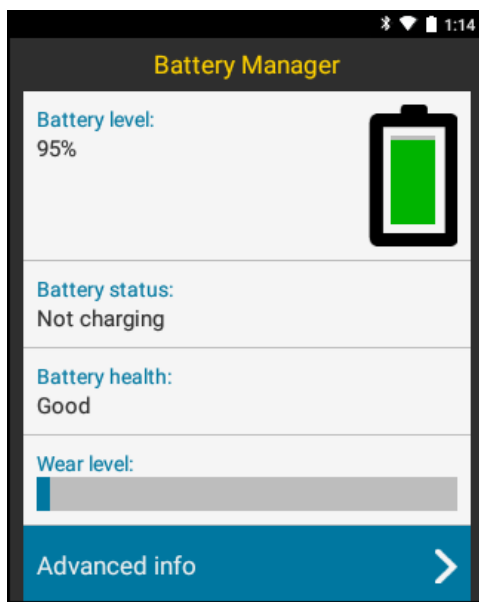
This section describes the applications installed on the device.

---

## Battery Manager

The Battery Manager provides detailed information about the battery.

To open **Battery Manager**, touch  > .



**Figure 3-1** *Battery Manager Screen*

**Battery level** - Indicate the current battery charge level.

**Time since charging**- Indicates the amount of time since the device began charging. Displays when the MC32N0 is on AC power.

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**Battery status**

- **Not charging** - Indicates that the MC32N0 is not connected to AC power.
- **Charging over AC** - Indicates that the MC32N0 is connected to AC power and charging.

**Battery health** - Indicates the health of the battery.

**Wear level** - Indicates the health of the battery in graphical form.

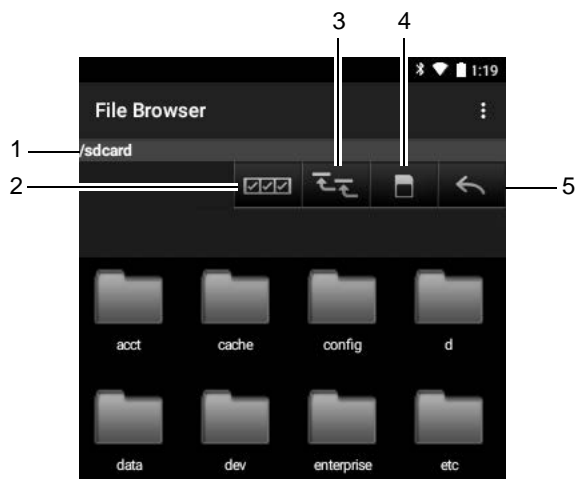
**Advanced info** - Tap to view additional battery information.

---

## File Browser

Use the **File Browser** application to view and manage files on the device.


To open **File Browser**, touch  > .





**Figure 3-2** File Browser Screen

The address bar (1) indicates the current folder path. Touch the current folder path to manually enter a path and folder name.

Use  (2) to select multiple files/folder.

Use  (3) to view the internal storage root folder.

Use  (4) to view the microSD card root folder.

Use  (5) to view the previous folder or to exit the application.

Touch and hold an item to perform an operation on that item. Select one of the options from the **File Operations** menu:


- **Information** - View detailed information about the file or folder.
- **Move** - Move the file or folder to a new location.
- **Copy** - Copy the select file.
- **Delete** - Delete the selected file.
- **Rename** - Rename the select file.
- **Open as** - Open the selected file as a specific file type.

- **Share** - Share the file with other devices.



---

## Contacts



Use the **Contacts** application to manage contacts.

From a Home or Apps screen, touch . Contacts opens to the main list of contacts. View contacts in three ways at the top of the screen: Groups, All contacts, and Favorites. Touch the tabs to change how to view the contacts. Swipe up or down to scroll through the lists.


### Adding Contacts

1. In the **Contacts** application, touch .
2. If there are more than one account with contacts, touch the one to use.
3. Type the contact's name and other information. Touch a field to start typing, and swipe down to view all categories.
4. To add more than one entry for a category – for example, to add a work address after typing a personal address - an additional category appears each time information is added. To open a menu with preset labels, such as Home or Work for an email address, touch the label to the right of the contact information.
5. Press .

### Editing Contacts

1. In the **Contacts** application, touch a contact to edit tab.
2. Touch .
3. Edit the contact information.
4. Press .

### Deleting Contacts

1. In the **Contacts** application, touch a contact to edit tab.
2. Press .
3. Touch **Delete**.
4. Touch **OK** to confirm.

---

## Gallery



**NOTE** The device supports the following image formats: jpeg, gif, png and bmp.



The device supports the following video formats: H.263, H.264 and MPEG4 Simple Profile.

Use Gallery to:

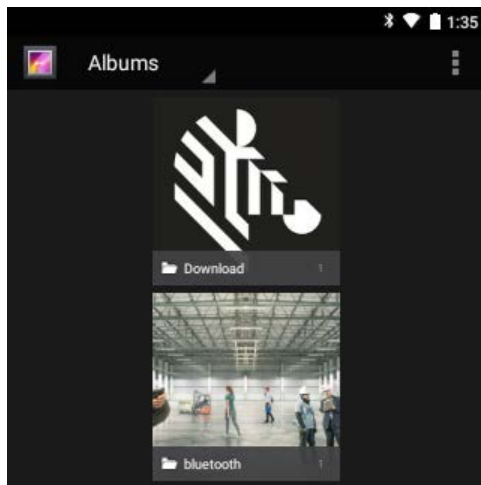
- view photos

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- play videos
- perform basic editing of photos
- set photos as wallpaper
- set photos as a contact photo
- share photos and videos.

To open the Gallery application, touch  >  or in the camera application touch the thumbnail image at the top right.

**Gallery** presents all photos and videos stored on the microSD card and internal memory.

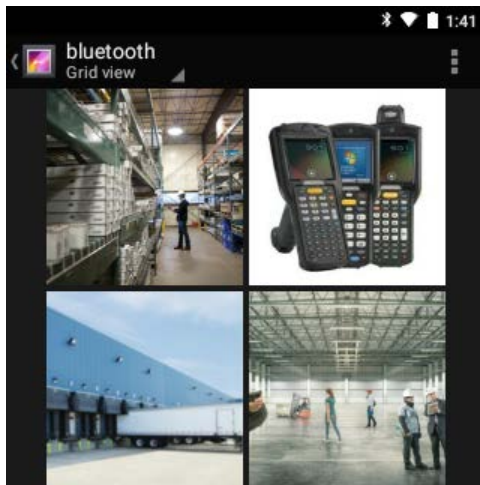


**Figure 3-3** *Gallery — Albums*

- Touch an album to open it and view its contents. The photos and videos in the album are displayed in chronological order.
- Touch a photo or video in an album to view it.
- Press  to return to the main **Gallery** screen.

## Working with Albums




Albums are groups of images and videos in folders. Touch an album to open it. The photos and videos are listed in a chronologically ordered grid. The name of the album displays at the top of the screen.






**Figure 3-4** *Photos Inside an Album*

Swipe left or right to scroll images across the screen.

### Share an Album




1. Touch  > .
2. Touch and hold an album until it highlights.
3. Touch other albums as required.
4. Touch . The Share menu opens. Touch the application to use to share the selected albums.
5. Follow the instructions within the selected application.

### Get Album Information

1. Touch  > .
2. Touch and hold an album until it highlights.
3. Touch  > **Details**.

### Deleting an Album

To delete an album and its contents:

1. Touch  > .
2. Touch and hold an album until it highlights.
3. Check other albums to delete. Ensure that other albums are selected.
4. Touch .
5. In the **Delete selected item?** menu, touch **OK** to delete the album.



## Working with Photos

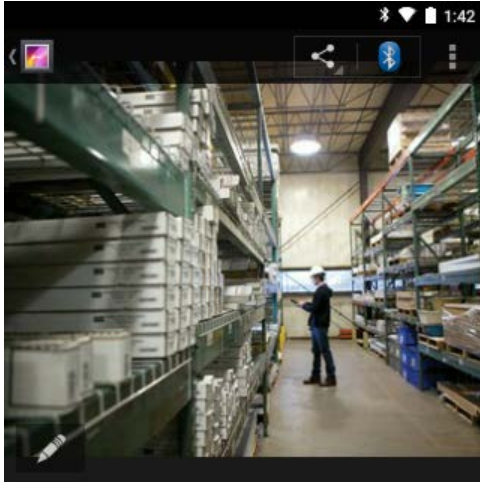
Use Gallery to view, edit and share photos.

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**Viewing and Browsing Photos**

To view a photo:


1. Touch  > .
2. Touch an album to open it.
3. Touch a photo.



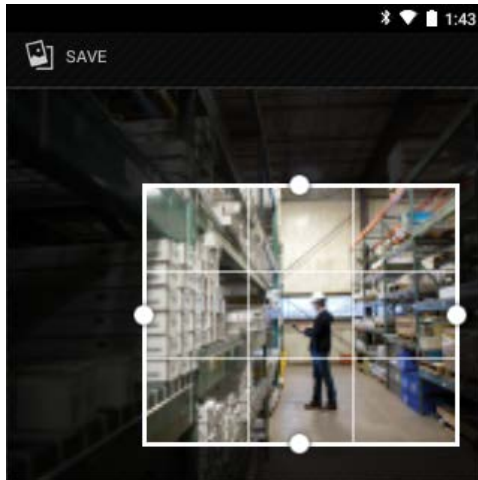
**Figure 3-5** *Photo Example*

4. Swipe left or right to view the next or previous photo in the album.
5. Touch the photo to view the controls.
6. Double-tap the screen to zoom in or pinch two fingers together or spread them apart to zoom in or out.
7. Drag the photo to view parts that are not in view.

**Cropping a Photo**

1. In **Gallery**, touch a photo to view the controls.
2. Press .
3. Touch **Crop**. The blue cropping tool appears.
4. Use the cropping tool to select the portion of the photo to crop.
  - Drag from the inside of the cropping tool to move it.
  - Drag an edge of the cropping tool to resize it to any proportion.
  - Drag a corner of the cropping tool to resize it with fixed proportions.










**Figure 3-6** *Cropping Tool*

5. Touch **SAVE** to save a copy of the cropped photo. The original version is retained.




### Setting a Photo as a Contact Icon

1. Touch  > .
2. Touch an album to open it.
3. Touch the photo to open it.
4. Press .
5. Touch **Set picture as**.
6. Touch **Contact photo**.
7. In the **Contacts** application, touch a contact.
8. Touch the white box and crop the photo accordingly.
9. Touch **SAVE**.

### Get Photo Information

1. Touch  > .
2. Touch an album to open it.
3. Touch the photo to open it.
4. Press .
5. Touch **Details**.
6. Touch **Close**.




### Share a Photo

1. Touch  > .
2. Touch an album to open it.
3. Touch a photo to open it.
4. Touch .

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5. Touch the application to use to share the selected photo. The application selected opens with the photo attached to a new message.




### Deleting a Photo

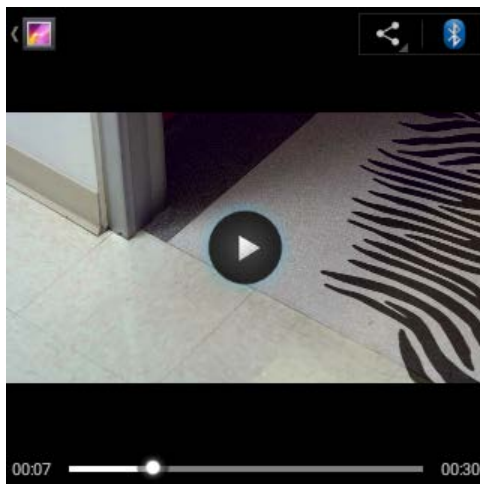
1. Touch  > .
2. Touch an album to open it.
3. Touch a photo to open it.
4. Touch .
5. Touch **OK** to delete the photo.

## Working with Videos

Use Gallery to view videos and share videos.

### Watching Videos




1. Touch  > .
2. Touch an album to open it.
3. Touch a video.
4. Touch . The video begins to play.






**Figure 3-7** Video Example

5. Touch the screen to view the playback controls.

### Sharing a Video

1. Touch  > .
2. Touch an album to open it.
3. Touch a video to open it.
4. Touch . The Share menu appears.
5. Touch the application to use to share the selected video. The application selected opens with the video attached to a new message.

Deleting a Video

- 1. Touch  > .
- 2. Touch an album to open it.
- 3. Touch a video to open it.
- 4. Touch .
- 5. Touch **OK** to delete the video.

DataWedge Demonstration

Use **DataWedge Demonstration** to demonstrate data capture functionality.

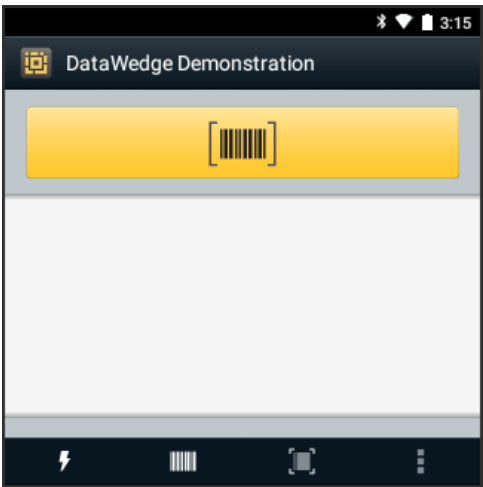







Figure 3-8 DataWedge Demonstration Window

Figure 3-9 DataWedge Demonstration Icons

Icon	Description
	Not applicable.
	Indicates that the data capture function is through the imager.
	Select to enable picklist mode.
	Select to enable normal scan mode.
	Opens a menu to view the application information or to set the application DataWedge profile.

✓ **NOTE** See the MC32N0 Integrator Guide for information on DataWedge configuration.

### 3 - 10 MC32N0 User Guide with Android v5.1.1

Either press a Scan key or touch the yellow scan button in the application to enable data capture. The captured data appears in the text field below the yellow button.

---

## Sound Recorder

Use **Sound Recorder** to record audio messages.

Recordings are saved on the microSD card (if installed) or the internal memory and available in the Music application playlist titled "My Recordings."

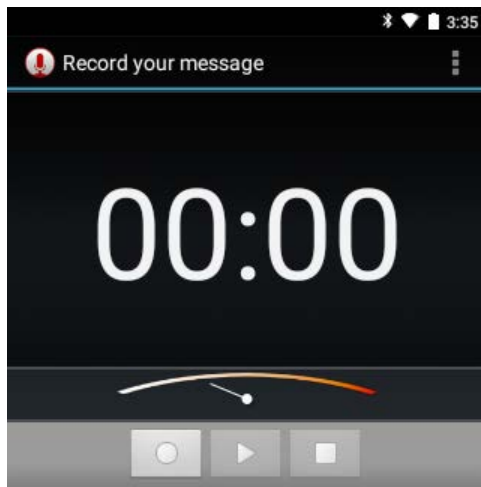


Figure 3-10 *Sound Recorder Application*

---

## PTT Express Voice Client



**NOTE** PTT Express Voice Client creates Push-To-Talk (PTT) communication capability between disparate enterprise devices. Leveraging existing Wireless Local Area Network (WLAN) infrastructure, PTT Express delivers simple PTT communication without the need of a voice communication server.

- **Group Call:** Press and hold the Talk button (yellow Scan button on the MC32N0-G keypad or the right Scan button on MC32N0-R/S) to start communicating with other voice client users.
- **Private Response:** Press and release and then press and hold the Talk button to respond to the originator of the last group call.

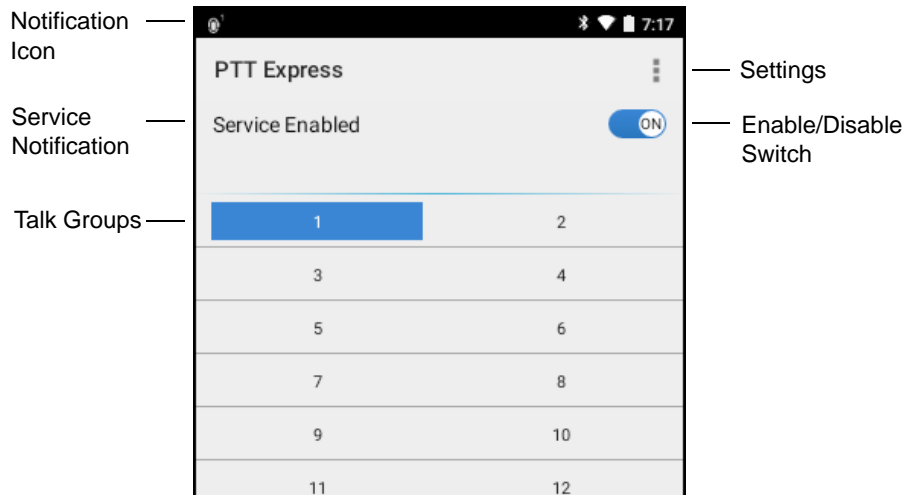
### PTT Audible Indicators

The following tones provide helpful cues when using the voice client.

- **Talk Tone:** Double chirp. Plays when the Talk button is depressed. This is a prompt for the user to start talking.
- **Access Tone:** Single beep. Plays when another user just finished a broadcast or response. The user is now able to initiate a Group Broadcast.
- **Busy Tone:** Continuous tone. Plays when the Talk button is depressed and another user is already communicating on the same talkgroup. Plays after the maximum allowed talk time is reached (60 seconds).

- **Network Tone:**

- Three increasing pitch beeps. Plays when PTT Express has acquired the WLAN connection and the service is enabled.
- Three decreasing pitch beeps. Plays when PTT Express has lost the WLAN connection or the service is disabled.



**Figure 3-11** PTT Express Default User Interface

**Table 3-1** PTT Express Default user Interface Descriptions








Item	Description
Notification Icon	Indicates the current state of the PTT Express client.
Service Indication	Indicates the status of the PTT Express client. Options: <b>Service Enabled</b> , <b>Service Disabled</b> or <b>Service Unavailable</b> .
Previous Profile Button	Scrolls to the previous profile screen.
Talk Group	Lists Talk Groups available for PTT communication.
Speaker Icon	Mutes and un-mutes the client. If muted, a call cannot be heard and initiated.
Settings	Opens the PTT Express Settings screen.
Enable/Disable Switch	Turns the PTT service on and off.
Next Profile Button	Scrolls to the next profile screen.
Profile Enable/Disable Checkbox	Indicates that the profile is enabled (checked) or disabled (unchecked).
Profile Name	Displays the name of the current profile.

## Notification Icons

Indicates the current state of the PTT Express Voice Client.

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**Table 3-2** PTT Express Default Notification Icons

Icon	Description
	Indicates that PTT Express Voice client is disabled.
	Indicates that PTT Express Voice client is enabled but not connected to a WLAN.
	Indicates that PTT Express Voice client is enabled, connected to a WLAN and listening on the Talk Group indicated by the number next to the icon.
	Indicates that PTT Express Voice client is enabled, connected to a WLAN and communicating on the Talk Group indicated by the number next to the icon.
	Indicates that PTT Express Voice client is enabled, connected to a WLAN and in a private response.
	Indicates that PTT Express Voice client is enabled and muted.
	Indicates that the PTT Express Voice client is enabled but it is not able to communicate due to a VoIP telephony call is in progress.

## Enabling PTT Communication

1. Touch  > .
2. Slide the **Enable/Disable Switch** to the **ON** position. The button changes to an **ON** button.

## PTT Communication



**NOTE** This section describes the default PTT Express client configuration. See the PTT Express V1.2 User Guide for detailed information on using the client.

PTT communication may be established as a Group Call. When PTT Express is enabled, the yellow Scan button on the keypad is assigned for PTT communication.

### Creating a Group Call



1. Press and hold the Scan button and listen for the talk tone to play.  
If a busy tone is heard, release the button and wait a moment before making another attempt. Ensure that PTT Express and the WLAN are enabled.
2. Start talking after the talk tone is heard.  
If the user holds the button for more than 60 seconds (default), the call is dropped allowing others to make Group calls. The user should release the button when finished talking to allow others to make calls.
3. Release the button when finished talking.

### Responding with a Private Response

The Private Response can only be initiated once a Group Call has been established. The initial Private Response is made to the originator of the Group Call.

1. Wait until an access tone is heard.
2. Press and release and then press and hold the Talk button and listen for the talk tone to play.  
If a busy tone is heard, release the button and wait a moment before making another attempt. Ensure that PTT Express and the WLAN are enabled.
3. Start talking after the talk tone plays.
4. Release the button when finished talking.

### Disabling PTT Express Voice Client Communication

1. Touch  > .
2. Slide the **Enable/Disable Switch** to the **OFF** position. The button changes to **OFF**.
3. Press .

## RxLogger

RxLogger is a comprehensive diagnostic tool that provides application and system metrics. It allows for custom plug-ins to be created and work seamlessly with this tool. RxLogger is used to diagnose device and application issues. Its information tracking includes the following: CPU load, memory load, memory snapshots, battery consumption, power states, wireless logging, cellular logging, TCP dumps, Bluetooth logging, GPS logging, logcat, FTP push/pull, ANR dumps, etc. All logs and files generated are saved onto flash storage on the device (internal or external).

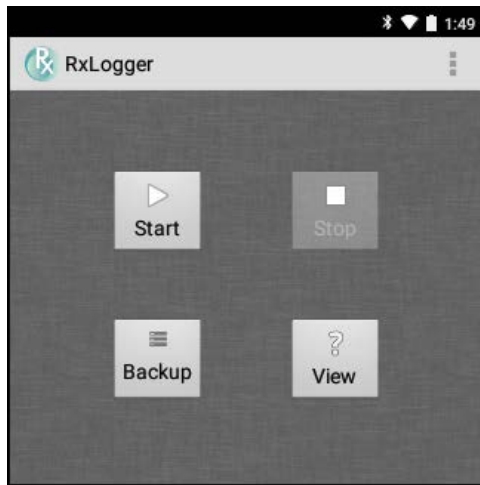


Figure 3-12 RxLogger

## RxLogger Configuration

RxLogger is built with an extensible plug-in architecture and comes packaged with a number of plugins already built-in. The included plug-ins are described below. Touch > **Settings** to open the configuration screen.

### Configuration File

RxLogger configuration can be set using an XML file. The *config.xml* configuration file is located on the **Enterprise storage** in the **RxLogger\config** folder. Copy the file from the device to a host computer using a USB connection. Edit the configuration file and then replace the .XML file on the device. There is no need to stop and restart the RxLogger service since the file change is automatically detected.


## Enabling Logging

1. Touch > .
2. Touch **Start**.
3. Press .

## Disabling Logging

1. Touch > .
2. Touch **Stop**.



3. Press .

## Extracting Log Files

1. Connect the device to a host computer using an USB connection.
2. Using a file explorer, navigate to the **Internal Storage** in the **/RxLogger** folder.
3. Copy the file from the device to the host computer.
4. Disconnect the device from the host computer.

## Elemez



**NOTE** Elemez collects specific device information in the background and sends this information to us to help improve product functionality. This feature can be disabled.

See [Disabling Elemez Data Collection](#). Ensure that the date, time and time zone are set correctly prior to using Elemez.

Use **Elemez** to provide diagnostics information to us. Touch **Submit Diagnostics** button to send the data.

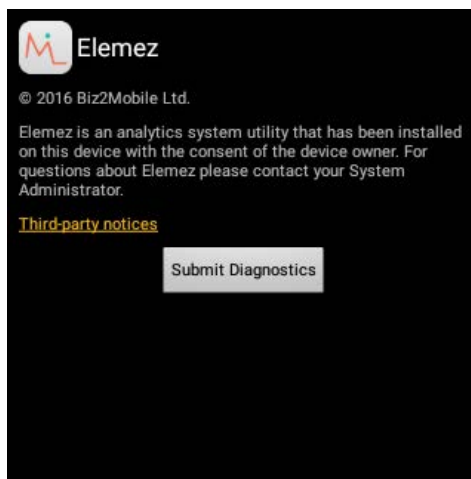




Figure 3-13 Elemez Application

## Disabling Elemez Data Collection

The user can disable the Elemez application from collection specific data in the background and sending it to Zebra Technologies.





1. Press .
2. Touch **Manage Apps**.
3. Swipe left or right until the **ALL** tab displays.
4. Scroll through the list and touch **Elemez**.
5. In the **App info** screen, touch **Uninstall updates**.

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6. In the **Uninstall updates** dialog box, touch **OK**.
7. Touch **OK**.
8. After uninstall is complete, touch **OK**.
9. In the **All** tab, scroll through the list and touch **Elemesz**.
10. Touch **Disable**.
11. In the **Disable built-in app?** dialog box, touch **OK**.
12. Press .

## Enabling Elemesz Data Collection

The user can re-enable the Elemesz application for collection specific data in the background and sending it to Zebra Technologies.

1. Press .
2. Touch **Manage Apps**.
3. Swipe left or right until the **ALL** tab displays.
4. Scroll through the list and touch **Elemesz**.
5. In the **App info** screen, touch **Enable**.
6. Press .
7. Touch  > .
8. Touch **Enable Elemesz**.

# CHAPTER 4 DATA CAPTURE

---

## Introduction

This chapter provides information for capturing bar code data using the internal camera and optional scan modules and Bluetooth scanner.

The MC32N0 offers the following data capture options:

- imager.
- laser scanner.
- RS507 Hands-free imager.



**NOTE** DataWedge is installed and enabled on the MC32N0 by default.

By default, the good decode beep is set to system volume (Music and Media). The good decode beep can be set to another sound (Notifications or Alarms) and the volume can be independently controlled. See the DataWedge section in the *MC32N0 Integrator Guide* for more information.

---

## Imager

The device with an integrated imager has the following features:

- Omnidirectional reading of a variety of bar code symbologies, including the most popular linear, postal, PDF417, and 2D matrix code types.
- Advanced intuitive laser aiming cross-hair for easy point-and-shoot operation.

The module 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.

## Operational Modes

The device with an integrated imager supports two modes of operation, listed below. Activate each mode by pressing a scan button.

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- **Decode Mode:** In this mode, the device attempts to locate and decode enabled bar codes within its field of view. The imager remains in this mode as long as the user holds the scan button, or until it decodes a bar code.



**NOTE** To enable Pick List Mode, configure in DataWedge.

- **Pick List Mode:** This mode allows the user to selectively decode a bar code when more than one bar code is in the device's field of view. To accomplish this, move the aiming crosshair over the required bar code to decode only this bar code. This feature is ideal for pick lists containing multiple bar codes and manufacturing or transport labels containing more than one bar code type (either 1D or 2D).

---

## Laser Scanner

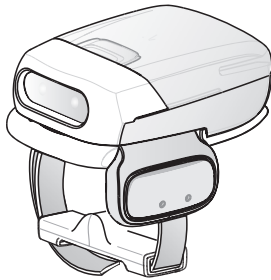
The MC32N0 with laser scanner has the following features:

- Reading of a variety of bar code symbologies, including the most popular linear, postal, and 1-D code types.
- Intuitive aiming for easy point-and-shoot operation.

---

## RS507 Hands-Free Imager

The RS507 Hands-free Imager is a wearable bar code scan solution for both 1D and 2D bar code symbologies. The scanner supports Simple Serial Interface (SSI) and Bluetooth Human Interface Device (HID) connection to the device where the scanner emulates a keyboard.



**Figure 4-1** RS507 Hands-Free Imager

See to the *RS507 Hands-free Imager Product Reference Guide* for more information.

---

## Scanning Considerations

Typically, scanning is a simple matter of aim, scan, and decode where a few quick trial efforts master it. However, consider the following to optimize scanning performance:

- 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 farther away to find the right working range for the bar codes being scanned.

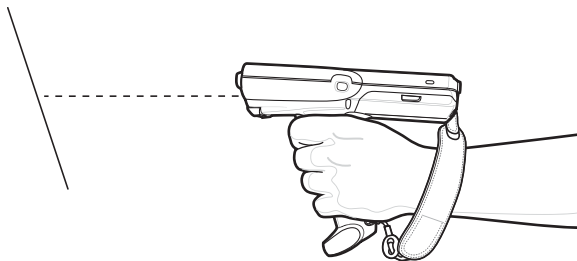
- Angle
  - Scan angle is important for promoting quick decodes. When laser beams reflect directly back into the scanner from the bar code, this specular reflection can “blind” the scanner.  
To avoid this, scan the bar code so that the beam does not bounce directly back. But do not scan at too sharp 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.
- Hold the device farther away for larger symbols.
- Move the device closer for symbols with bars that are close together.

✓ **NOTE** Scanning procedures depend on the application and device configuration. An application may use different scanning procedures from those described.

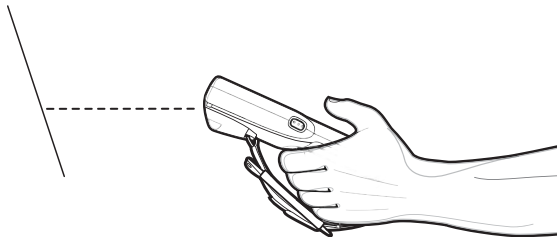
## Bar Code Capture with Imager

To capture bar code data:

1. Ensure that an application is open on the device and a text field is in focus (text cursor in text field).
2. Point the top of the device at a bar code.



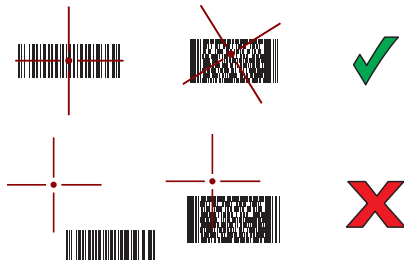
**Figure 4-2** Bar Code Scanning – MC32N0–G



**Figure 4-3** Bar Code Scanning – MC32N0–S

3. Press and hold the Scan button or Trigger.  
The red laser aiming pattern turns on to assist in aiming.
4. 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 Scan LEDs light green and a beep sounds, by default, to indicate the bar code was decoded successfully. Note that when the device is in Pick List Mode, the device does not decode the bar code until the center of the crosshair touches the bar code.

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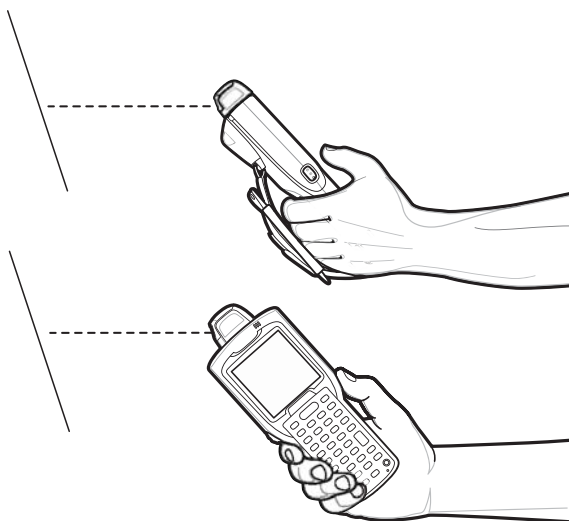
**Figure 4-4** *Aiming Pattern***Figure 4-5** *Pick List Mode with Multiple Bar Codes in Aiming Pattern*

5. Release the scan button or Trigger.
6. The bar code content data appears in the text field.

## Bar Code Capture with Laser Scanner

To capture bar code data:

1. Ensure that an application is open on the device and a text field is in focus (text cursor in text field).
2. On the MC32N0-R, rotate the Turret for optimal scanning position.
3. Point the scan exit window at a bar code.

**Figure 4-6** *Bar Code Scanning – MC32N0-R*

4. Press and hold the Scan button.  
The red scan line turns on to assist in aiming. Ensure that the scan line crosses every bar and space of the bar code.

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



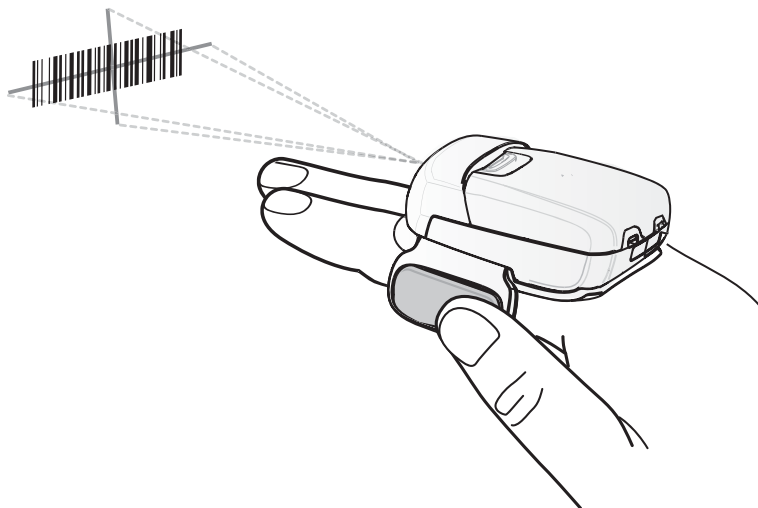
**Figure 4-7** *Linear Scanner Aiming Pattern*

5. Release the scan button.
6. The captured data appears in the text field.

## Bar Code Capture with RS507 Hands-Free Imager

Pair the RS507 with the MC32N0. See [Pairing the RS507 Hands-Free Imager Using SSI on page 4-6](#) or [Pairing the RS507 Hands-Free Imager Bluetooth HID on page 4-7](#).

1. Ensure that an application is open on the device and a text field is in focus (text cursor in text field).
2. Point the RS507 at a bar code.



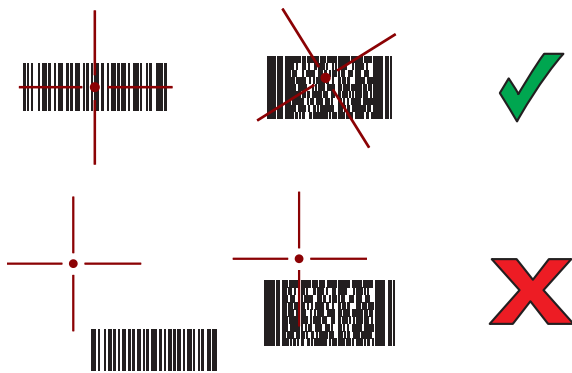
**Figure 4-8** *Bar Code Scanning with RS507*

3. Press and hold the trigger.

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 RS507 LEDs light green, a beep sounds to indicate the bar code was decoded successfully. Note that when the RS507 is in Pick List Mode, the RS507 does not decode the bar code until the center of the crosshair touches the bar code.

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**Figure 4-9** *Aiming Pattern*





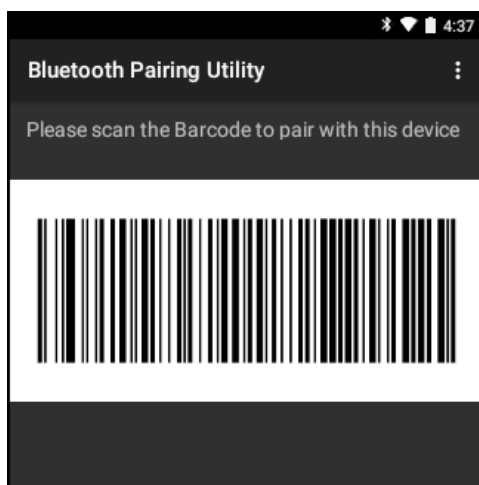
**Figure 4-10** *Pick List Mode with Multiple Bar Codes in Aiming Pattern*

4. The captured data appears in the text field.

### Pairing the RS507 Hands-Free Imager Using SSI

An RS507 Hands-free Imager can be used with the device to capture bar code data.

1. Ensure that the two devices are within 10 meters (32.8 feet) of one another.
2. Install the battery into the RS507.
3. On the MC32N0, touch  > .




**Figure 4-11** *Bluetooth Pairing Utility*



4. Using the RS507, scan the bar code on the screen.

The RS507 emits a high/low/high/low beeps. The Scan LED flashes green indicating that the RS507 is attempting to establish connection with the MC32N0. When connection is established, the Scan LED turns off and the RS507 emits one string of low/high beeps.

5. On the MC32N0, touch .




## Pairing the RS507 Hands-Free Imager Bluetooth HID

An RS507 Hands-free Imager can be used with the device to capture bar code data.

1. Ensure that Bluetooth is enabled on both devices.
2. Ensure that the Bluetooth device to discover is in discoverable mode.
3. Ensure that the two devices are within 10 meters (32.8 feet) of one another.
4. Place the RS507 in Human Interface Device (HID) mode. If the RS507 is already in HID mode, skip to step 5.
  - a. Remove the battery from the RS507.
  - b. Press and hold the Restore key.
  - c. Install the battery onto the RS507.
  - d. Keep holding the Restore key for about five seconds until a chirp is heard and the Scan LEDs flash green.
  - e. Scan the bar code below to place the RS507 in HID mode.



**Figure 4-12** RS507 Bluetooth HID Bar Code

5. Remove the battery from the RS507.
6. Re-install the battery into the RS507.
7. On the MC32N0, touch  > .
8. Touch  **Bluetooth**.
9. Touch **SCAN FOR DEVICES**. The device begins searching for discoverable Bluetooth devices in the area and displays them under **AVAILABLE DEVICES**.
10. Scroll through the list and select RS507.

The device connects to the RS507 and **Connected** appears below the device name. The Bluetooth device is added to the **Bluetooth devices** list and a trusted ("paired") connection is established.





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## DataWedge





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

To configure DataWedge refer to the *MC32N0 Integrator Guide*.

## Enabling DataWedge

1. Touch  > .
2. Press .
3. Touch **Settings**.
4. Touch the **DataWedge enabled** checkbox. A blue checkmark appears in the checkbox indicating that DataWedge is enabled.
5. Press .

## Disabling DataWedge

1. Touch  > .
2. Press .
3. Touch **Settings**.
4. Touch the **DataWedge enabled** checkbox. The blue checkmark disappears from the checkbox indicating that DataWedge is disabled.
5. Press .

# CHAPTER 5 WIRELESS

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## Introduction

This section provides information on the wireless features:

- Wireless Local Area Network (WLAN)
- Bluetooth

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## Wireless Local Area Networks

Wireless local area networks (WLANs) allow the MC32N0 to communicate wirelessly inside a building. Before using the MC32N0 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 MC32N0 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 configure the MC32N0 to match the security scheme.

The MC32N0 supports the following WLAN security options:

- Open
- Wireless Equivalent Privacy (WEP)
- Wi-Fi Protected Access (WPA)/WPA2 Personal (PSK)
- Extensible Authentication Protocol (EAP)
  - LEAP
  - FAST - with Microsoft Challenge-Handshake Authentication Protocol version 2 (MSCHAPv2) and Generic Token Card (GTC) authentication.
  - Protected Extensible Authentication Protocol (PEAP) - with MSCHAPV2 and GTC authentication.
  - Transport Layer Security (TLS)
  - TTLS - with Password Authentication Protocol (PAP), MSCHAP and MSCHAPv2 authentication.



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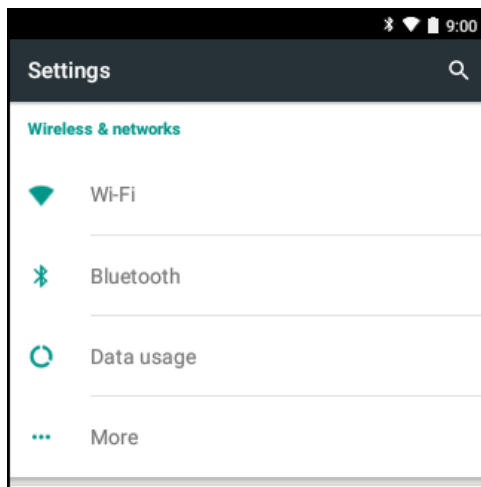
The **Status** bar displays icons that indicate Wi-Fi network availability and Wi-Fi status. See [Status Bar on page 2-2](#) for more information.



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

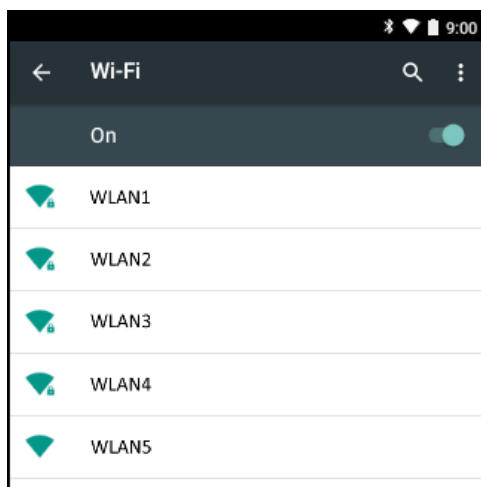
## Scan and Connect to a Wi-Fi Network

1. Touch  > .
2. Touch  **Wi-Fi**.



**Figure 5-1** Settings Screen

3. Slide the **Wi-Fi** switch to the **ON** position. The MC32N0 searches for WLANs in the area and lists them.



**Figure 5-2** Wi-Fi Screen

4. Scroll through the list and select the desired WLAN network.




- For open networks, touch profile once or press and hold and then select **Connect to network** or for secure networks enter the required password or other credentials then touch **Connect**. See the system administrator for more information.

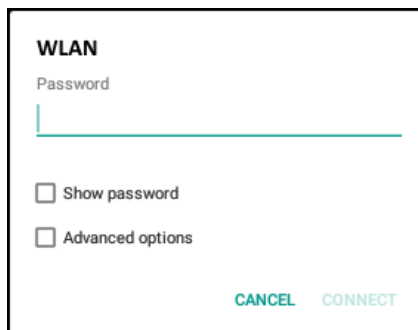
The MC32N0 obtains a network address and other required information from the network using the dynamic host configuration protocol (DHCP) protocol. To configure the MC32N0 with a fixed internet protocol (IP) address, See [Configuring the Device to Use a Static IP Address on page 5-6](#).

- In the Wi-Fi setting field, **Connected** appears indicating that the MC32N0 is connected to the WLAN.

## Configuring a Wi-Fi Network

To set up a Wi-Fi network:

- Touch  > .
- Touch  **Wi-Fi**.
- Slide the switch to the **ON** position. The device searches for WLANs in the area and lists them on the screen.
- Scroll through the list and select the desired WLAN network.
- Touch the desired network. If the network security is **Open**, the device automatically connects to the network. For all other network security a dialog box appears.



**Figure 5-3** WLAN Network Security Dialog Box

- If the network security is **WEP** or **WPA/WPS2 PSK**, enter the required password and then touch **Connect**.

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**Figure 5-4** 802.1x EAP Security Dialog Box

7. If the network security is 802.1x EAP:

- Touch the EAP method drop-down list and select **PEAP**, **TLS**, **TTLS** or **PWD**.
- Touch the **Phase 2 authentication** drop-down list and select an authentication method.
- If required, touch **CA certificate** and select a Certification Authority (CA) certificate. Note: Certificates are installed using the **Security** settings.
- If required, touch **User certificate** and select a user certificate. Note: User certificates are installed using the Security settings.
- If required, in the **Identity** text box, enter the username credentials.
- If desired, in the **Anonymous identity** text box, enter an anonymous identity username.
- If required, in the **Password** text box, enter the password for then given identity.









**NOTE** By default, the network Proxy is set to None and the IP settings is set to DHCP. See [Configuring for a Proxy Server on page 5-5](#) for setting connection to a proxy server and see [Configuring the Device to Use a Static IP Address on page 5-6](#) for setting the device to use a static IP address.

8. Touch **Connect**.

9. Press .

## Manually Adding a Wi-Fi Network

Manually add a Wi-Fi network if the network does not broadcast its name (SSID) or to add a Wi-Fi network when out of range.

1. Touch  > .
  2. Touch  **Wi-Fi**.
  3. Slide the Wi-Fi switch to the **On** position.
  4. Press .
  5. Touch **Add Network**.
  6. In the **Network name** text box, enter the name of the Wi-Fi network.
  7. In the **Security** drop-down list, select the type of security. Options:
    - **None**
    - **WEP**
    - **WPA/WPA2 PSK**
    - **802.1x EAP**.
  8. If the network security is **None**, touch **Save**.
  9. If the network security is **WEP** or **WPA/WPA2 PSK**, enter the required password and then touch **Save**.
  10. If the network security is **802.1x EAP**:
    - Touch the **EAP method** drop-down list and select **PEAP**, **TLS**, **PWD** or **TTLS**.
    - Touch the **Phase 2 authentication** drop-down list and select an authentication method.
    - If required, touch **CA certificate** and select a Certification Authority (CA) certificate. Note: Certificates are installed using the **Security** settings.
    - If required, touch **User certificate** and select a user certificate. Note: User certificates are installed using the **Security** settings.
    - If required, in the **Identity** text box, enter the username credentials.
    - If desired, in the **Anonymous** identity text box, enter an anonymous identity username.
    - If required, in the **Password** text box, enter the password for then given identity.
-  **NOTE** By default, the network Proxy is set to None and the IP settings is set to DHCP. See [Configuring for a Proxy Server on page 5-5](#) for setting connection to a proxy server and see [Configuring the Device to Use a Static IP Address on page 5-6](#) for setting the device to use a static IP address.
11. Touch **Save**. To connect to the saved network, touch the saved network and select Connect.
  12. Press .

## Configuring for a Proxy Server

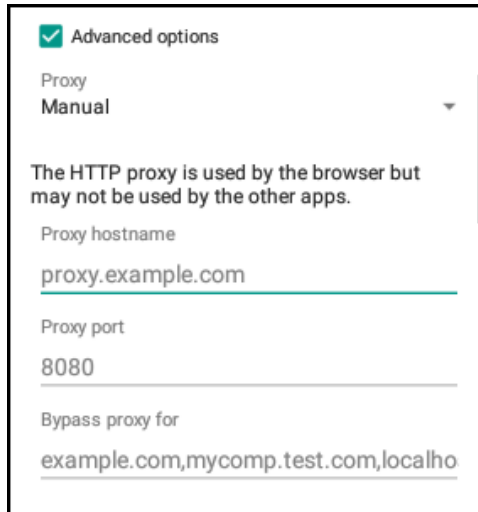
A proxy server is a server that acts as an intermediary for requests from clients seeking resources from other servers. A client connects to the proxy server, requesting some service, such as a file, connection, web page, or other resource, available from a different server. The proxy server evaluates the request according to its filtering rules. For example, it may filter traffic by IP address or protocol. If the request is validated by the filter, the proxy provides the resource by connecting to the relevant server and requesting the service on behalf of the client.

It is important for enterprise customers to be able to set up secure computing environments within their companies, and proxy configuration is an essential part of doing that. Proxy configuration acts as a security barrier ensuring that the proxy server monitors all traffic between the Internet and the intranet. This is normally an integral part of security enforcement in corporate firewalls within intranets.

1. In the **Wi-Fi** list, touch a network.

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2. Touch **Advanced options** checkbox.
3. Touch **Proxy** and select **Manual**.



**Figure 5-5** Proxy Settings

4. In the **Proxy hostname** text box, enter the address of the proxy server.
5. In the **Proxy port** text box, enter the port number for the proxy server.



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

6. In the **Bypass proxy for** text box, enter addresses for web sites that do not require to go through the proxy server. Use a comma “,” between addresses.

When entering proxy addresses the Bypass proxy for field, do not use spaces or carriage returns between addresses.

7. Touch **Connect**.

8. Press .

## Configuring the Device to Use a Static IP Address

By default, the device is configured to use Dynamic Host Configuration Protocol (DHCP) to assign an Internet protocol (IP) address when connecting to a wireless network. To configure the device to connect to a network using a static IP address:

1. In the **Wi-Fi** list, touch a network.
2. Touch **Advanced options** checkbox.
3. Touch **IP settings** and select **Static**.



IP settings  
Static

IP address  
192.168.1.128


Gateway  
192.168.1.1

Network prefix length  
24

DNS 1  
8.8.8.8

DNS 2  
4.4.4.4

**Figure 5-6** *Static IP Settings*

4. In the **IP address** text box, enter an IP address for the device.
5. If required, in the **Gateway** text box, enter a gateway address for the device.
6. If required, in the **Network prefix length** text box, enter a the prefix length.
7. If required, in the **DNS 1** text box, enter a Domain Name System (DNS) address.
8. If required, in the **DNS 2** text box, enter a DNS address.
9. Touch **Connect**.
10. Press .

## Advanced Wi-Fi Settings




**NOTE** Advanced Wi-Fi settings are for the device not for a specific wireless network.

Use the **Advanced** settings to configure additional Wi-Fi settings. Press  > touch **Advanced** to view the advanced settings.

- **Network notification** - When enabled, notifies the user when an open network is available.
- **Scanning always available** - Select to let Google's location service and other applications scan for networks, even when Wi-Fi is off. (default - disabled).
- **Keep Wi-Fi on during sleep** - Opens a menu to set whether and when the Wi-Fi radio turns off.
  - **Always On** - The radio stays on when the device enters suspend mode.
  - **Only when plugged in** - The radio stays on while the device is connected to external power.
  - **Never On** - The radio turns off when the device enters suspend mode (default).
- **Wi-Fi frequency band** - Options: Automatic (default), 5 GHz only or 2.4 GHz only.
- **Install Certificates** - Touch to install certificates.
- **MAC address** - Displays the Media Access Control (MAC) address of the device when connecting to Wi-Fi networks.
- **IP address** - Displays the IP address of the device.

## Additional Settings

Use the **Additional Settings** to configure additional Wi-Fi settings. From the **Wi-Fi** screen, Press  > touch **Additional Settings** to view the additional settings.

- Regulatory
  - **Country selection** - Displays the acquired country code if 802.11d is enabled else it displays the currently selected country code.
  - **Region code** - Displays the current region code.
- Band and Channel Selection
  - **Wi-Fi frequency band** - Use to select the frequency band. Options: **Auto** (default), **5 GHz only** or **2.4 GHz only**.
  - **Available channels (2.4 GHz)** - Use to select specific channels. Touch to display the **Available channels** menu. Select specific channels. Touch **OK**.
  - **Available channels (5 GHz)** - Use to select specific channels. Touch to display the **Available channels** menu. Select specific channels. Touch **OK**.
- Logging
  - **Advanced Logging** - Provides support for continuous capture of system logs to a file to help in debugging and resolution of Wi-Fi related issues. Disabled by default. In the **Advanced Logging** dialog box, select **Enable Logging**. If desired, change the log directory location. When enabled, the following log are captured:



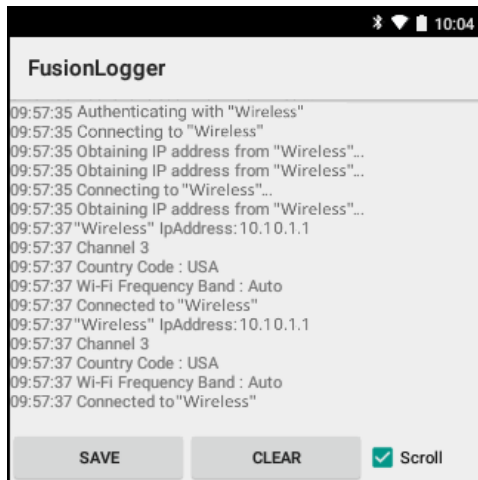
**NOTE** The MC32N0 must have a microSD card installed.

All log files are saved in /storage/sdcard0/fusionlogs on the MC32N0.

Fusion will ask the user whether he wants to clear out previous logs before starting logging.

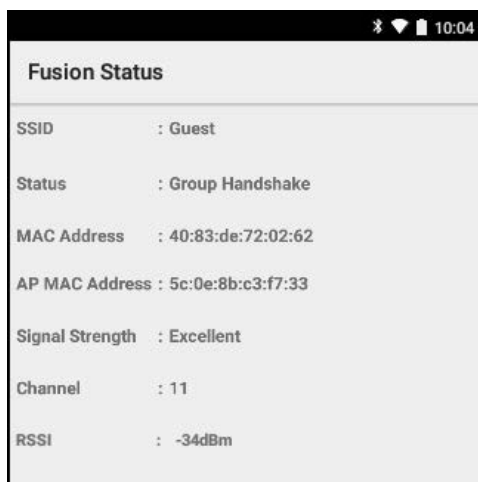
tcpdump capture file and fusion-sysinfo.log will only be generated when advanced logging is stopped.

- Android logcat output with time stamps and the kernel messages in the file: *fusion-wlan.log*.
- tcpdump intermediate capture of packets between network stack and driver in the file: *fusion-pktpcap.pcap*
- Fusion versions, Wi-Fi state machine logs and other framework information in the file: *fusion-sysinfo.log*.
- **Wireless logs** - Use to capture Wi-Fi log files.
  - **Fusion Logger** - Touch to open the Fusion Logger application. This application maintains a history of high level WLAN events which helps to understand the status of connectivity.



**Figure 5-7** Fusion Logger Screen

- **Fusion Status** - Touch to display live status of WLAN state. Also provides information of device and connected profile.







**Figure 5-8** Fusion Status Screen

- About
- **Version** - Displays the current Fusion information.

## Remove a Wi-Fi Network

To remove a remembered or connected network:

1. Touch  > .
2. Touch  **Wi-Fi**.
3. In the **Wi-Fi networks** list, touch and hold the name of the network.
4. In the menu, touch **Forget network**.
5. Press .

## 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 MC32N0 supports the following Bluetooth services:

- Generic Access Profile (GAP) - Use for device discovery and authentication.
- Service Discovery Access Protocol (SDP) - Handles the search for known and specific services as well as general services.
- Serial Port Profile (SPP) - Sets up a virtual serial port and connects two Bluetooth enabled devices. For example, connecting the MC32N0 to a printer.
- Human Interface Device Profile (HID) - Allows Bluetooth keyboards, pointing devices, gaming devices and remote monitoring devices to connect to the MC32N0.
- Dial-up Networking (DUN) - Allows the MC32N0 to access the Internet and other dial-up services using a Bluetooth enabled mobile phone.
- Personal Area Network (PAN) - Allow the use of Bluetooth Network Encapsulation Protocol on Layer 3 protocols for transport over a Bluetooth link.
- General Object Exchange Profile (GOEP) - Provides a basis for other data profiles. Based on OBEX and sometimes referred to as such.
- Headset Profile (HSP) - Allows a hands-free device, such as a Bluetooth headset, to place and receive calls on the MC32N0.

## Bluetooth Power States

The Bluetooth radio is off by default.

- **Suspend** - When the MC32N0 goes into suspend mode, the Bluetooth radio stays on.
- **Airplane Mode** - When the MC32N0 is placed in Airplane Mode, the Bluetooth radio turns off. When Airplane mode is disabled, the Bluetooth radio returns to the prior state. When in Airplane Mode, the Bluetooth radio can be turned back on if desired.

## Bluetooth Radio Power

Turn off the Bluetooth radio to save power or if entering an area with radio restrictions (e.g., an airplane). When the radio is off, other Bluetooth devices cannot see or connect to the device. Turn on the Bluetooth radio to exchange information with other Bluetooth devices (within range). Communicate only with Bluetooth radios in close proximity.




**NOTE** To achieve the best battery life turn off radios when not in use.

### Enabling Bluetooth

1. Touch  > .
2. Touch  **Bluetooth**.
3. Slide the Bluetooth switch to the **ON** position.  also appears in the Status bar.

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4. Press .

### Disabling Bluetooth

1. Touch  > .
2. Touch  **Bluetooth**.
3. Slide the Bluetooth switch to the **OFF** position.
4. Press .

### Discovering Bluetooth Device(s)

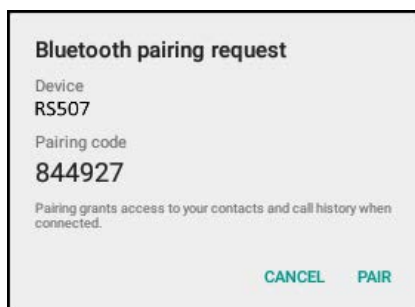
The MC32N0 can receive information from discovered devices without pairing. However, once paired, the MC32N0 and a paired device exchange information automatically when the Bluetooth radio is on. To find Bluetooth devices in the area:

1. Ensure that Bluetooth is enabled on both devices.
2. Ensure that the Bluetooth device to discover is in discoverable mode.
3. Ensure that the two devices are within 10 meters (32.8 feet) of one another.
4. Touch  > .

5. Touch  **Bluetooth**.

The MC32N0 begins searching for discoverable Bluetooth devices in the area and displays them under **Available Devices**.

6. Scroll through the list and select a device. The **Bluetooth pairing request** dialog box appears.








**Figure 5-9** Bluetooth Pairing

7. Touch **Pair** on both devices.
8. The Bluetooth device is added to the **Bluetooth devices** list and a trusted (“paired”) connection is established.

### Changing the Bluetooth Name




By default, the MC32N0 has a generic Bluetooth name that is visible to other devices when connected.

1. Touch  > .
2. Touch  **Bluetooth**.
3. If Bluetooth is not on, slide the switch to the **ON** position.
4. Touch .

5. Touch **Rename device**.
6. Enter a name and touch **Rename**.
7. Press .




## Connecting to a Bluetooth Device

Once paired, connect to a Bluetooth device.

1. Touch  > .
2. Touch  **Bluetooth**.
3. If Bluetooth is not on, slide the switch to the **ON** position.
4. In the **Paired Devices** list, touch an unconnected Bluetooth device.  
When connected, the device is displayed as connected in the list.






## Selecting Profiles on the Bluetooth Device

Some Bluetooth devices have multiple profiles. To select a profile:

1. Touch  > .
2. Touch  **Bluetooth**.
3. In the **Paired Devices** list, touch  next to the device name.
4. Under **Use for**, check or uncheck a profile to allow the device to use that profile.
5. Press .

## Unpairing a Bluetooth Device

To unpair a Bluetooth device and erase all pairing information:

1. Touch  > .
2. Touch  **Bluetooth**.
3. In the **Paired Devices** list, touch  next to the device name.
4. Touch **FORGET**.
5. Press .





# CHAPTER 6 ACCESSORIES

## Introduction

This chapter provides information for using the accessories for the device.

## MC32N0 Accessories

The table below lists the accessories available for the MC32N0.

**Table 6-1** *MC32N0 Accessories*

Accessory	Part Number	Description
<b>Cradles</b>		
Single Slot Serial /USB Cradle	CRD3000-1001RR	Charges the MC32N0 main battery and a spare battery, and synchronizes the MC32N0 with a host computer through either a serial or USB connection.
Four Slot Charge Only Cradle	CHS3000-4001CR	Charges up to four MC32N0s.
<b>Chargers</b>		
Four Slot Spare Battery Charger	SAC7X00-4000CR	Charges up to four MC32N0 spare batteries.
Battery Adapter	ADP-MC32-CUP0-01	Allows for charging of MC32N0 batteries in the Four Slot Spare Battery Charger, Single Slot USB cradle and UBC Adapter (Single-pack).
	ADP-MC32-CUP0-04	(4-pack).

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**Table 6-1** MC32N0 Accessories (Continued)

Accessory	Part Number	Description
Universal Battery Charger (UBC) Base	UBC2000-I500DES	Charges up to four MC32N0 spare batteries. Requires UBC Adapter and Battery Adapter.
MC3XXX Universal Battery Charger (UBC) Adapter	21-32665-45AR	Charges a single MC32N0 battery. Requires Battery Adapter. Use in conjunction with the UBC Base to charge multiple batteries.
Power Supply for Single Slot Serial/USB Cradle	PWRS-14000-148R	Provides power to the Single Slot Serial/USB cradle.
Power Supply for Four Slot Cradle	PWRS-14000-241R	Provides power to the Four Slot Charge Only
Power Supply for Four Slot battery Charger	PWRS-14000-242R	Provides power to the Four Slot Spare Battery Charger.
Power Supply for Charging Cables	PWRS-14000-249R	Provides power to the Charge Only cable, RS232 Charge cable and USB Client Charge cable.
US AC Line Cord	23844-00-00R	Provides power to 3-wire power supplies PWRS-14000-148R and PWRS-14000-241R.
International AC Line Cord	50-16000-271R 50-16000-218R 50-16000-219R 50-16000-220R 50-16000-221R 50-16000-256R 50-16000-257R 50-16000-669R 50-16000-671R 50-16000-672R 50-16000-678R 50-16000-727R	Provides power to 3-wire power supplies PWRS-14000-148R and PWRS-14000-241R.
US AC Line Cord	50-16000-182R	Provides power to the 2-wire power supply PWRS-14000-249R.
International AC Line Cord	50-16000-255R 50-16000-664R 50-16000-666R 50-16000-670R	Provides power to the 2-wire power supply PWRS-14000-249R.
DC Line Cord	50-16002-029R	Provides power from power supply to the Four Slot Charge Only cradle.