archer²™

owner's manual

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WARNING! This symbol indicates that failure to follow directions could result in serious injury.

CAUTION: This symbol indicates that failure to follow directions could result in damage to equipment or loss of information.

Part Number 23417.02

JUNIPER® systems

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1
Getting Started

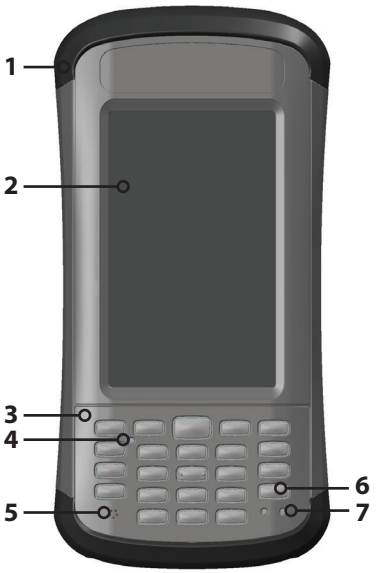
JUNIPER® systems

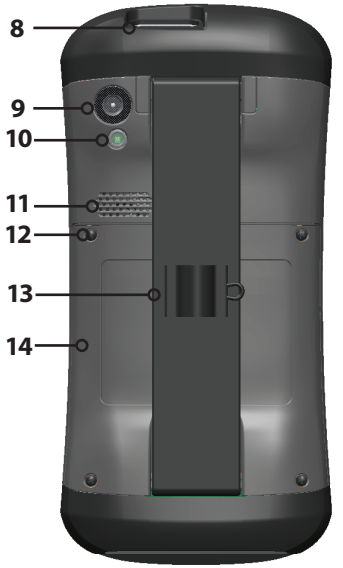
Getting Started

The Archer 2 Rugged Handheld™ from Juniper Systems features *Bluetooth*, Wi-Fi and a numeric keypad. Standard accessories include a lithium-ion battery pack, AC wall charger, USB micro client sync cable, hand strap, and a capacitive stylus and tether. A camera, GPS/GNSS, cellular data modem, and barcode scanner are options.

The Anatomy of the Archer 2

Front and Back Features





1 Bumper, Top

2 Touchscreen

3 Keypad

4 Sensor (option)

5 Microphone

6 Power Button

7 Led Indicators (charging indicator on the right, programmable indicator on the left)

8 Barcode Window (option)

9 Camera Window (option)

10 Camera Flash and Flashlight Window (option)

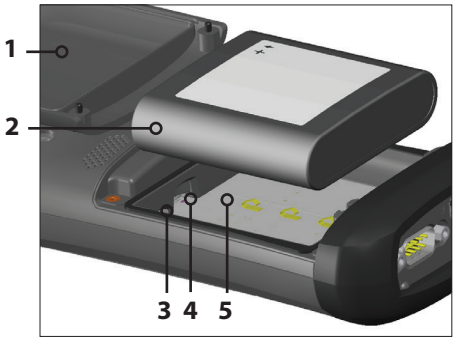
11 Speaker

12 Screw Holding Battery Door in Place (1 of 4 captive screws)

13 Hand Strap with Stylus Holder and Tether Ring

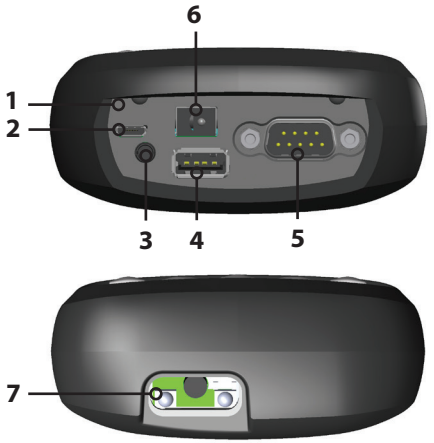
14 Door to Battery Compartment and Card Slots

Battery Compartment and Card Slots



1 Battery Door, Screws, Hand Strap (door removed)
2 Battery Pack
3 SIM Card Slot
4 SD/SDHC Card Slot, Micro
5 Battery Compartment

Connector Module and Barcode Reader



1 Connector Module
2 USB Client, Micro
3 Microphone/Speaker Jack
4 USB Host, Full Size
5 9-pin Serial Port
6 12-24V DC Jack
7 Barcode Window (option)

Perform Initial Tasks

When you receive your Archer 2, perform the tasks outlined in this section before first use.

Review Documentation

The owner's manual, quick start guide, and Microsoft® License Agreement are available in English, French, German, Spanish, and Brazilian Portuguese. Other documents like release notes are available in English. These documents are located on our website at: *www.junipersys.com/Archer-2/support.* View, download, and print

documents as desired. (Adobe Reader must be installed on your computer. It is free from Adobe's website at: *www.adobe.com*.)

Apply a Screen Protector (Optional)

The touchscreen is extremely scratch resistant, so a screen protector is not included with the Archer 2. If you decide to apply one, refer to the installation instructions included with your screen protector for specific details.

Install the Battery Pack, SD Card, and SIM Card

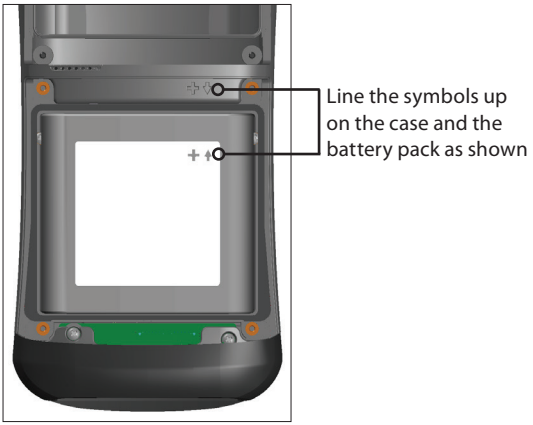
The Archer 2 uses a rechargeable Li-Ion battery pack. Install and charge the battery pack as follows:

1. The battery compartment is accessed from the back of the handheld. Loosen the 4 captive screws holding the battery compartment door in place using a #1 Phillips screwdriver. Remove the door. You do not need to remove the hand strap.

   CAUTION: The Archer 2 is not sealed against water and dust when the battery door is not installed.

2. If you are using a micro SD card for additional memory or a SIM card with the 3G Data Modem (optional), you can install them now before you install the battery pack or at another time. See more details about these cards in *Chapter 2, Hardware Components*, *Micro SD Cards* and *Chapter 8, 3G Data Modem, Install the SIM Card*.
3. Place the Li-Ion battery pack in the compartment.

Make sure the symbols on the battery pack label align with the symbols inside the compartment.



4. Replace the door and tighten the screws.
5. Plug the AC wall power charger that came with the Archer 2 into a wall socket. Plug the other end into the DC power jack on the Archer 2. The red LED on the keypad blinks when the battery pack is charging.

Attach the Stylus Tether

A capacitive stylus and tether are included with the handheld.

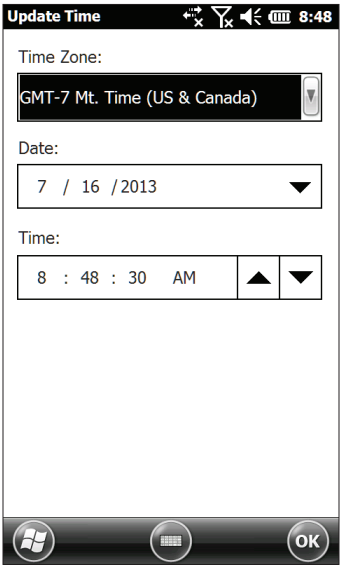
Note: A stylus is not required to use the touchscreen. The optimal way to make selections is by finger touch.

One end of the tether is attached to the stylus. To attach it to the hand strap, follow these steps:

1. Pull the free tether loop through the tether ring on the hand strap. Insert the stylus with the attached tether through this loop and tighten the loop.
2. Place the stylus into the holder on the hand strap.

Perform Set Up

1. The handheld powers on and begins the startup process. A splash screen is shown that includes a progress indicator at the bottom of the screen.
2. A Microsoft® Windows Embedded Handheld screen is shown.
3. The Clock and Alarms control panel appears. Adjust the time zone, date and time if necessary and tap OK.



The Home screen appears (layout varies by model).

Note: If you have a barcode, the Barcode Connector screen is shown. Refer to Chapter 9 for details.

4. Press the power button ⏻ to suspend the handheld. Charge the battery pack at room temperature (68° F or 20° C) for 4 to 5 hours. While the battery pack is charging, the red LED blinks. When it is fully charged, the red LED is solid.

Install the Operating System in Other Languages

The operating system is provided in English by default. It is also available in French, German, Spanish and Brazilian Portuguese. You can download the operating system in one of these languages from our website. Go to *www.junipersys.com/Archer-2/support* and select *Downloads*, then *Archer 2*. Full installation instructions are also available here.

Home Screen and Windows Start Menu

You need to be familiar with two screens as you read this manual and use the Archer 2: the Home screen and Windows Start menu.

Note: The Windows soft key and the shift + Home button sequence toggle back and forth between the Home screen and Windows Start Menu.

Home Screen | Windows Start Menu

Home Screen

The Home screen is your main control center for the Archer 2. The content varies based on which model you have and can be customized. It is automatically shown when the Archer 2 is turned on. You can get to it from any other screen by pressing and releasing the Home screen button on the keypad.

Windows Start Menu

The Windows Start menu gives you access to all of the applications on the Archer 2. You can get to it from any screen by tapping the Windows tile (soft key) on the display or pressing the shift + Home buttons on the keypad.

More information about these screens is located in *Chapter 3, Programs and Settings*.

Navigating Around Your Archer 2

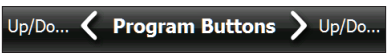
Using Gestures and Making Selections

The Windows® Embedded Handheld operating system enhances the ability of the handheld to recognize touch gestures, making it easy to use a finger to navigate. Use of the capacitive stylus is an option. The keypad buttons can also be used.

Navigation options vary depending on the screen you are viewing. Here is a partial list of options:

Vertical and Horizontal Movement

- Flick up, down or sideways on the touchscreen.
- For more precise positioning, touch, hold, and move the screen up or down.
- Use the scroll bar if it is available.
- Use the shifted ⇧ up ▲ down ▼ right ▶ and left ◀ keys to move around on a screen.
- A horizontal scrolling menu is located on control panel screens near the top. Press the left or right arrow keys to scroll through the topics (this feature replaces tabs).



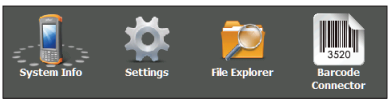
Make a Selection

Using the Touchscreen

- Press or tap the function gadget or application icon you want to select, turn on, activate, or turn off.
- Press and hold a function gadget to bring up a control panel, menu, or list.

Using the Keypad

- Use the shifted ⇧ up ▲ down ▼ right ▶ and left ◀ keys to select (highlight) a gadget or icon on the screen. A ring appears around the selection. System Info has been selected below:



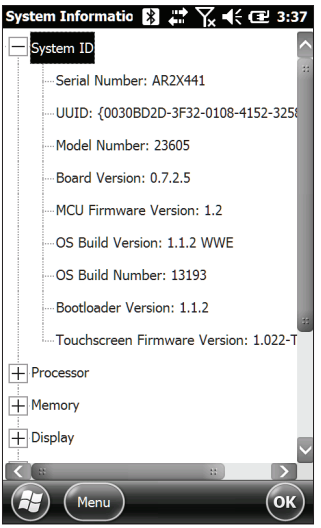
- Perform the selected action by pressing the return ↵ button. For dashboard gadgets like Wi-Fi, one press of the return key ↵ shows you which icon is selected, a second key press performs the action, and a third key press turns the action off. For application icons on the Start screen or in favorites, continue to use the return button until you get to the screen or menu you want.
- Use the shift ⇧ + OK keypad buttons to select Enter, OK, etc. on the screen. You can also bring up the control panel for selected actions on the Home screen.

Updates to the Operating System and Documents

Updates to the operating system and technical documents are located on our website at *www.junipersys.com/Archer-2/support*. Select Downloads, then Archer 2. Full install instructions are also available here.

View System Information for Your Archer 2

To view your operating system version number, press the System Info icon on the Home screen or go to *Start* > *Settings* > *System* > *System Information*. Expand *System ID*. Compare version numbers to see if your OS is current.



Owner's Manual and Quick Start Guide Versions

Compare part numbers to see if you have the most recent version of the Owners Manual and Quick Start Guide.

2
Hardware Components

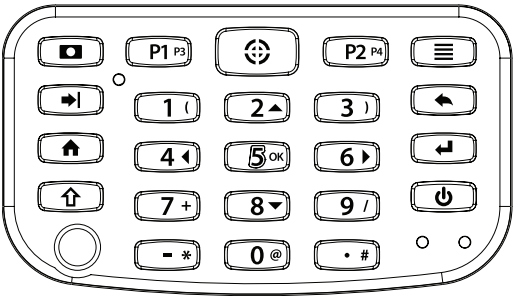
JUNIPER® systems

Hardware Components

This chapter discusses the Archer 2 Rugged Handheld hardware features and usage.

Keypad Features

The Archer 2 has a numeric keypad with sealed buttons, backlight illumination, and programmable keys and LEDs.



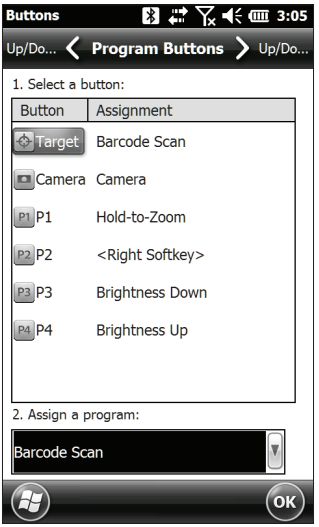
Button	Press and Release	Shift Function ⇧
	▪ Pictures and Videos function; take a picture or start and stop video ▪ Photo and video library (for units without a camera)	Notes application
P1 P3	Hold-to-Zoom function (press and hold)	Display brightness down
	▪ Barcode scan ▪ Buttons control panel (for units without a barcode scanner)	Record audio note (press and release ⇧ then press and hold until complete)
P2 P4	Right soft key	Display brightness up
	Context Menu	Task Manager
	Tab	Back-tab
2 ▲	2	Up (varies by screen)
	Backspace (delete)	Enable or disable touchscreen

Button	Press and Release	Shift Function ⇧
⌂	Home screen	Start screen (toggle)
4 ◂	4	Left (varies by screen)
5 OK	5	Select OK on the screen
6 ▸	6	Right (varies by screen)
↵	▪ Return ▪ Take picture or start video ▪ Perform highlighted action (use default action or select using arrow keys)	▪ Return ▪ Take picture or start video ▪ Perform highlighted action (use default action or select using arrow keys)
⇧	Shift (Function) ▪ Use specific shift function: Press and release ⇧ first, then press and release the button with the desired shift function. ▪ Turn shift function on for all keys: Press and release ⇧ twice. To turn shift off, press and release again. See blue LED description	See description of the specific button
8 ▾	8	Down (varies by screen)
⏻	▪ Power ▪ Suspend/Resume ▪ Power Button menu (press and hold)	None

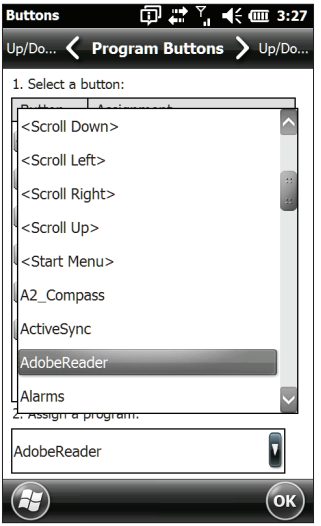
Programmable Buttons

The P1, P2, P3, P4, camera, and target buttons are programmable.

1. To bring up the Program Buttons screen, you can press the target button if your handheld does not have a barcode scanner. If you have a barcode scanner or the target button has been reassigned, select the Settings icon on the Home screen, and then *Personal* > *Buttons*. You can also go to the Start screen by selecting the Windows soft key or pressing the + buttons, then selecting *Settings* > *Personal* > *Buttons*. Under *1. Select a button*, a list of programmable buttons and their current assignments is shown.



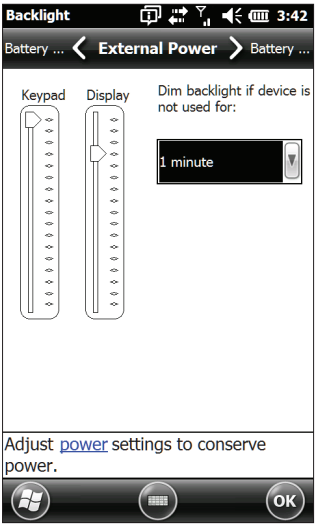
2. Select the button you want to reassign.
3. At the bottom of the screen under 2. *Assign a program*, select the down arrow button to display a list of programs and functions. Select the item you want to reassign to the selected button.



Keypad Backlight

Make keypad brightness adjustments through the Backlight control panel located at *Start* > *Settings* > *System* > *Backlight*. Select the External Power screen or Battery Power screen from the horizontal menu near the top of the screen.

Move the *Keypad* slider up to brighten the backlight or down to dim it. Dimming the keypad backlight saves battery power when the Archer 2 is in use.



Note: The keypad backlight turns off when the display backlight dims or the Archer 2 is suspended.

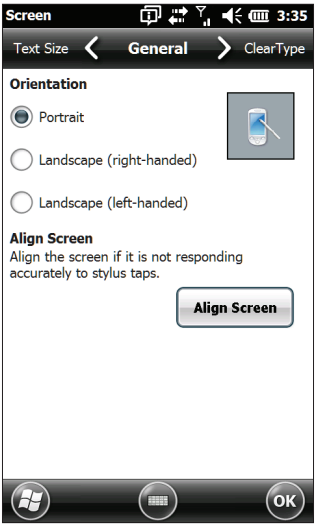
Display and Touchscreen

The Archer 2 has a bright color display and capacitive touchscreen with a diagonal viewing area of 4.3 inches (109 mm). It is easy to view outdoors and is sealed against water and dust. The Windows® Embedded Handheld operating system enhances the ability of the Archer 2 to recognize touch gestures, making it easy to use a finger to make selections and navigate. You can also use a capacitive stylus.

Display and Touchscreen Settings

Type and Orientation

To adjust the display settings, including the text size and orientation, go to the Screen control panel by pressing *Start > Settings> System > Screen*.



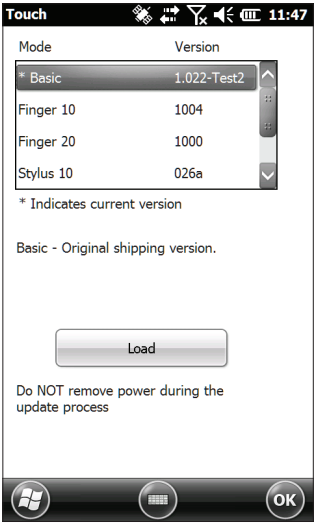
The screen is designed to be used in portrait orientation. A landscape orientation could impact the performance of an application.

Note: Capacitive touchscreens do not need to be aligned. Ignore the Align Screen option.

Touchscreen Modes

The touchscreen is optimally designed for finger use. The default touchscreen mode can be adjusted to best match your application and environment, especially if you are using a capacitive stylus.

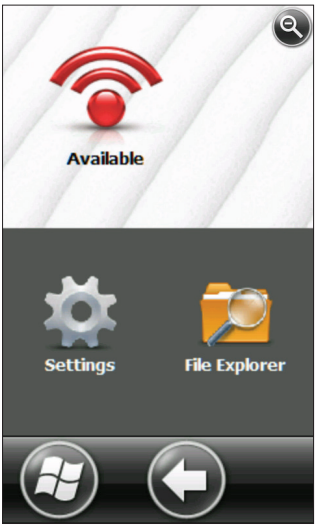
To adjust the touchscreen profile, go to the Touch control panel by pressing *Start > Settings > System > Touch*. Modes for finger or stylus use are shown. The higher the number between 10, 20, and 30 the greater the sensitivity.



Select the preferred mode, and tap Load. Do not interrupt the loading process. You can try different modes to see which one works best for you.

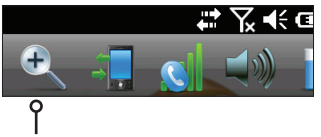
Zooming in on the Display

Zooming in on the display increases the view by 50 percent and makes selecting content much easier.



Zoom options:

- Hold-to-Zoom - Press and hold the P1 button on the keypad (the default setting), and tap on the screen in the area on which you want to zoom. The screen focuses on that location. Make selections as desired. Release the P1 button to return to the regular screen size.
- Magnifying glass - Tap on the title bar at the top of the screen to display the pop-up icons. Select the magnifying glass on the left.

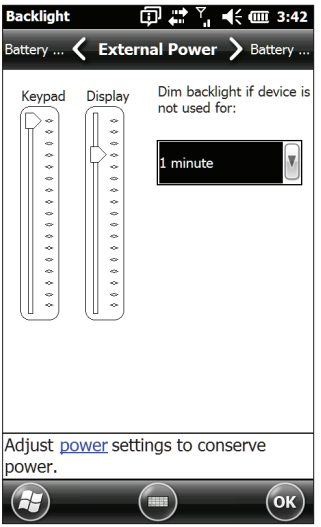


This zooms in on the content. Move the screen around with your finger until you find the information you want. Select the magnifying glass symbol in the upper right corner of the screen to return the view to the regular size.

Display Backlight Brightness Settings

The default setting for the display backlight is 80%. Adjust the display brightness by pressing the brightness down button sequence, shift ⇧ + P3, and brightness up button sequence, shift ⇧ + P4. You can also make brightness adjustments through the Backlight control panel by pressing *Start > Settings > System > Backlight*. External Power and Battery Power are adjusted on different screens. Select these screens from the horizontal scrolling menu near the top of the screen.

Move the *Display* slider up to brighten the backlight or down to dim it.



Dimming the Display Automatically

The display has a minimum brightness setting that it dims to when the Archer 2 is idle for the time interval indicated. The display backlight dims by 50%, so the display is still partially visible. You can adjust the dim time interval (see the previous screen) for battery and/or external power. Dimming the display backlight saves battery power.

To bring the backlight back up to the full brightness setting, tap on the dimmed display.

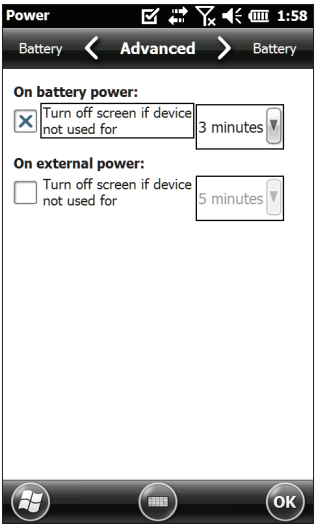
Note: The Archer 2 can be set up in subdued lighting (tactical) mode. Refer to Chapter 3 for instructions.

Turning the Screen Off Automatically

You can set up the display backlight to turn off after set intervals. Tap on the top title bar from any screen, and select the battery icon from the list of applications that appears.

Alternately, go to the Backlight control panel. Press *Start* > *Settings* > *System* > *Backlight*. Near the bottom of the screen it says "Adjust Power Settings to conserve power." Select the hyperlink *power* (see the previous screen shot).

The Power control panel appears. Select *Advanced* from the horizontal scrolling menu near the top of the screen. For battery and external power select how long the screen stays on when it is not in use. Shorter times save battery power.



Disabling and Enabling the Touchscreen

You can disable the touchscreen. This is useful when you are running an application and you want to see the screen while avoiding accidental touchscreen activation. The touchscreen can also be disabled for cleaning purposes.

- Press the shift ⇧ + backspace ← buttons to toggle the touchscreen on and off.
- Press and hold the power button ⏻ to display the Power Button menu. Select *Disable TS*. (You must use the method described above to enable the touchscreen.)

When the touchscreen is disabled, this icon is shown in the title bar until the touchscreen is enabled again. You can move around and make selections using the keypad.

Power Management

The Archer 2 uses a Li-Ion rechargeable battery pack.

CAUTION: Only use batteries designed for the Archer 2 from an approved vendor. Use of non-approved batteries may void your product warranty.

Charging the Battery Pack

To charge the battery pack, suspend the handheld, then refer to the instructions in *Chapter 1, Getting Started.* It typically takes 4 to 5 hours to fully charge a battery pack.

We recommend that you keep the handheld battery pack charging when it is not in use for up to two weeks. When you plug the handheld into the wall charger that comes with it, the batteries are prevented from being overcharged.

The Li-Ion battery pack is charged most efficiently at room temperature (68°F or 20°C). The battery pack will not charge if it is too hot or too cold.

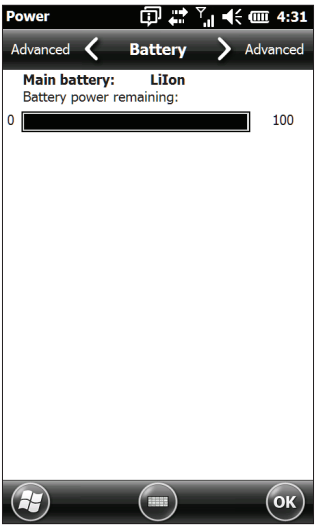
CAUTION: The Archer 2 is not sealed against water and dust when the battery door is not installed properly.

Battery Life

Battery life on a full charge is generally up to 20 hours. This can vary depending on the applications used, backlight usage, and radio usage.

To see the remaining battery power, tap on the top title bar from any screen and select the battery icon from the list of applications that drops down.

The Power control panel appears, displaying the remaining battery power.



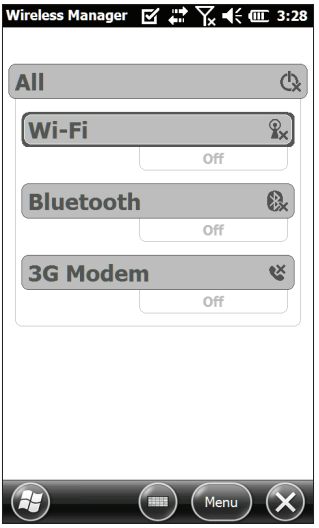
Battery packs last approximately 1,000 to 3,000 charging cycles before they need to be replaced. This is impacted by applications and environmental factors.

Summary of Options to Reduce Power Usage

You can adjust some settings to preserve power:

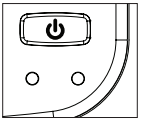
- Turn off the display (suspend) after a set interval. See *Display Backlight Suspend Interval* earlier in this chapter.
- Dim the backlight after a set interval. See *Adjusting the Keyboard Backlight* and *Adjusting the Display Backlight* earlier in this chapter.

- Disable radios when not in use. Turn radios off from the Home screen or press *Start* > *Settings* > *Connections* > *Wireless Manager*.



LED Activity Indicators

LED activity indicators are located on the keypad underneath the power button.



Red LED on the right (associated with power adapter):

- Blinking: AC adapter is plugged in, and the battery is charging
- Solid: AC adapter is plugged in, and the battery is full (not charging)

Green LED on the left (associated with notifications):

- When the operating system has something to notify you of, this LED behaves accordingly. For example, if you turn on GPS/GNSS the green LED blinks periodically.

Blue LED on the left (associated with shift functions):

- Solid: When you press the shift key, the blue LED lights up and stays on until another key is pressed. If the shift function is locked, the blue LED stays on.

Only one LED is on at a time. The blue and green LEDs are in the same location on the left. They are user programmable through application software.

Flashlight

Geo units have a flashlight located underneath the camera window in the back of the Archer 2.

The flashlight gadget must be on the Home screen in order to use it. Tap on the icon once to turn on the brightest illumination. Tap the gadget again for medium brightness, and a third time to turn it off.

Note: This is also the camera flash.

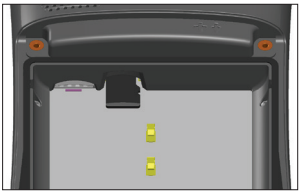
SD Cards

The Archer 2 has a slot for a micro SD card located in the battery compartment. To insert or remove a card follow these steps:

1. Power off the handheld.
2. Loosen the screws to the battery compartment, and remove the door. The hand strap remains attached.

CAUTION: The Archer 2 is not sealed against water and dust when the battery door is not installed properly.

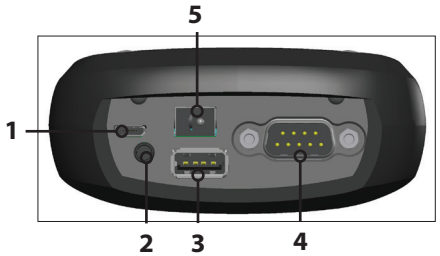
3. Remove the battery pack.
4. An image on the battery compartment label shows the correct location and orientation for the SD card (slot on the right). Push the card into the slot to insert it. To remove the SD card, pull it out.



5. Replace the battery pack, and attach the battery door.
6. Power up the handheld.

Connector I/O Module

The Archer 2 connector I/O module has the following jacks and connectors:



1. USB client, micro B
2. Audio jack: 3.5mm; supports speaker, microphone or stereo output (pin detect)

3. USB host, full size A
4. COM1: RS-232C 9-pin D-sub connector, 5 V @500 mA available on pin 9 (ring in) under program control
5. Power input jack: 12 to 24 VDC for power input and battery charging

The connector module is user-replaceable. Contact our sales department or your supplier for details.

Note: The connectors are sealed and do not require a connector protector to prevent water ingress.

Audio Features

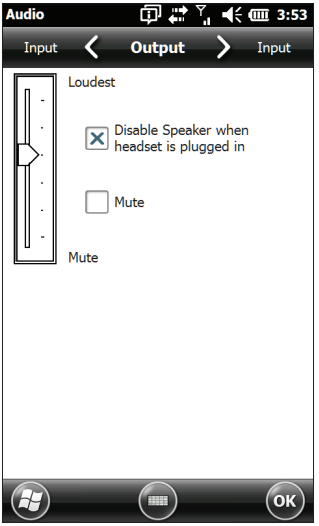
The Archer 2 has the following audio features:

- Speaker - The speaker sound is loud and clear. Listen to audio notes, video sound, and music files.
- Microphone - Use the microphone to record audio notes or add sound to a video when using the camera function (option).
- Audio Jack - The audio jack supports a stereo headset or headset/microphone combination with 3.5mm connections.

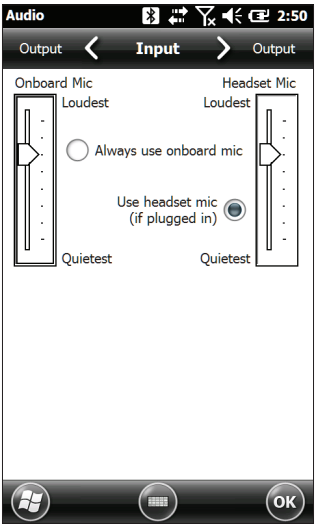
Adjusting Audio Settings

To set audio options, tap on the top title bar and select the audio icon from the list of applications that drops down. Or, press *Start* > *Settings* > *System* > *Audio*.

The Audio control panel, *Output* screen, is shown:



From the *Output* screen you can adjust the speaker options. Select the *Input* screen from the horizontal menu near the top of the screen. You can adjust the onboard and headset microphones as desired.



3
Programs and Settings

JUNIPER® systems

Programs and Settings

This chapter discusses the Archer 2 Rugged Handheld programs and settings.

Home Screen

The Home screen is your main control center for the Archer 2. View vital system information and quickly access functions and applications that are frequently used. The default home screen for a basic unit is shown below. Different functions are shown depending on which model you have. You can customize the Home screen.

Title Bar

Dashboard

Favorites

Tile Bar

You can get to the Home screen from any screen by pressing the Home ⌂ button on the keypad. Tap on a gadget or icon to turn a function or application on or off. Tap and hold a gadget to go to a control panel. From the keypad you can use the shifted ⇧ up ▲ down ▼ right ▶ and left ◀ arrow keys to select (highlight) a gadget or an icon on the screen. Perform the selected action by pressing the return ↵ button.

Title Bar and Pop-Up Icons

The title bar is at the top of every screen. It identifies the page and shows status icons indicating functions like connectivity status, audio, power, and time. Tap the title bar to bring up larger, touchable icons in a horizontal-scrolling bar. Select a function to use or to view the settings and adjust them as desired.

Dashboard

The dashboard consists of a background image and up to six dashboard gadgets that serve as functional indicators and control buttons.

You can switch between two color schemes and select which gadgets are shown. Tap on the menu soft key and select *Switch Color Scheme* to change color schemes or *Configure* to select gadgets. The current gadgets are covered with a blue symbol as shown below.

Tap on the gadget you want to replace. A list of available dashboard gadgets is shown. Tap on your new selection.

The dashboard icon changes when you make a selection. If "None" is selected, the space becomes blank.

Dashboard Gadget Functions

	Wi-Fi: Shows the state of the Wi-Fi radio and provides the name of the wireless network to which it is attached.
	Bluetooth® wireless technology: Shows the state of the *Bluetooth* radio.
	Email: Shows the number of unread email messages. If there are multiple email accounts, the total number of unread messages is aggregated from all accounts.
	Calendar: Shows the next appointment.
	Tasks: Shows the current number of tasks.
	GPS/GNSS Status (Geo model): Shows the current state of GPS/GNSS reception and the state of the GPS/GNSS receiver. It also shows the number of satellites in view, the number of satellites used to calculate the fix (SV), the type of fix (2D, 3D, etc.), and the quality of the fix (PDOP).
	JSNav (Geo model): An application that lets you easily collect waypoint or track data and navigate back to any saved waypoint or track.
	3G Data Modem (Geo model with cell modem): Shows the on/off state of the optional cellular modem.
	Flashlight: Shows the on/dim/off state of flashlight feature (included with camera).

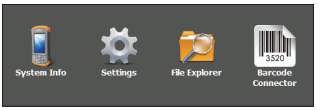
Gadget Color Indicators

Wi-Fi, *Bluetooth*, GPS/GNSS and 3G data modem gadgets indicate status using these colors:

	Gray: Off or inactive
	Yellow: Partial state (getting satellite fix, etc.)
	Green: Active and available
	Blue: Notification state (on or connected)
	Red: Error state, powering up or down, no GPS/GNSS fix, or unavailable (3G data modem is red when power is changing from on/off. Wi-Fi is red when an access point is available but not connected.)

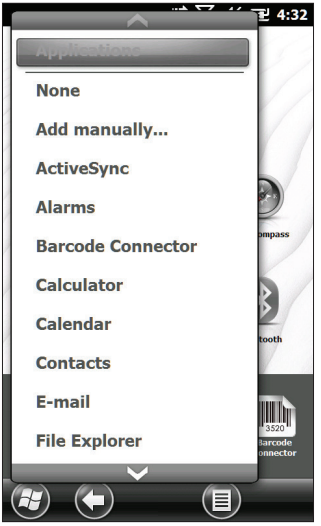
Favorites Bar

The favorites bar consists of shortcuts to specific applications. It is located below the dashboard when the screen is in portrait mode and to the side of the dashboard when it is in landscape mode. Tap on a shortcut icon to launch an application.



You can use it to jump between the applications you use most. While running an application, press the Home key and select a different application from your favorites. To return to the first application, press the home key again, then tap on the first application you were running.

You can customize which application shortcuts are shown. Tap and hold on the shortcut you want to change to bring up a list of available applications.



Tap on your selection. The icon on the home screen changes to the icon associated with the new application.

Tile Bar

Touchable tiles (or soft keys) are shown in the tile bar at the bottom of each screen. Up to five tiles are shown, depending on which screen you are on.

For example, the Home screen tile bar (shown below) consists of: 1) the Microsoft® start tile that takes you to the Start menu, 2) the back tile that takes you to the last application running, and 3) the menu tile that lists options for customizing the dashboard. The third and fifth tile positions are empty.

Tap on a tile to perform the actions associated with it.

Note: You can also press the P2 button on the keypad to select the tile in the fourth position.

Tile examples:

	Start		Lock
	Minimize		Edit
	Navigate back		Delete
	Menu		On-screen keyboard

Windows Start Menu

The Windows Start menu gives you access to all of the applications on the Archer 2.

You can get to the Start menu from any screen by tapping the Windows tile (soft key) on the display or pressing the shift ⇧ + Home buttons on the keypad. On the touchscreen, tap the application icon you want to select. From the keypad you can use the shifted ⇧ up ▲ down ▼ right ▶ and left ◀ arrow keys to select (highlight) an icon on the screen. (Home is selected on the previous screen.) Perform the selected action by pressing the return ↵ button.

On-Screen Keyboard

To activate the on-screen keyboard, select the keyboard tile located at the bottom of active applications like *Notes* that use keyboard input.

The default keyboard is Mega Keys, featuring large keys and increased functionality.

To view and select other options including *Block Recognizer*, *Letter Recognizer*, and *Mega Keys Night*, press and hold the keyboard tile . To turn the on-screen keyboard off, press the keyboard tile.

Mega Keys (and Mega Keys Night) Keyboard Features

- Pressing on a character with a finger or stylus highlights it. Releasing the key prints the character on the screen.
- If you accidentally press the wrong character and have not released the key yet, you can slide to the correct character before releasing the key.
- There are four main keyboard screens: lowercase, uppercase, numeric, and symbols. To navigate to different screens, press the modifier keys in the lower left corner of each screen as shown in the following graphic for the lowercase keyboard. Press the up arrow to go to

the uppercase keyboard, the number key to go to the numeric keyboard, and the symbol key to go to the symbols keyboard.

- Tap on the shift key for a single uppercase letter. Tap on the shift key twice to lock the uppercase key. Tap once more to return to the lowercase keyboard.
- To enter a character from another screen (such as a number or symbol), press and hold on the modifier key, slide to the character you want, then release the key. The character is printed, and you are returned to the screen you started from.
- Some keys have an extra character bar that includes items like accented characters or additional symbols. These keys have three dots in the bottom right corner like the z key z. Press and hold the key to bring up the extra bar. Tap the desired item or dismiss the bar by tapping outside of the bar.
- A calculator is available from the numeric screen. Press the Calc key to launch the calculator application.
- The backspace and the space keys can be repeated by pressing and holding those keys.

Suspend, Reset, Power Off, and Restore Defaults

Use the power button ⏻ to suspend, reset, power off, or restore the Archer 2 to its factory state. To access the Power Button menu, press and hold the power button.

Suspending and Resuming the Archer 2

We recommend suspending your handheld if you plan to turn it off for less than two weeks. While it is suspended, you should attach it to a wall charger when it is not in use.

Suspending the handheld is different from powering it off. When the device is suspended it goes into a very low power mode. Some battery power is used during suspend.

1. Press and release the power button ⏻. The backlight shuts off. It can take several seconds to fully suspend, especially when the cell modem is on.
2. To resume the device from suspend mode, press and release the power button again. When it is resumed, the handheld resumes where it was before it was suspended.
3. There is also a *Suspend* option on the Power Button menu.

Resetting the Archer 2

If the Archer 2 is unresponsive, slow, or programs won't launch, performing a reset might solve the issue. You may be asked to perform a reset when an application is installed.

CAUTION: Be aware that during a reset, applications are closed and unsaved work may be lost.

Follow these steps to reset your Archer 2:

1. Save open files, and close any running programs.
2. Press and hold the power button ⏻ until the Power Button menu appears.
3. Tap *Reset*.

You can also reset the handheld by pressing the power button for 10 seconds or until the screen goes dark. After a few seconds, the handheld automatically turns on. This method is useful if your Archer 2 locks up.

Powering Off and On the Archer 2

To preserve battery power, we recommend you power off the Archer 2 if it will not be used for two weeks or longer.

CAUTION: Be aware that when the Archer 2 is powered off, it closes all programs and powers down all system components except for the real-time clock. Unlike suspend mode, the device resets when it is powered on again. Any unsaved data is lost.

1. Save open files, and close any running programs.
2. If you are using external power, unplug it.
3. Press and hold the power button ⏻ until the Power Button menu appears.
4. Tap *Power Off*. A warning dialog appears. Tap OK.

To power on your handheld, press the power button.

Restoring the Archer 2 to its Factory State (Clean Boot)

Follow the steps below to restore user storage, settings, and icons on your Archer 2 to their original factory defaults.

CAUTION: Restoring the Archer 2 to its original factory state permanently erases data saved on the handheld, any software you installed, and any changes you made to the handheld, including changes to settings.

1. Back up files and programs you want to keep onto another computer.
2. Save open files and close running programs on the handheld. Press and hold the power button ⏻ until the Power Button menu appears. Tap *Reset*.
3. When the screen turns black, press and hold the power button ⏻ again. The bios screen is shown.
4. Move the top slider on the screen to the right to set or clear factory defaults. This clean boots the handheld.
5. Tap *Exit*. The boot process continues.

Subdued Lighting (Tactical) Mode

In some environments subdued lighting is preferred. The display backlight, LEDs, and keypad illumination can be subdued during the startup process and normal operation.

Set Up During a Reset

1. Save open files and close running programs on the Archer 2. Press and hold the power button ⏻ until the Power Button menu appears. Tap *Reset*.
2. When the screen turns black, press and hold the power button ⏻ again. The bios screen is shown.
3. Move the slider on the screen to the right to turn the tactical mode on.
4. Tap *Exit*. The boot process continues.

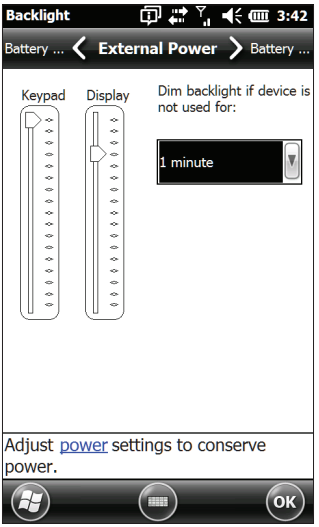
To restore the handheld to default lighting, follow the same steps.

Use Buttons on the Keypad

The brightness up ⇧ + **P4** and brightness down ⇧ + **P3** buttons can be used at any time to adjust the screen brightness. This does not change the keypad brightness.

Adjust the Backlight Control Panel

You can also subdue the keypad and display brightness through the Backlight control panel. Press *Start* > *Settings* > *System* > *Backlight* and then *External Power* or *Battery Power* from the horizontal scrolling menu near the top of the screen. Adjust the sliders as needed for both power sources. Changes affect all operations.



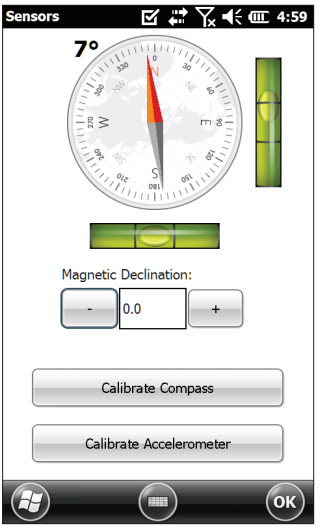
Compass and Accelerometer Calibration

The Archer 2 has a built-in compass and accelerometer. The compass is used for embossing GPS/GNSS information on pictures taken with the camera, or embedding GPS/GNSS information into jpg files. The compass is also used by the JSNav program. The accelerometer assists the compass in determining direction, even when the device is not resting flat. (See *Chapter 6, GPS/GNSS, JSNav Application* and *Chapter 7, Camera, Geotagging*.)

The compass and accelerometer can also be used by other user applications.

Sensors Control Panel

The Sensors control panel lets you see the compass and accelerometer working, set the magnetic declination angle, and calibrate the sensors. *Press Start > Settings > System > Sensors.*



- The *Magnetic Declination* angle is the difference between true north and magnetic north. Applications that are using true north use this value to adjust the readings from the compass.
- To calibrate the compass, press *Calibrate Compass*. Rotate the handheld around all three axis several times in every orientation possible (for at least 10 seconds). Press *Stop* when you are done. Calibrating the compass is very important and needs to be done often. Changes in environment, added attachments to the handheld, and mounting options can affect the sensor readings. If you are mounting the handheld to a pole, mount it first and then calibrate the compass.
- When the accelerometer is calibrated, you are telling the handheld that *this is level, remember this*. It is important that the handheld is laying on its back on a level surface. If the stylus holder on the hand strap makes the handheld uneven, you can try placing it on two equal-

sized blocks, one placed on each end. The blocks must be high enough for the stylus holder to drop in between them. When the handheld is level, press Calibrate Accelerometer, and then Start. Samples are averaged over the next five seconds and the result is saved. The accelerometer only needs to be calibrated once. (If you restore the handheld to its original factory defaults, you need to calibrate the accelerometer again.)

Communicating with a Computer

The Archer 2 can connect to a desktop or laptop computer, allowing you to synchronize information and download software and files.

Installing the Software

Install free synchronization software from Microsoft® on your desktop computer.

1. Go to the Microsoft® website on your computer at *http://www.microsoft.com/en-us/download/*.
2. If your computer is running Windows® 2000 or Windows® XP, search for and select ActiveSync® software to download. If it is running Windows Vista™, Windows® 7, or Windows® 8, search for and select Windows Mobile® Device Center software.
3. Follow the download instructions on the website.

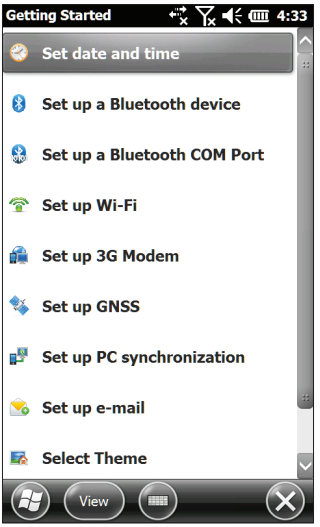
Establishing a Partnership

1. Plug the USB Client end (micro B) of the USB communications cable into the Archer 2.
2. Plug the USB Host end (full size A) of the USB communications cable into your computer.
3. Establish an ActiveSync® or Windows Mobile® Device Center partnership by following the instructions on the computer screen.
4. Once a partnership is established, the synchronization software automatically opens. Follow the steps on the screen.

Getting Started Application

Getting Started Screen

The Getting Started screen provides information on current settings, help for setting up features and applications, and shortcuts to set up screens. To see a list of topics press *Start* > *Getting Started*.



Information for Software Developers

For Archer 2 SDK information, go to our website: *http://www.junipersys.com/Developers/Archer 2*.

4

Bluetooth Wireless Communication

JUNIPER® systems

Bluetooth® Wireless Communication

The Archer 2 has built-in *Bluetooth*® wireless technology, allowing you to connect it to other wireless devices with *Bluetooth* technology. Minimum performance between similar objects in an unobstructed environment is approximately 100 feet (30 meters).

The handheld provides simple configuration options for the following types of *Bluetooth* devices:

- Devices such as headphones, keyboards, and modems (to connect to the Internet with an external cell phone).
- Serial devices that use a *Bluetooth* COM port, such as GPS/GNSS receivers, bar code scanners, and other data collection devices.

Creating a Partnership

To create a partnership between the Archer 2 and another device with *Bluetooth* technology:

1. Turn both devices on.
2. Place them within at least 100 feet (30 meters) of one another.
3. Make *Bluetooth* discoverable on both devices. *Bluetooth* on the Archer 2 is on and discoverable by default. The gadget on the Home screen turns green.

If the *Bluetooth* gadget is not on your Home screen, you can get to the desired control panel by selecting *Getting Started* and either *Set up a Bluetooth device* or *Set up a Bluetooth COM Port*. You can also press *Start* > *Settings* > *Connections*.

Note: If the Bluetooth radio is turned on and then the handheld is suspended, wireless Bluetooth turns off to save battery power. When the Archer 2 resumes (turns on), the radio turns on automatically.

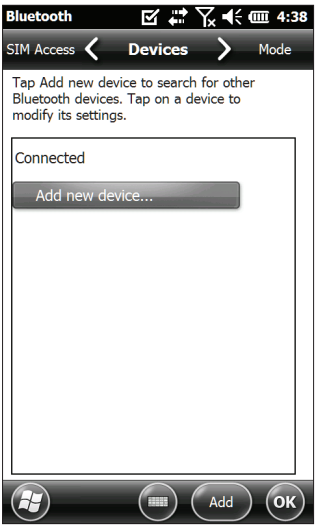
Bluetooth Control Panel

To create a partnership with and connect to other *Bluetooth* devices, such as headphones, keyboards, and modems, follow these steps:

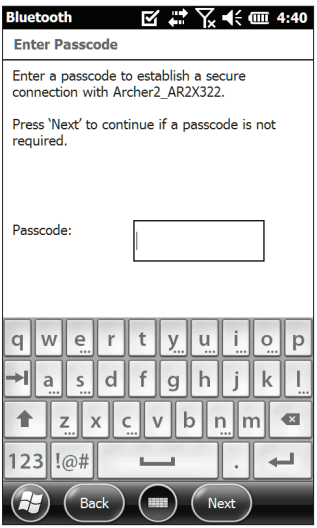
1. Tap-hold the *Bluetooth* icon to bring up the dialog box shown below.

2. Select *Headphones, Modem, Keyboard*.

The following *Bluetooth* control panel, Devices screen is shown:



3. Tap *Add New Device*. The Archer 2 searches for other devices with wireless *Bluetooth* technology and displays them in a list. Select the device you want to connect to, and tap *Next*.
4. A passcode screen is shown.



a. If the device has an assigned passcode, enter the number and press *Next*.

b. If a passcode is required but has not been assigned, enter an alphanumeric passcode between 1 and 16 characters in length. Press *Next*.

c. If a passcode is not required, leave the box blank and press *Next*.

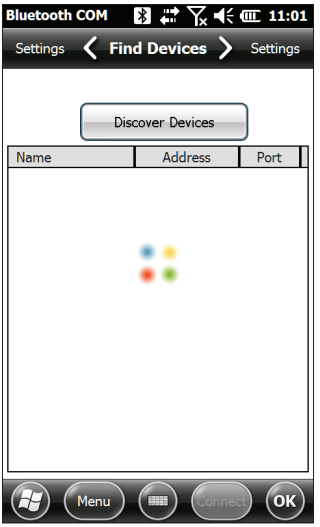
Note: If you are unsure whether or not the device requires a passcode and if one has already been assigned to the device, see the user documentation that came with the device.

5. You can adjust the *Bluetooth* settings as needed.

Serial Device (COM) Control Panel

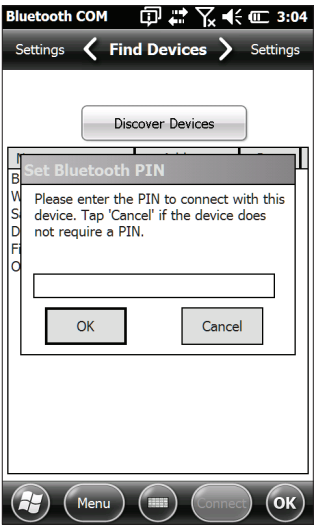
To set up a *Bluetooth* COM port, follow these steps:

1. Select *COM Port, GPS, RFID* from the *Bluetooth* dialog box. The following Bluetooth COM configuration screen is shown. Select *Discover Devices*.



2. After the handheld searches, a list of discovered devices is shown. Select the device you want to connect to from the list and tap *Connect*. A COM port is automatically assigned for the device. You can change it to another COM port if desired.

3. The Archer 2 automatically tries to discover the PIN. You might be required to enter a PIN.



You should now be connected to the COM device.

5
Wi-Fi Wireless Networking

JUNIPER® systems

Wi-Fi Wireless Networking

The Archer 2 has built-in Wi-Fi wireless networking to connect to the Internet or a office network.

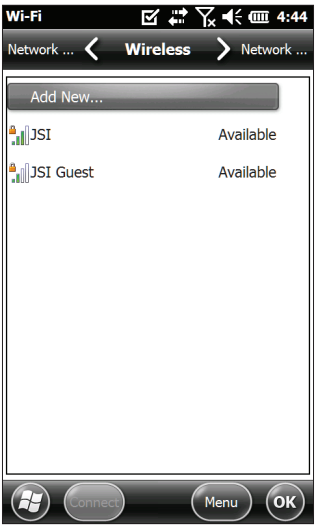
Connecting to a Wi-Fi Network

To use Wi-Fi, you need to be in range of a Wi-Fi access point to make a connection. To actively look for a network connection complete the following steps:

1. From the Home screen, turn Wi-Fi on by tapping the Wi-Fi gadget . The Archer 2 automatically starts scanning the area for available Wi-Fi networks. (If the Wi-Fi gadget is not on the Home screen, open the Start screen, and select *Getting Started*. Select *Set up Wi-Fi* or press *Start* > *Settings* > *Connections* > *Wireless Manager*.)

2. Tap-hold the Wi-Fi icon on the Home screen to go to the Wi-Fi control panel. When the handheld completes

the scan, a list of available networks and their strengths appears on the Wi-Fi Wireless screen.



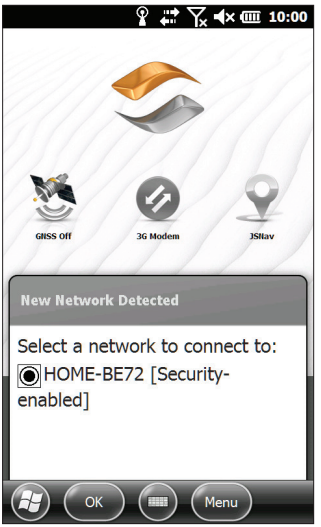
3. Tap on the network to which you want to connect. If you want to add a new network, select *Add New* from the top of the list.
4. Configuration and authentication setup screens are shown. Depending on the network you are connecting to, you may need to make some selections from pull down lists and enter information like a passkey. Some information may not be required or will appear automatically. When you are finished with the set up screens, press *Finish*.
5. Select *Network Adapters* from the horizontal scrolling menu near the top of the screen. For connection options, select *The Internet* or *Work* (for office networks). Other settings can be modified if necessary.
6. If you selected *The Internet,* you can open Internet Explorer and begin using the Internet.

Once a Wi-Fi network is set up, the icon on the Home Page turns blue and the name of the network is shown.

The Archer 2 remembers the Wi-Fi network connections created.

Wi-Fi Dialog Box

Whenever Wi-Fi is turned on, a dialog box might appear at the bottom of the screen indicating the Wi-Fi networks the Archer 2 has located. You can select a new network from this dialog box without opening the Wi-Fi control panel.



Tap on the screen outside of the dialog box to remove it temporarily. You can also disable it to keep it from appearing in the future. When this dialog box is shown, select the *Menu* soft key and select *Don't show this message...* from the list.

Adjusting Wi-Fi Settings

To add a new Wi-Fi network or edit settings, open the Wi-Fi control panel, select the *Menu* soft key and make desired selections from the pull-down list.

6
GPS/GNSS

JUNIPER® systems

GPS/GNSS

Archer 2 Geo models have GPS/GNSS with 2 to 5 meter accuracy.

Using GPS/GNSS

To use GPS/GNSS, tap on the GPS/GNSS status gadget to turn it on. The GPS/GNSS starts looking for satellites to use for a fix. The green LED on the keypad blinks periodically, and a satellite icon is placed on the title top bar.

Once enough satellites are found, information similar to the following is shown:

5 SV The number of satellites used for the current position.

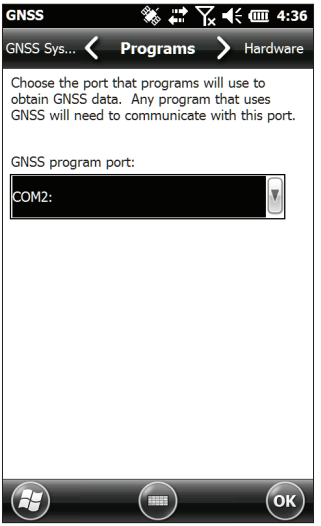
3Diff The type of fix you have. Three satellites are required for a 2D fix while four are required for a 3D fix. 3Diff means an SBAS (WAAS/EGNOS/MSAS) signal is being used for the GPS/GNSS solution.

PDOP A measure of accuracy. The lower the number, the more accurate the fix is.

Note: When you suspend the Archer 2, the receiver is in a low power mode to retain its almanac. When you resume, it takes a few seconds to get a fix.

GPS/GNSS Settings

To view or make changes to the GPS/GNSS settings or set up an external GPS/GNSS receiver, press and hold the GPS/GNSS status gadget on the Home screen to go to the control panel.



Select the programs port, hardware port and baud rate (internal GPS/GNSS uses COM8 at 115200 baud), program access, data format, NMEA sentences, satellite systems and module settings (update rate, baud rage, filter).

Several applications can share the COM port setup as the GPS/GNSS program port using the GPS Intermediate Driver (GPSID).

GPS Intermediate Driver

The GPS Intermediate Driver (GPSID) is used to allow more than one program to use data from the GPS/GNSS receiver. The GPS/GNSS Settings control panel controls how the GPSID is used. Internal GPS/GNSS is on COM8 and communicates at 115200 baud. These settings are found on the *Hardware* screen of the GPS/GNSS Settings control panel. If another GPS/GNSS receiver is to be used, this is where you connect that GPS/GNSS receiver so that the GPSID can access it.

The GPSID can output data on another COM port in a way that allows multiple programs to access the same COM port. This is called the Program Port and defaults to COM2. This can be set up on the *Programs* screen of the GPS/GNSS Settings control panel.

The camera, GPS/GNSS function and JSNav application use the GPSID to obtain GPS/GNSS information. Turning off the GPSID through the GPS/GNSS hardware port disables these functions.

Note: If an application accesses the GPS/GNSS module directly on COM8, the GPSID will not have access to the GPS/GNSS, preventing camera geotagging and GPS/GNSS from functioning.

GPS/GNSS Accuracy

The GPS/GNSS antenna is in the top of the Archer 2. Do not put your hand or another object over the cap. This reduces accuracy. The more items between you and the satellites, the lower the accuracy.

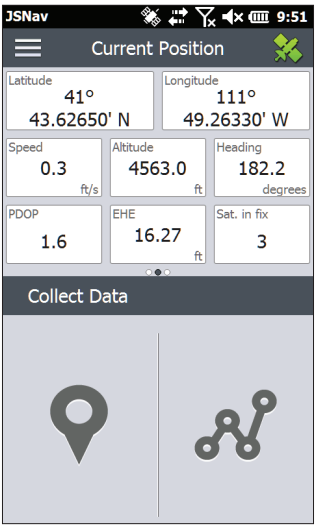
JSNav Application

JSNav is a GPS/GNSS application that lets you easily collect waypoint or track data.

Note: Calibrate the compass and accelerometer before you use JSNav. Refer to Chapter 3, Programs and Settings, Compass and Accelerometer Calibration.

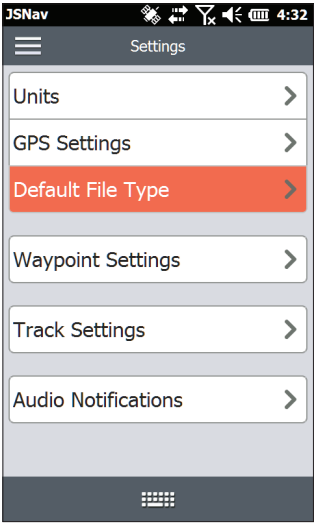
From the Home screen tap on the JSNav gadget . A splash screen appears while the application opens, and then the main JSNav screen appears. Tap on the satellite icon in the upper right corner to turn GPS/GNSS on or off. (A gray icon means GPS/GNSS is not connected, red means there is no fix, yellow means a 2D fix, and green means a 3D fix.)

Once there is a fix (this may take a few minutes) information about the current position is given as well as PDOP (position dilution of precision), EHE (estimated horizontal error), and the number of satellites used for a fix. The bottom portion of the screen is used to collect waypoint or track data.



JSNav Settings

Tap on the menu icon ☰ in the upper left corner of the screen, and select *Settings* from the list. Go through the menu options to set up JSNav.



Note: These settings only impact the JSNav application. To set up GPS/GNSS go to the GNSS Settings control panel discussed earlier in this chapter.

- Units: Select English or metric units of measurement and the display format for latitude and longitude.
- GPS Settings: Select the maximum PDOP for collecting points, minimum navigation speed you need to be traveling for navigation to update properly, and the navigation distance threshold. This is the distance you can be from the point to which you are navigating to show that you have arrived.
- Default File Type: Select .kml (keyhole markup language used in Google Earth) or .csv (comma separated value). Note that tracks with more than 1000 points default to .csv due to memory limitations.
- Waypoint Settings: Set up the waypoint file naming scheme, including the waypoint prefix, increment step size, and current value. For example, if the waypoint prefix is Point, increment step size is 10, current value is

100, and default file type is .kml, file names would be Point110.kml, Point120.kml, Point130.kml, etc.) Also select the number of points to average. The default is 1.

- Track Settings: Set up the track file naming scheme (see Waypoint Settings). You can select a minimum time and minimum distance needed before a point is collected. If both are enabled, both conditions must be met before a point is added to a track. You can disable suspend when track points are being collected.
- Audio Notifications: You can turn on notifications for waypoint arrival, waypoint collected, and track point collected.

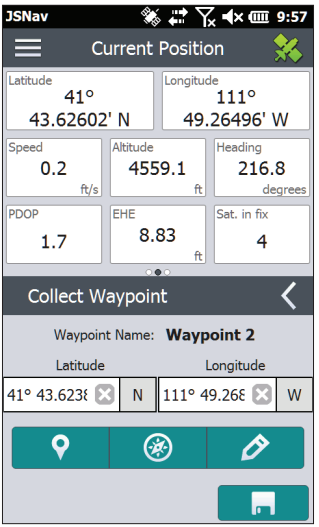
Some settings can be customized for a particular waypoint or track using edit on the data collection screens.

View Signal Strength and NMEA Strings

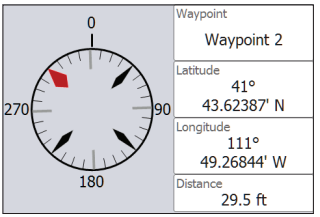
View the strength of satellites being used in a fix (shown in green) by swiping the area where position is shown on the Home screen to the right. View the NMEA strings that are coming in through the GNSS receiver by swiping the same area to the left. Strings can be saved to a file.

Collect Waypoint Data

From the main JSNav screen tap the waypoint icon to open the *Collect Waypoint* screen.



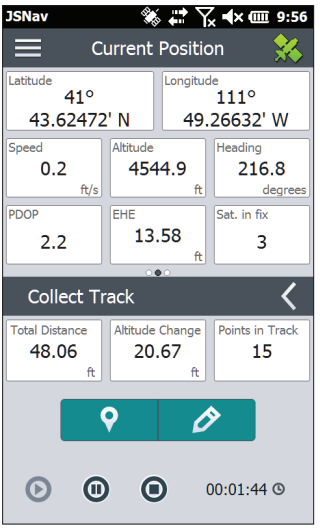
- To collect a waypoint, tap the waypoint icon at the bottom of the screen. Position information for the waypoint is recorded.
- Tap the edit icon to add or edit the name, description, notes, and file type for this waypoint.
- To navigate back to the waypoint you just collected, tap the compass icon. A rotating compass is shown. Walk in the direction of the red arrow. The distance shown decreases as you get closer. Text saying *Arrived* is shown and you hear a beep (if audio notifications are set up) when you reach the navigation distance threshold set up in GPS Settings.



- Tap the disc icon to save the waypoint to *\My Documents\My Waypoints*.

Collect Track Data

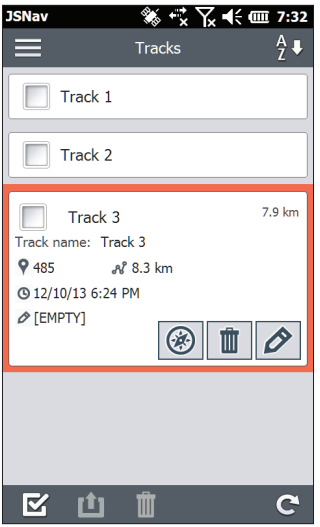
From the main JSNav screen tap the track icon to open the *Collect Track* screen.



- To collect points in a track, tap the play button and start moving along the desired track. Tap the pause button as needed, and tap play to start again. Current position information, total distance, altitude change, and points in the track are collected.
- When you are finished, tap the stop button. A dialogue box is shown with the track name. You can use that name or edit it. Press the check mark when you are finished. The track is saved in \My Documents\My Tracks.
- Tap the edit icon to add or edit the name, description, notes, and file type for this track

Managing Waypoints and Tracks

To view the waypoints and tracks you have saved, tap the menu icon, then select *Waypoints* or *Tracks* from the menu. A list of waypoints or tracks is shown.



To open a file, tap on the name. You can view collected data, select the file for exporting or deletion by tapping the box to the left of the name, navigate back to the waypoint or track points, delete the file, or edit the file. To select all of the files, tap the check box at the bottom of the screen. You can delete or export all selected files. Exported files are placed into a directory called Exports inside of your *My Documents folder.*

Importing Waypoints and Tracks

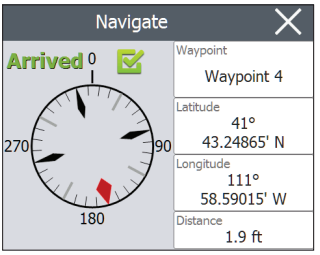
Waypoint and track file formats must be .kml, .kmz or .csv. CSV files must contain a column for both latitude and longitude.

To import a waypoint or track file, place the file into the \ *My Documents**My Waypoints* or *My Tracks directory*. You can create subdirectories to organize your data if you want. Once you place a waypoint or track file into the proper directory or subdirectory it appears in the list of waypoint or track files.

An imported track file can only contain one track if you are going to navigate to a specific track. If a file contains multiple tracks, a button inside of JSNav is available to extract the tracks into separate files.

Navigating to a Waypoint or Track

You can navigate back to any saved waypoint or track. Select the file you want to navigate to as described in the previous section, *Managing Waypoints and Tracks*. Tap the compass icon.



A rotating compass is shown. Travel in the direction of the red arrow. The distance shown decreases as you get closer. When you reach the navigation distance threshold set up in the settings, text saying *Arrived* is shown and you hear a beep if audio notification has been set up.

7
Camera

JUNIPER® systems

Camera

Archer 2 Geo models have a 5MP camera and a video option. Juniper Geotagging™ gives you the ability to embed and emboss photos with the date, time, and GPS/GNSS position.

The camera window and flash are located on the back of the Archer 2.

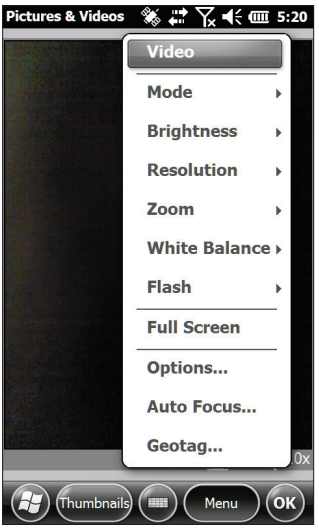
Note: The flash can also be used as a flashlight. See Chapter 2, Hardware Components, Flashlight.

Camera Settings for Still Images

Press the camera button to turn the camera on and open the Pictures and Videos application.

Pictures Menu

Select the *Menu* soft key for a pull-down list of setting options. View or change the settings before you take photos. These settings will apply to all photos taken, but can be edited as needed.

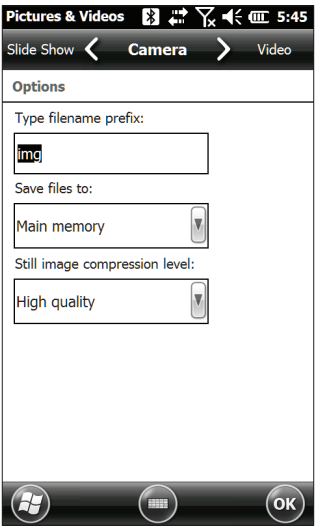


Flash

To use the flash, select *Flash* from the *Menu*, then select *On*. The flash automatically turns on each time you take a photo. To turn it off, select Flash from the menu and select *Off*.

Pictures & Videos Control Panel

To view or change additional settings, select *Options* from the *Menu* soft key. The Camera control panel is shown. Use the horizontal scrolling menu near the top of the screen to see what the setting are and make changes as needed.



Geotagging

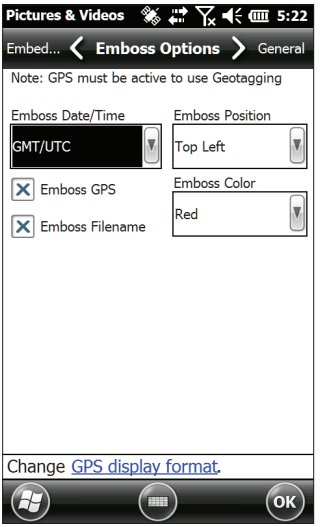
When pictures are geotagged, the date, time, latitude, longitude, file name, and notes can be included with the pictures with the emboss and embed options.

Note: Calibrate the compass and accelerometer before you use Geotagging. Refer to Chapter 3, Programs and Settings, Compass and Accelerometer Calibration.

Follow these steps:

1. Turn on GPS/GNSS by tapping the GPS/GNSS gadget on the Home screen and waiting for a fix.

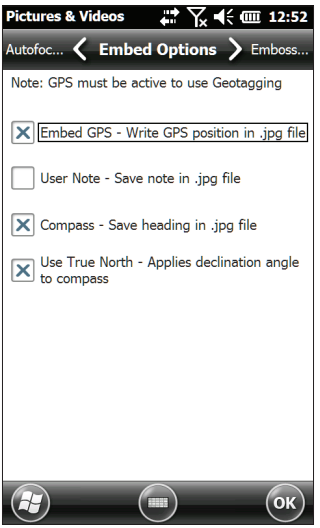
2. Select the *Menu* soft key, then select *Geotag* from the menu. The following *Emboss Options* screen is shown:



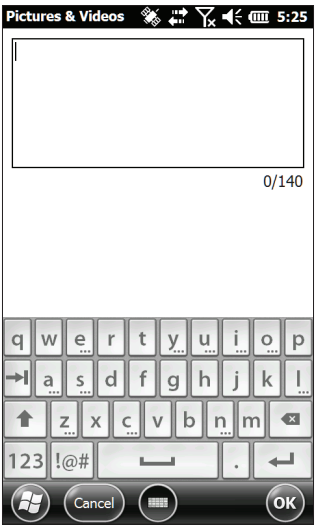
Select the information you want to emboss on pictures, the position, and the color.

The selected information is embossed on pictures, making it part of the images.

3. You can build GPS/GNSS information into jpg files from the *Embed Options* screen. (This information does not appear on the images.) You can select *Use True North*.

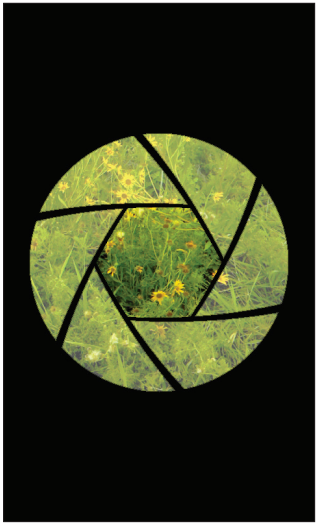


Embed GPS allows you to put images into programs like Google Earth™ and sort them by location, etc. If you select *User Note*, the note screen is shown after a photo is taken. Enter a note for the image and press *OK*.



Take Photos and Select Photo Options

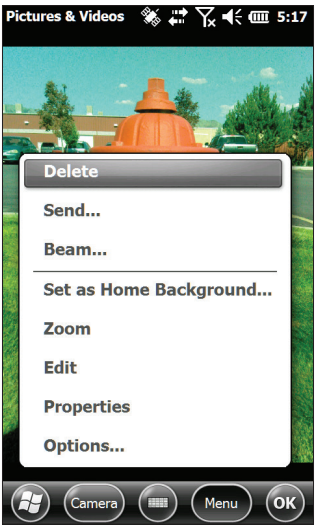
Press the camera button to turn the camera on. Frame the photo as desired (a portrait orientation works best) and press the camera button or the return button . A square yellow line is shown indicating that the camera is in focus. A screen like the following is shown for a few seconds. Hold the handheld steady until you hear a click, indicating that the photo has been taken.



While the photo is being saved, a disk symbol is shown briefly. The full photo is then shown on the screen.

Photo Options

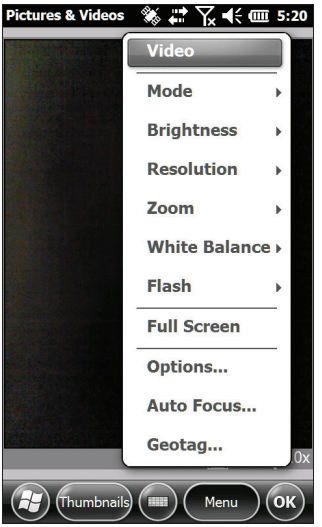
Select the *Menu* soft key to see a list of options for a particular photo. (The photo must appear on the screen.)



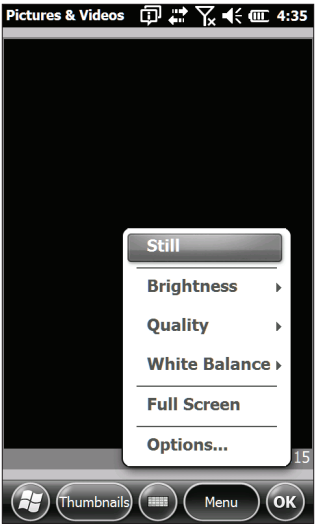
To take another photo, press the *Camera* soft key. To see a library of photos and pictures, press *Thumbnails*.

Videos

Press the camera button to turn on the camera. Select the *Menu* soft key, and select *Video*.



Press *Menu* again to view and adjust settings as desired.



Note: A portrait orientation is the default for videos.

Press the camera button to start recording a video. Press it again to end the video.

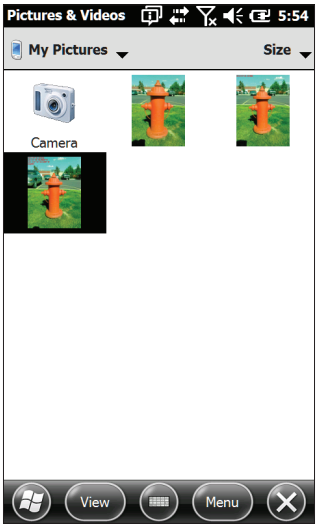
Note: To take photos instead of videos, press Menu *and select* Still *(see previous screen).*

Audio

You can record sound with videos. From the Pictures & Videos application screen, tap *Menu* > *Video* > *Menu* > *Options*. From the Video screen, tap *Include audio when recording video files* to turn audio on.

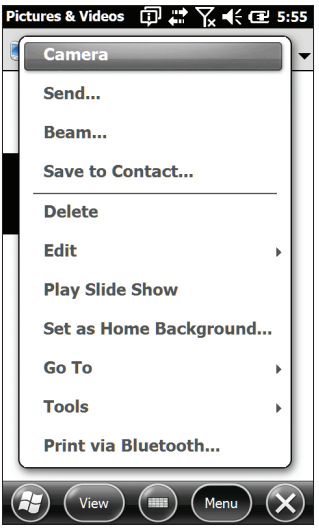
Photo and Video Library

To view your photo and video library select the *Thumbnails* soft key from the Pictures and Videos application screen.



Library Menu Options

Select a photo or video, then the *Menu* soft key. You can send, delete, edit, etc. the selected photo or video.



8

3G Data Modem

JUNIPER® systems

3G Data Modem

The 3G data modem is an option for Archer 2 Geo models, adding Wide Area Network data modem capability. The modem is installed at the factory.

The modem is a cellular data modem, type GSM/UMTS. It is five band modem compatible. The modem operates in different modes, depending on the wireless provider and the signal strength. Data speeds will vary anywhere from 10 or 20 Kbps when using GPRS to over 1 Mbps when using HSDPA.

Set up a Data Account with a Wireless Provider

Contact a wireless provider to set up data service for the cellular data modem and obtain an account and SIM card (purchased separately). You need to provide the following information when setting up an account:

1. Billing Information and business ID, such as your Federal Tax I.D. or VAT number.
2. The wireless services required. Specify that you need data service only. You do not need voice or messaging services.
3. You may be asked for the modem's IMEI number, which can be found here: *Start > Settings > System > System Information > 3G Modem* with the modem powered on.
4. You may be asked to provide the modem's model number. This number allows the carrier to verify this modem as one of its approved models. If asked for this by the carrier, it is a Juniper Systems Archer 2.

Install the SIM Card

To insert or remove a card follow these steps:

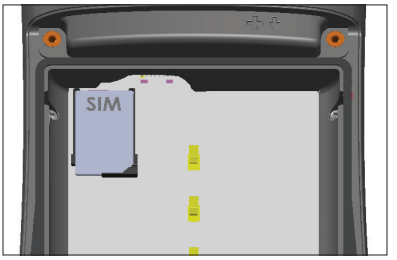
1. Power off the handheld.
2. The SIM card slot is located in the battery compartment. Loosen the screws to the door and remove it.

CAUTION: Do not use a micro SIM adapter. The adapter can get stuck and damage the slot.

3. Remove the battery pack.

CAUTION: The Archer 2 is not sealed against water and dust when the battery door is not installed.

4. An image on the battery compartment label shows the correct location and orientation for the mini SIM card. Pull out the SIM card tray. Place the card onto the tray and push the tray in until it catches.



To remove the SIM card, pull the tray open and remove the card. Push the empty tray in until it catches.

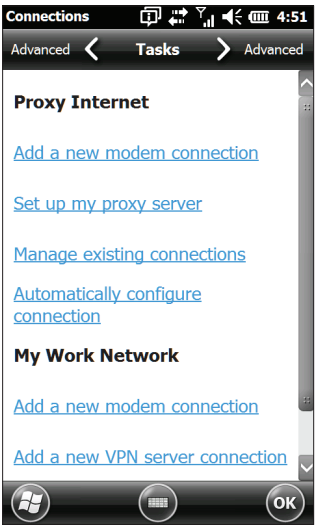
5. Replace the battery pack, and attach the battery door.
6. Power on the Archer 2.

Note: If the modem was on before shutting the Archer 2 down to insert the SIM card, you are prompted to configure the data connection when you reboot. See the instructions on the following pages.

Set up the Cell Modem

Tap on the 3G modem gadget . After about 30 seconds it turns green, indicating that the modem is available.

Once the modem is available, configure it to make a connection. Tap and hold the modem gadget to open the Connections control panel.



Select *Automatically configure connection*. The name of your carrier appears. Tap *Next*. A progress graphic is shown on the next screen while your Internet settings are configured.

You can now access the Internet. Open Internet Explorer to test your setup.

Connection Problems

If the connection fails to automatically configure, there might not be a signal where you are located. You can try repeating the set up process.

Wireless Safety

RF Interference Issues

It is important to follow any special regulations regarding the use of radio equipment due in particular to the possibility of radio frequency (RF), interference. Follow the safety advice given below carefully.

- Switch OFF your cell modem when in an aircraft. The use of cellular telephones in an aircraft may endanger the operation of the aircraft, disrupt the cellular network and is illegal.
- Switch OFF your cell modem in hospitals and any other place where medical equipment may be in use.
- Respect restrictions on the use of radio equipment in fuel depots, chemical plants or where blasting operations are in progress.
- Operating your cell modem close to inadequately protected personal medical devices, such as hearing aids and pacemakers, could be hazardous. Consult the manufacturers of the medical device to determine if it is adequately protected.
- Operation of your cell modem close to other electronic equipment may also cause interference if the equipment is inadequately protected. Observe any warning signs and manufacturers' recommendations.

- Do not place the cell modem alongside computer discs, credit or travel cards, or other magnetic media. The modem may affect the information contained on discs or cards.

Maintenance of Your Modem

Do not attempt to disassemble the cell modem. No user serviceable parts exist inside the cell modem.

9
Barcode Scanner

JUNIPER® systems

Barcode Scanner

The Archer 2 Rugged Handheld with a barcode scanner allows you to read 1D and 2D barcodes and easily import barcode data into custom or standard programs running on the Archer 2.

Quick Start – Easily Scan a Barcode Now

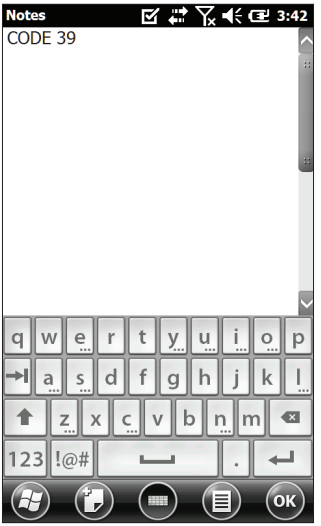
When you receive your Archer 2 with the barcode scanner, you can scan a barcode right away using the default settings. Follow these steps:

1. Find a barcode to scan (or use this one):

2. If the battery pack has not been charged, plug the AC wall power charger into a wall socket. Plug the other end into the DC power jack on the Archer 2.
3. The handheld powers on and a progress indicator is shown on the screen.
4. The Barcode Connector™ utility automatically opens. Minimize the main screen by pressing the X soft key in the bottom right corner of the screen. The Home screen is shown.

   Note: If the Barcode Connector utility does not automatically open when the handheld is powered on, select the Barcode Connector icon from the favorites bar on the Home screen. If this icon is not shown on the Home screen, tap the Windows start screen soft key to locate and select the utility.
5. Open a document to receive the barcode data. (The Notes application is provided on the Archer 2.)

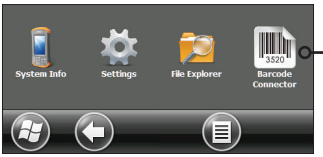
6. Put the cursor where you want the barcode data to be placed.
7. Using the red crosshairs, aim the scanner at the barcode you are scanning. Press the target button to begin scanning.
8. When the scanner decodes the barcode, the data is placed in your document. (With Excel, tap on the column you want the data to appear in.)



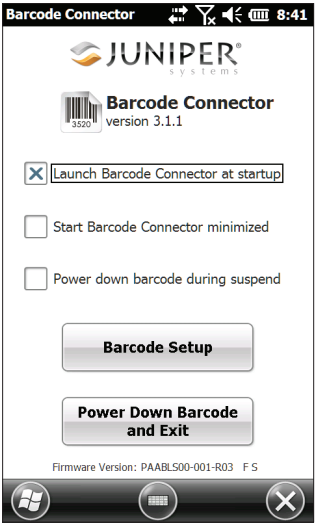
Barcode Connector Utility

The Barcode Connector™ utility is a barcode wedge program provided with the barcode scanner. Depending on the configuration of your Archer 2 it either loads automatically when the handheld is turned on or you can open it from the Home screen.

Note: If the program does not appear in the Home screen favorites bar as shown below (lower right-hand corner), tap the Windows Start screen key and find it in the Start menu.



When the Barcode Connector utility loads, the main screen appears:



You can select three options, depending on how you want the Barcode Connector utility and barcode to behave during startup and suspend. Tap on the check boxes to turn options on or off.

Two main functions are accessed from here:

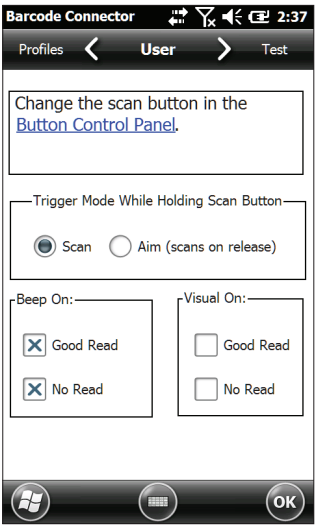
1. Barcode Setup – Use the setup screens to configure the settings of the barcode hardware and Barcode Connector utility.
2. Power Down Barcode and Exit – This function shuts down the barcode scanner. You may want to do this to prevent accidental triggering of a scan sequence. Otherwise, we recommend that you leave it powered on. The barcode is configured to enter a sleep state when it is inactive and consumes about 8mW of power when it is in this state.

To minimize the Barcode Connector utility press the X soft key in the bottom right corner of the display.

Barcode Setup

When you select *Barcode Setup*, The Barcode Connector control panel is displayed. Near the top of the screen is a horizontal scrolling menu. Select screens from the menu to view or edit the configurations for the Barcode Connector utility and the barcode hardware. A description of these screens follows.

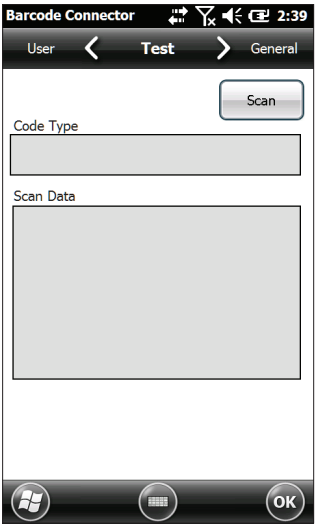
User Screen



The *User* screen has the following functions:

- Button Control Panel – The target button is the scan button by default. You can change this to another programmable button from the Button control panel. Select the hyperlink to view that screen.
- Trigger Mode While Holding Scan Button – Select *Scan* to start scanning the moment the button is pressed. Select *Aim* to turn on the aimer when the button is pressed and to start scanning when the button is released.
- Beep On and Visual On – Select options for audio and visual indicators based on good or bad scan reads.

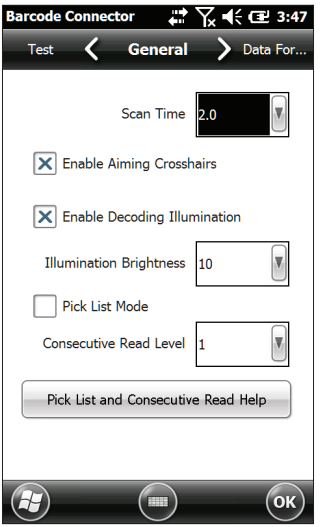
Test Screen



The *Test* screen has the following functions:

- Scan – Tap *Scan* to test the settings and to view information about a scanned barcode. The trigger button on the keypad can also be used.
- Code Type and Scan Data – After a successful scan, the barcode code type and the scan data are displayed.

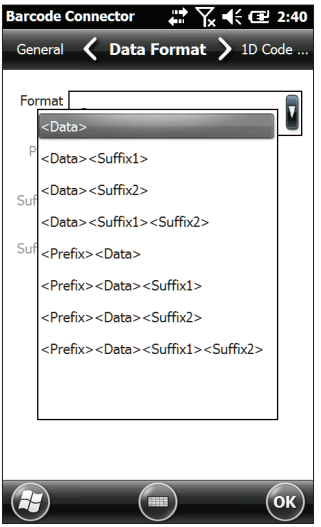
General Screen



The *General* screen has the following functions:

- Scan Time – Adjust the scan time, which is the duration of time before the scanner times out.
- Enable or disable Aiming Crosshairs.
- Enable or disable Decoding Illumination (red light).
- Illumination Brightness – For better barcode performance, we recommended that you leave illumination brightness at the maximum value of 10.
- Pick List Mode – Enable this mode if barcodes are close together. The scanner only decodes barcodes aligned directly under the center of the aiming crosshairs. Disable this mode if only one barcode is viewable. The aiming crosshairs do not have to line up directly on the barcode in order for the scanner to read it. Just aim the scanner in the general area where the barcode is located. This can be helpful in situations where it might be difficult to precisely aim the scanner, such as in locations with bright sunlight.
- Consecutive Read Level – Select how many successful consecutive reads the barcode must get before being decoded.

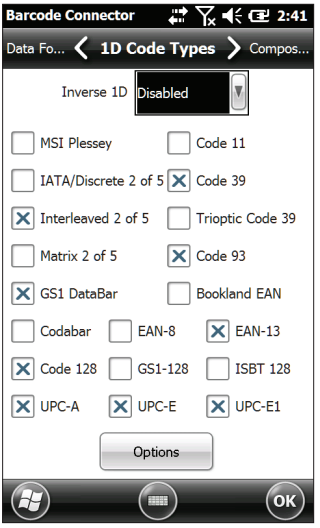
Data Format Screen



The *Data Format* screen has the following function:

- Select optional prefix and suffixes from the *Format* pull-down list to add to the scan data. If you use a program like Excel, we recommend that you Select <Data><Suffix1> with Suffix1 set to a carriage return (<CR>). This puts each scan on a new line.

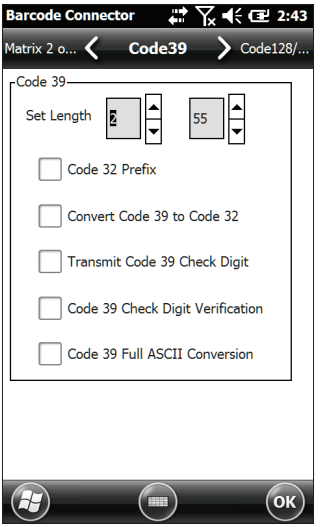
1D Code Types Screen



The *1D Code Types* screen has the following functions:

- Inverse 1D – Enable/disable inverse 1D bar codes or select *Auto Detect*.
- Enable/disable the 1D code types listed.
- Tap *Options* to configure 1D code type specific settings. A horizontal scrolling menu is shown near the top of the screen with options for Code 39, Code 128/Code 93/ Discrete, UPC/EAN 1, UPC/EAN 2, Interleaved GS1 DataBar, MSI Plessey, Codabar/Code 11, and Matrix 2 of 5. Depending on which 1D barcodes you are going to read, you should review the options and configure them for your needs.

For example, below is the screen for Code 39:



Set Length: This option allows you to specify the length of the barcodes you want to read. This could be useful if you know that all valid barcodes will be a specific length or a range of lengths.

You can specify four barcode lengths (let A refer to the first length field and B refer to the second length field):

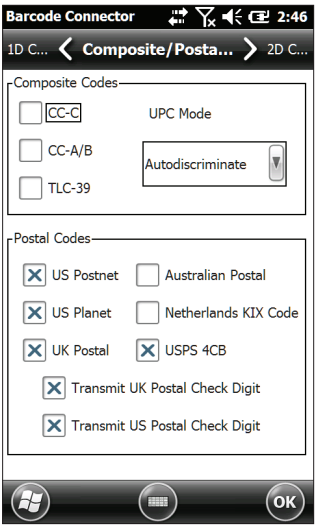
1. One Discrete Length – Set A to the discrete length and B to 0. Only barcodes with an exact length of A are decoded.

2. Two Discrete Lengths – Set A greater than B (both non-zero). Only barcodes with lengths A or B are decoded.

3. Length Within Range – Set A less than B (both non-zero). Barcodes between and including A and B are decoded.

4. Any length – Set A to 0. Any barcode length is decoded.

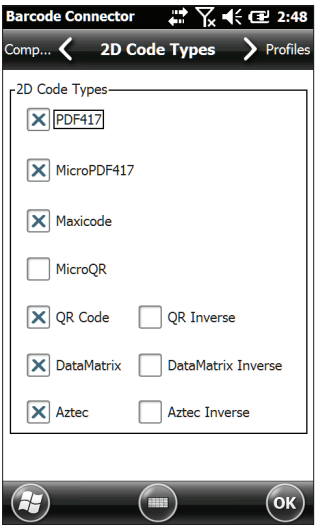
Composite/Postal Code Types Screen



The *Composite/Postal Code Types* screen has the following functions:

- Composite Codes - Enable or disable composite code types.
- Postal Codes - Enable or disable postal code types.

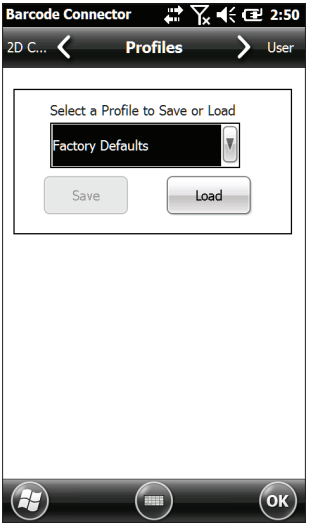
2D Code Types Screen



The *2D Code Types* screen has the following function:

- 2D Code Types - Enable or disable 2D code types.

Profiles Screen

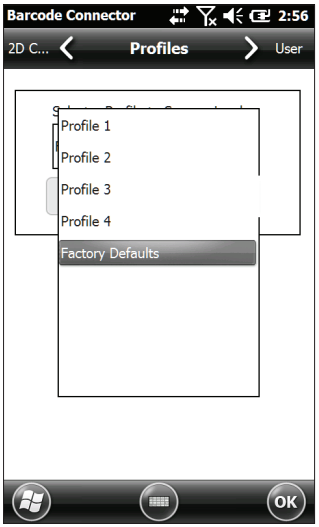


The *Profiles* screen has the following functions:

- Select a Profile to Save or Load - A profile is a saved set of settings. To load a profile, select the profile from the drop-down list and select *Load*.

  Note: When a setting is changed a hidden profile (called "last user") is updated. When this utility is launched, it loads the settings from the last user profile.

Up to four profiles with different settings can be saved.



To save a new profile, configure the settings previously discussed, come to this screen, select the profile name you want to use, and select *Save*.

Note: Any changes to settings after a profile is loaded will not automatically get saved out to the profile, but will get saved out to "last user."

Barcode Troubleshooting

3 – When I read a barcode, the data returned is not correct.

Reason/Solution: Ensure that the configurations are set up correctly so you are given the information you need. For example, to read a Code 32 barcode, on the *1D Code Type* tab, ensure that *Code 39* is selected. Select *Options*, and on the *Code 39* tab ensure that *Convert Code 39 to Code 32* is selected.

4 – I don't know what type of barcode I am trying to scan.

Reason/Solution: Enable all the barcode types on the *1D Code Types*, *Composite/Postal Code Types*, and *2D Code Types* tabs (some types are mutually exclusive). Go to the *Test* screen. Scan the barcode and the *Code Type* window

shows the type of barcode scanned. When you are finished, go back and deselect barcode types you are not using.

5 – My TLC-39 Composite barcode will not scan.

Reason/Solution: On the *1D Code Types* screen ensure that *Code 39* is checked. Also select *Options,* then the *Code 39* screen and ensure that *Convert Code 39 to Code 32* is unchecked.

6 – My UPC barcode will not scan.

Reason/Solution: On the *1D Code Types* screen ensure that barcode types *UPC-A, UPC-E* and *UPC-E1* are checked. If composites codes are also enabled on the *Composite/ Postal Code Types* screen and you still want to allow a UPC 1D to scan, select *Autodiscriminate* from the drop down list. Also go to the *1D Code Types* screen, select *Options,* then the tabs for *UPC/EAN-1* and *UPC/EAN-2*. Make sure the settings are correct for your application.

7 – My Code 39 Full ASCII barcode will not scan.

Reason/Solution: On the *1D Code Type* screen*,* select *Options,* then the *Code 39* screen. Ensure that the lengths are set to the fullest range.

8 – My Bookland EAN barcode will not scan.

Reason/Solution: Ensure that both *Bookland EAN* and *EAN-13* are enabled on the *1D Code Types* screen.

9 – My ISBN, ISMN, ISSN, or JAN barcodes will not scan.

Reason/Solution: These barcode types are all subsets of EAN-13. Ensure that *EAN-13* is enabled on the *1D Code Types* screen.

10 – I can't figure out how to configure Intelligent Mail or OneMail barcodes.

Reason/Solution: Intelligent Mail and OneMail barcodes are the same thing. They are also called USPS 4CB (located on the *Composite/Postal Code Types* screen).

11 – CLSI editing has no effect.

Reason/Solution: CLSI editing is only supported for 14 character Codabar barcodes.

Sample 1D Barcodes

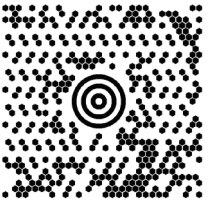
Code 39

Code 128

UPC-A

Sample 2D Barcodes

Aztec



Maxicode

MicroPDF417

QR Code

A

Storage, Maintenance and Recycling

JUNIPER® systems

Storage, Maintenance, and Recycling

Follow the instructions in this chapter to properly maintain and recycle the Archer 2.

Storing the Archer 2 and Battery Pack

When the handheld is not being charged and is suspended, it draws a small amount of power. This power draw is used to maintain the memory (RAM) of the handheld in the same state it was when it was suspended. We recommend charging the handheld each night or weekend when it is in suspend mode.

If the Archer 2 is not charged while in suspend mode and the battery reaches a low charge, it automatically powers off to prevent further drain on the battery.

Note: Data and programs are secure as long as they have been saved, even if the battery pack becomes discharged. The handheld does not depend on the battery to store the data for extended periods.

Storing the Archer 2 for Less Than Two Weeks

To store the handheld for less than two weeks, complete the following steps:

1. Close all applications.
2. Plug the handheld into the AC wall adapter that was shipped with your unit.

Storing the Archer 2 for More than Two Weeks

To store the handheld for two weeks or more, complete the following steps:

1. Charge the battery pack 30 to 50 percent.
2. Close all running programs, and turn off the handheld.
3. Remove the battery pack.
4. Place the battery pack in a dry location.

Protecting the Touchscreen

Protect the touchscreen from impact, pressure, or abrasive substances that could damage it. To further protect the touchscreen, apply a screen protector (optional accessory).

To apply a screen protector, follow the directions that come with it in the package.

CAUTION: Be sure to replace the screen protector as often as the screen protector instructions recommend.

Cleaning the Archer 2

Touchscreen

1. Disable the touchscreen by pressing the power button until the Power Button menu appears. Tap on *Disable TS*.
2. Remove the screen protector if you want to clean underneath it.
3. Apply warm water or a mild cleaning solution to a microfiber cloth and gently wipe off the touchscreen.

CAUTION: Do not use tissues, paper towels, soft bristle brushes, or harsh cleaning solutions on the touchscreen.

4. Rinse the touchscreen with water and dry it with a microfiber cloth.
5. Apply a screen protector if you want to (not included). To clean a screen protector, follow the instructions provided with the package.
6. Enable the touchscreen by pressing the power button until the Power Button menu appears. Tap on *Enable TS*.

Case, Bumpers, and Connector Module

Make sure the battery door is securely installed. Use warm water, a mild cleaning solution, and a soft bristle brush to clean the case, bumpers, and connector module.

CAUTION: Do not direct a high-pressure stream of water at the device to clean it. This action could break the seal, causing water to get inside the device and voiding the warranty.

Safe Cleaners to Use

You can clean the Archer 2 safely with the following cleaners:

- Windex® (S.C. Johnson & Son, Inc.)
- Formula 409® (Clorox)
- Citrus Wonder Cleaner (Mer-Maids)
- Citrus All Purpose Cleaner (Wonder Tablitz)
- Greased Lightening® Multi-Purpose Cleaner and Degreaser
- Orange Clean® (Orange Glo International)
- Fantastik® OxyPower® (S.C. Johnson @ Son, Inc.)
- Oil Eater Orange Cleaner Citrus Degreaser (Kafko Intl., Ltd.)

CAUTION: Exposure to some cleaning solutions may damage your device, including automotive brake cleaner, isopropyl alcohol, carburetor cleaner, and similar solutions. If you are uncertain about the strength or effect of a cleaner, apply a small amount to a less visible location as a test. If any visual change becomes apparent, promptly rinse and wash with a known mild cleaning solution.

Recycling the Archer 2 and Batteries

When the Archer 2 reaches the end of its life, it must not be disposed of with municipal waste. It is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. If you cannot find a location, contact Juniper Systems for information about disposal.

The Li-Ion battery packs for your Archer 2 are recyclable. Avoid placing them in the trash or municipal waste system. To find the nearest battery recycling center in the USA, visit the Rechargeable Battery Recycling Corporation's website at *http://www.call2recycle.org/* or call 1-877-723-1297.

B

Warranty and Repair Information

JUNIPER® systems

Limited Product Warranty

Juniper Systems, Inc. ("JS") warrants that the Archer 2 Rugged Handheld shall be free from defects in materials and workmanship, under normal intended use, for a period of 24 months from the date of shipment.

JS warrants that the following items shall be free from defects in materials and workmanship, under normal intended use, for a period of ninety (90) days from the date of shipment:

- battery packs,
- media containing the Archer 2 programs,
- desktop computer programs,
- user documentation, and
- accessories.

Warranty Exclusions

This warranty shall not apply if:

(i) the product has been set up improperly or has been improperly installed or calibrated,

(ii) the product is operated in a manner that is not in accordance with the user documentation,

(iii) the product is used for a purpose other than for which it was designed,

(iv) the product has been used in environmental conditions outside of those specified for the product,

(v) the product has been subject to any modification, alteration, or change by or on behalf of customer (except and unless modified, changed or altered by JS or under direct supervision of JS),

(vi) the defect or malfunction results from misuse or accident,

(vii) the serial number on the product has been tampered with or removed, or

(viii) the product has been opened or tampered with in any way.

This warranty is exclusive and JS will not assume and hereby expressly disclaims any further warranties, whether express

or implied, including, without limitation, any warranty as to merchantability, fitness for a particular purpose, non-infringement or any warranties arising from the course of performance, dealing, or usage of trade. JS specifically makes no warranties as to the suitability of its products for any particular application. JS makes no warranties that

- its products will meet your requirements or will work in combination with any hardware or applications software products provided by third parties,
- the operation of its products will be uninterrupted or error free, or
- all defects in the product will be corrected.

JS shall not be responsible for software, firmware, information, or memory data contained in, stored on, or integrated with any products returned to JS for repair, whether under warranty or not.

Remedy

In the event a defect in materials or workmanship is discovered and reported to JS within the specified warranty period, JS will, at its option, repair the defect or replace the defective part or product. Replacement products may be new or reconditioned. JS warrants any replaced or repaired product for a period of ninety (90) days from the date of return shipment, or through the end of the original warranty period, whichever is longer.

Limitation of Liability

To the fullest extent allowed by law, the obligation of JS shall be limited to the repair or replacement of the product. JS shall in no event be liable for special, incidental, or consequential, indirect, special or punitive damages of any kind, or for loss of revenue or profits, loss of business, loss of information or data, or other financial loss arising out of or in connection with the sale, installation, maintenance, use, performance, failure, or interruption of any product. Any responsibility and/or liability of JS shall, in connection with a warranted product, be limited in the maximum amount to the original purchase price.

Warranty Repairs

To obtain warranty repair or service on the Archer 2, submit a repair order on our website at *http://www.junipersys.com/Juniper-Systems/support/Repairs* or contact an authorized repair center within the applicable warranty period. Products returned for repair or service without proper authorization may acquire an additional handling fee and/or delay in the repair. The customer is responsible to prepay all shipping costs when sending equipment to a repair center. The repair center will return the repaired equipment by the same method it was received with costs of shipping prepaid.

Governing Law

This warranty is governed by the laws of Utah, U.S.A. and excludes the United Nations Convention on Contracts for the International Sale of Goods. The courts of Utah shall have exclusive personal jurisdiction in case of any disputes arising out of or in connection with this warranty.

Services and Materials Provided Under Warranty

- Analysis of problem by service technician
- Labor and materials required to fix defective parts
- Functional analysis performed after repair
- Repair turnaround within 10 working days of receipt unless special circumstances exist
- Shipping costs to return device to customer

Extended Warranties

The Archer 2 can be warranted up to 5 years (including the standard warranty period) through the purchase of an extended warranty.

Extended warranties apply only to the Archer 2, not battery packs, media containing the Archer 2 programs, desktop computer programs, user documentation, and accessories. Parts that are excessively worn are not covered under all warranty plans. These may include, but are not limited to, the keyboard elastomer and switch matrix, hand straps, touchscreens, and connector modules.

Warranty Information

Warranty information for the Archer 2 Rugged Handheld is located on our website at *http://www.junipersys.com/Juniper-Systems/support/Warranty*. You can evaluate and order warranty extensions, check warranty status, and view warranty terms and conditions.

Repairing the Archer 2

CAUTION: Do not attempt to repair the Archer 2 yourself. This action voids the warranty.

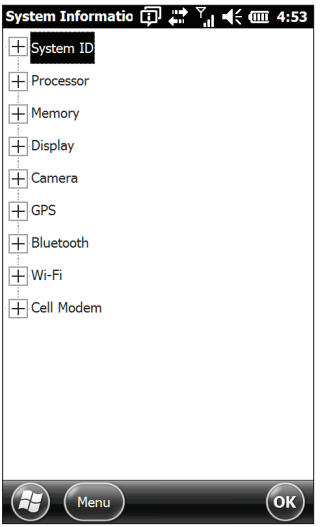
Information about repairs, upgrades, and evaluations is located on our website at *http://www.junipersys.com/Juniper-Systems/support/Repairs*. You can locate a repair center, submit a repair order, check repair status, view terms and conditions, get shipping instructions, and view lead times.

Before returning a unit, please get permission by submitting a repair order from our website and waiting for confirmation or by contacting a repair center directly. Be prepared to provide the following information:

- Product serial number (inside the battery compartment; also found in System Information screen as described on the following page)
- Your name
- Name and shipping address of company/university/agency
- Best contact method (phone, fax, email, cell/mobile)
- Clear, highly-detailed description of the repair or upgrade
- Credit card/ purchase order number and billing address (for a repair or upgrade that is not covered by the standard warranty or an extended warranty policy)

System Information for your Archer 2

When you contact a repair center you need some unique system ID information for your Archer 2 (serial number, model number, etc.). Tap *Start* > *Settings* > *System* > *System Information* to view the following menu. Select *System ID*.



Specifications on the processor, memory, display, camera (Geo models), GPS/GNSS (Geo models), Bluetooth, Wi-Fi, and cell modem (optional accessory) are also located on the *System Information* screen.

You can also create a system information file to send to the repair center by pressing the *Menu* soft key and selecting *Create Info File*. The file is located at: \My Documents\ JSInfo.txt.

C

Warnings and Regulatory Information

JUNIPER® systems

Product Warnings

Follow the warnings listed below to use the Archer 2 and accessories safely.

Battery Warnings

WARNING! This device comes with a lithium ion rechargeable battery pack. To reduce the risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or expose the battery pack to fire.

Do not disassemble or open, crush, bend or deform, puncture or shred.

Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.

Only use the battery for the system for which it is specified.

Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.

Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.

Replace the battery only with another battery that has been qualified with the system.

Use of an unqualified battery may present a risk of fire, explosion, leakage or other hazard.

Promptly dispose of used batteries in accordance with local regulations.

Battery usage by children should be supervised.

Avoid dropping the battery. If the battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.

Improper battery use may result in a fire, explosion or other hazard.

Wall Charger Warnings

WARNING! To reduce the risk of personal injury, electrical shock, fire or damage to the equipment:

Plug the wall charger into an electrical outlet that is easily accessible at all times.

Do not place anything on the wall charger cord or any of the other cables. Arrange them so that no one may accidentally step on or trip over them.

Do not pull on a cord or cable. When unplugging the wall charger from the electrical outlet, pull on the plug, not the cord.

Use only wall chargers intended for the Archer 2. Using any other external power source can damage your product and void your warranty.

Certifications and Standards

FCC - United States

In compliance with the FCC rules 47 CFR 15.19(a)(3), the statements that follow must appear on the device or in the user documentation.

This device complies with Part 15 of the FCC Rules. Operation of this equipment is subject to the following two conditions:

1. The device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

In compliance with the FCC rules, 47 CFR 15.105(b), the user must be notified that this equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that

interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

In compliance with the FCC rules, 47 CFR 15.21, the user must be notified that changes or modifications to the Rugged Handheld that are not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Only approved accessories may be used with this equipment. In general, all cables must be high quality, shielded, correctly terminated, and normally restricted to two meters in length. Wall chargers approved for this product employ special provisions to avoid radio interference and should not be altered or substituted.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.

This cell modem is compliant with FCC regulations when operated within the temperature range of -30°C to +50°C. Do not operate the cell modem outside of this temperature range.

Industry Canada

In compliance with Industry Canada rules, the following statement must appear on the device or in the user documentation:

> This Class B digital apparatus complies with Canadian ICES-003.

Radio Frequency Safety

This device has been evaluated for use in close proximity to the body. Use only accessories approved by Juniper Systems. The use of third party accessories may not comply with FCC and international RF exposure requirements. To comply with FCC and other national RF exposure requirements do not co-locate this device with other transmitters.

This device operates in compliance with the FCC radio frequency exposure limits for an uncontrolled environment. Users must follow instructions provided in the user documentation to satisfy compliance with FCC radio frequency exposure requirements.

There cannot be any alteration to the authorized antenna system.

CE Marking (European Union)

CE Products bearing the CE marking comply with the 2004/108/EC (EMC Directive), 1999/5/EC (R&TTE Directive), 2006/95/EC (Low Voltage Directive) issued by the Commission of the European Community.

CE compliance of this device is valid only if powered with/by a CE-marked wall charger provided by the manufacturer. Cables connecting to the USB host port must use a ferrite core/bead on the cable. The ferrite core must be placed on the cable near the end that connects to the Archer 2. This device has been evaluated using the following standards to demonstrate compliance with applicable directives:

- EN 60950-1:2006
- IEC 62209-2 Ed. 1.0
- IEEE Std. C95.1-1999
- EN 301 489-1 V1.8.1
- EN 301 489-7 V1.3.1
- EN 301 489-17 V2.1.1
- EN 300 328 V1.7.1
- EN 301 511 V9.0.2

- EN 55022:2006 + A1:2007
- EN 55024:1998 + A1:2001 + A2:2003

The telecommunication functions of this device may be used in the following EU and EFTA countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovak Republic, Romania, Slovenia, Spain, Sweden, Switzerland, and United Kingdom.

Restrictions apply to the operation of the radio in this device.

France (Radio Restrictions)
Restrictions apply to the operation of the Bluetooth radio in this device. This equipment may be used indoors. Due to the potential that this radio may transmit in excess of 10mW in the band 2454 to 2483.5 MHz, outdoor operation is restricted.

Restrictions apply to the operation of the 802.11b/g radio in this device. This equipment may be used indoors on channels 1 to 13. Outdoor operation is permitted on channels 1 to 8, as transmit power in the band 2454 to 2483.5 MHz is limited to 10 mW. The latest requirements may be found at: *http://www.art-telecom.fr*

Australia (not sure about this yet)

Declaration of Conformity
The Declaration of Conformity for CE Marking is available at: *http://www.junipersys.com/Archer-2/Support*.

Class I and LED Product (Barcode Scanner)
CLASSIFIED EN/IEC 60825-1 2007 & AS/NZS 2211.1:2004"

Complies with 21 CFR 1040.10 & 1040.11 except for deviations pursuant to Laser Notice No. 50 dated June 24, 2007.

CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This barcode scanner is not user-serviceable. Units requiring service or repair must be returned to the factory.

This barcode scanner is not to be opened or modified by the user. This product does not require scheduled maintenance to remain compliant to the applicable standards.

This laser product is designated as Class 1 during all procedures of operation. For instructions on activating/ deactivating the laser aimer and LEDs, please read the section on software operation.

Laser

Wavelength	650nm, nominal
Emission	Repetitive Pulsed
Pulse Energy*	7uJ
Pulse Width	9 mSec
Pulse Rep Rate	55Hz, nominal
Divergence	1 Radian XY, approximately
Classification	Class 1

LED (Australia New Zealand only)

Wavelength	635nm, peak
Bandwidth FWHM	20nm
Emission	Repetitive Pulsed
Pulse Energy*	≤3.1uJ
Pulse Width	0.98 mSec
Pulse Rep Rate	55 Hz, nominal
Divergence	Extents: approach hemispheric
Classification	Class 1

Laser & LEDs pulse alternately

* Energy for Classification Purposes

A label with the unit serial number is located on the rear panel of the device

D
Specifications

JUNIPER® systems

Archer 2 Rugged Handheld Specifications

FEATURE	SPECIFICATION
Operating System	■ Microsoft® Windows Embedded Handheld 6.5.3 (completely compatible with Microsoft® Windows Mobile® 6.5.3) ■ English, French, German, Spanish, Brazilian Portuguese
Processor	■ 1GHz ARM Cortex A8 i.MX53
Memory	■ 512 MB DDR2 RAM
Primary Data Storage	■ 8 GB Flash storage
Micro SD/SDHC Card Slot	■ SD/SDHC slot, user accessible up to 32GB of storage
Physical Features	■ Dimensions, standard: 3.5" wide x 7.25" long x 1.5" thick (91 mm x 184 mm x 38 mm) ■ Weight, standard: 1.3 lbs (590g), Archer 2 Geo with battery: 2.34 lbs (1061g), Archer 2 Geo 3G with battery and cell modem: 2.36 lbs (1070 g) ■ Durable hardened plastic in a shear proof, shock resistant design ■ Shock resistant bumpers ■ Strong chemical resistance ■ Easy to grip ergonomic form factor ■ Comfortable, wide hand strap
Display	■ Active viewing area: 4.3" (109 mm) color WVGA LCD TFT ■ 800 x 480 pixel resolution ■ LCD backlight ■ Outdoor viewable ■ Portrait (default) or landscape orientation
Touchscreen	■ Capacitive touch interface optically bonded to display to increase visibility ■ Strengthened glass ■ Touchscreen disable function ■ Touchscreen profile options

FEATURE	SPECIFICATION
Keyboard	■ Numeric keypad ■ Shift functions ■ Multiple programmable keys and LEDs ■ Backlight ■ On-screen keyboard
Batteries	■ Rechargeable Li-Ion battery pack, 3.7VDC 10600mAh, 38.16Whr ■ Run time of up to 20 hours ■ Charging time 4 to 5 hours ■ Quick charge ■ Built-in battery intelligence ■ User-replaceable
Connector I/O Module	■ RS-232C 9-pin D-sub connector, +5V @ 500 mA available on ring in pin 9 via software configuration ■ USB Host (Full A) ■ USB Client (Micro B) ■ 12-24 VDC jack for power input and battery charging, +12V DC 1.67A ■ 3.5mm audio jack, supports speaker/ microphone or stereo output (pin detect).
Wireless Connectivity	■ *Bluetooth*® wireless technology 2.1 +EDR Class 1, range 200 feet (30 m) ■ Wi-Fi 802.11b/g/n with extended range. U.S. and international
Audio	■ Speaker, loud and clear ■ Microphone, low noise ■ 3.5mm audio jack, supports stereo headset and microphone at the same time (speaker disable)
LED Activity Indicators	■ Red: power applied/charging status ■ Green: notification, application programmable ■ Blue: shift function, application programmable

FEATURE	SPECIFICATION
Temperature Specifications	▪ Operating Temperature: –22° to 140° F (–30° to 60° C). *Note: Bluetooth® wireless technology is rated to –4° to 122° F (–20° to 50° C).* ▪ Storage Temperature: –22° to 158° F (–30° to 70° C) ▪ Battery Charging Temperature: -4° to 140° F (-20° to 60° C)
Shock Resistance	▪ Withstands multiple 5 foot drops to concrete
Environmental Ratings and Standards	▪ IP68 rating, waterproof and dustproof ▪ MIL-STD810G standard for water, humidity, sand and dust, vibration, altitude, shock, low temperature, high temperature, temperature shock
Warranties	▪ 24 months for Archer 2 ▪ 90 days for accessories ▪ Extended service and maintenance plans

FEATURE	SPECIFICATION
Software Included	■ ActiveSync ■ Adobe Reader LE ■ Alarms ■ Calculator ■ Calendar ■ Contacts ■ E-Mail ■ File Explorer ■ Getting Started ■ Help ■ Internet Explorer ■ Internet Sharing ■ JSNav ■ Juniper Home screen, customizable with selectable dashboard gadgets and program shortcuts ■ Juniper On-Screen Keyboards, Mega Keys and Mega Keys Night ■ Notes ■ Pictures & Videos ■ Remote Desktop Mobile ■ Search ■ Settings ■ Task Manager ■ Tasks ■ Windows Live ■ Windows Media ■ Windows Office Mobile *Note: Software on individual units may vary from this list.*

FEATURE	SPECIFICATION
Configurations	■ Standard with Wi-Fi, Bluetooth, 512MB RAM, 8GB Storage ■ Geo with Standard features plus Camera and GPS/GNSS ■ Geo with Standard features plus Camera, GPS/GNSS, and Cell ■ Geo with Standard features plus Camera, GPS/GNSS, and 1D/2D Barcode Scanner ■ Geo with Standard features plus Camera, GPS/GNSS, Cell, and 1D/2D Barcode Scanner *US/North America and CE/EU Models*
Camera (Geo models)	■ 5MP resolution ■ Autofocus ■ LED illuminator ■ Video capture ■ JPEG image format ■ Juniper Geotagging; embed and/or emboss photo with date, time and GPS/GNSS position ■ Flash and flashlight
GPS/GNSS (Geo models)	■ High-sensitivity GPS/GLONASS/SBAS receiver ■ 2 to 5 meter typical accuracy ■ Post processing capability for enhanced accuracy beyond 2 to 5 meters, BINR protocol ■ Enhanced performance under heavy canopy ■ Integrated real-time SBAS capability, support for WAAS, MSAS, EGNOS ■ File format NMEA-0183 v2.3, default strings: GGA, GSA, GLL, GSV, RMC, VTG, ZDA, GPS ■ 32 GNSS tracking channels ■ GPS/GNSS signal quality indicator on Juniper Home screen ■ JSNav application

FEATURE	SPECIFICATION
3G Data Modem (Geo model option)	▪ Integrated Cinterion PH8P module (Pentaband Worldwide), 800/850/ 900/1800/1900/2100 MHz data speeds, UMTS/HSPA+3GPP ▪ Does not support voice calls ▪ Communicates on GSM-based networks ▪ Supports micro-SIM card only
Barcode Scanner (Geo model option)	▪ Imager and Decoder: Motorola/ Symbol SE4500 imager and PL3307C 400MHz decoder ▪ Sensor Resolution: 752 X 480 ▪ Field of View: Horizontal 40°, vertical 25° ▪ Reading Angles: Skew & pitch ±60°, roll 360° ▪ Read Range: 1" to 24" depending on code type, size, and density ▪ Symbologies: All common 1D, 2D (PDF417, MicroPDF417, Composite, RSS, TLC-39, Data matrix, QR code, Micro QR code, Aztec, MaxiCode, Postal codes, etc.) ▪ Trigger Buttons: Programmable ▪ Aiming Crosshair Pattern: Visible with low light illumination ▪ Barcode Connector™ Utility: Wedge and configuration ▪ Certification: Class 1 Laser and LED Product ▪ Power: 1.49W active, 0.54W standby, 8mW sleep; by default device returns to sleep after 1 second of inactivity

FEATURE	SPECIFICATION
Certifications and Standards	■ FCC Class B ■ CE Marking (applicable EMC, R&TTE, and LVD directives) ■ Industry Canada ■ EN60950 Safety ■ Bluetooth SIG qualification ■ USB client ■ IP68 waterproof and dustproof ■ Designed to MIL-STD 810G
Standard Accessories	■ Li-Ion battery ■ Hand strap (pre-installed) ■ USB micro client sync cable ■ AC wall charger with international plug kit - Input: 100-240VAC, 50/60Hz, 0.5A - Output: 12VDC, 1.67A ■ Capacitive stylus and tether ■ Screwdriver ■ Quick Start Guide ■ Owner's Manual available on our website ■ 2-year warranty
Optional Accessories	■ Shoulder strap ■ Serial cable ■ Vehicle charging adaptor ■ Holster case ■ Flip cover fitted case ■ 8GB micro SDHC memory card ■ Premium screen protectors *See your sales associate for more details on optional accessories.*

Note: Specifications are subject to change without notice.

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