



mesa²TM

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 26621-02



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1

GETTING STARTED

Getting Started

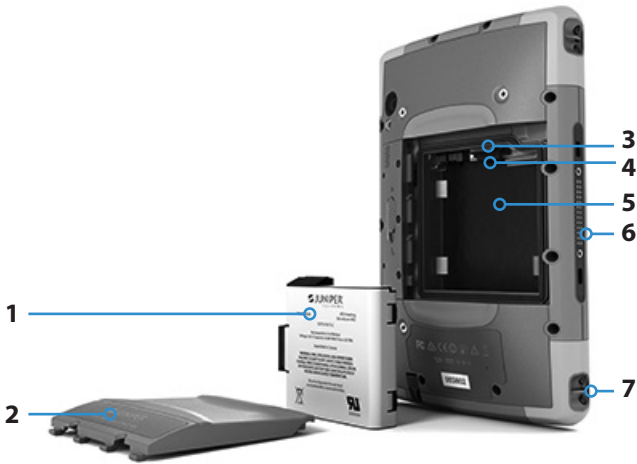
The standard features for the Mesa 2 Rugged Tablet™ powered by Android from Juniper Systems include a 7" display, capacitive touchscreen, keypad, *Bluetooth*, and Wi-Fi. Standard accessories include a lithium-ion battery pack, AC wall charger, hand strap, connector port cover, a fine tip capacitive stylus and tether, and a foam tip stylus for use in wet conditions. Other product configurations include optional features. Refer to the specification appendix for available *configurations* and details about optional features.

The Anatomy of the Mesa 2 Front and Back Features



- | | |
|--|--|
| 1 Notification LEDs | 9 Rear Facing Camera Lens, 8 MP |
| 2 Touchscreen and Display | 10 Camera Flash |
| 3 Protective Over-molded Bumper (all four edges) | 11 Speaker |
| 4 Microphone (one on each side) | 12 Battery Door Lock |
| 5 Ambient Light Sensor | 13 Door to Removable Battery Compartment and Card Slots |
| 6 Front Facing Camera Lens, 2 MP | 14 External Device Attachment Point (1 of 3 on the back) |
| 7 Keypad | 15 Location of Internal Battery (not user accessible) |
| 8 Power Key | 16 Storage Slot for Fine Tip Stylus |

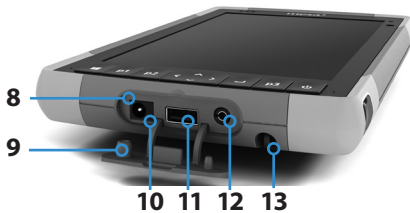
Battery Compartment and Card Slots



- 1 Battery Pack, Removable
- 2 Battery Door
- 3 Micro SIM Card Slot and Micro SD/SDHC Card Slot (underneath card retainer)

- 4 Flexible Card Retainer
- 5 Battery Compartment
- 6 Docking Connection
- 7 Hand Strap Attachment Point (2 on each side)

Connector Ports



- 8 Connector Ports
- 9 Connector Port Protector
- 10 12 VDC Power Input Jack
- 11 USB 3.0 Host, Full Size
- 12 Microphone/Speaker Jack
- 13 Storage Slot for Fine Tip Stylus

Note: Your tablet might look different than these images.

Perform Initial Tasks

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

Review Documentation

This owner's manual and other documents like release notes are available on our website at: <http://www.junipersys.com/Juniper-Systems-Rugged-Handheld-Computers/products/Mesa-2-Rugged-Tablet>. View, download, and print documents as desired, either on the Mesa 2 or another computer with an internet connection. A PDF viewer is included with your Mesa 2 apps.

Documentation will be updated during the life of the Mesa 2. Compare version numbers to see if a document has changed.

Install the Battery Pack, Micro SD Card, and Micro SIM Card

The Mesa 2 comes with a rechargeable, removable Li-Ion battery pack. Install and charge the battery pack as follows:

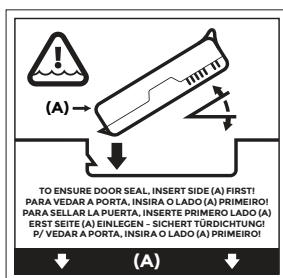
1. The battery compartment is accessed from the back of the tablet. Push the battery lock switch in, slide it to the unlocked position, and remove the door.



CAUTION: The Mesa 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 micro SIM card with the Cellular Data Modem (optional), you can install them now before you install the battery pack or at another time. If you do this, make sure you replace the flexible card retainer before installation of the battery. See [Chapter 2, Standard Features, SD Cards](#) for more details.

3. Follow the graphic on the battery label to insert the battery pack properly.



Hold the battery so that the black tab on the front edge of the battery is up and facing the door latch (this tab helps you pull the battery out). Place the back edge in first, gently pushing it underneath the two battery catches. Rotate the front edge down until it is in position.



CAUTION: Do not insert the battery pack straight down. Damage to the unit could occur.



4. Replace the door and press down on it until the latch pops into the locked position (from this view, the left side of the door is inserted first).
5. Attach the appropriate plug for your country into the AC wall charger and plug it into a wall socket. Plug the other end into the DC power jack on the Mesa 2.

Note: Use the AC wall charger that came with the Mesa 2 or an approved charger. See [Appendix C, Wall Charger Warnings](#), for details.

6. Charge the battery pack at room temperature (68°F or 20°C) for 6 hours (for the first charge). While the battery pack is charging, the red LED blinks. When it is fully charged and external power is applied, the red LED is solid. The battery charge level shown on the icon for this battery (see the status bar at the top of the display) does not report the correct charge until the battery is fully charged for the first time.

Note: If you have an optional internal battery as well as a removable battery, the Mesa 2 does not recognize the internal battery and the battery icon for this battery is not shown on the status bar until the Mesa 2 is being charged for the first time.

Attach the Hand Strap and Stylus Tether

A hand strap, fine tip capacitive stylus, and tether are included with the Mesa 2.

Hand Strap

To attach the hand strap to the Mesa 2, follow the images below. You can attach it to the right or left side of the tablet:



1



2



3

Stylus Tether

Attach one end of the stylus tether to the stylus. To attach the tether to the tablet, follow these steps:

1. Push the free tether loop through one of the tether attachment points located on the side of any of the four corners.



2. Insert the stylus with the attached tether through this loop and tighten the loop.
3. Place the stylus into the stylus storage slot located on the bottom of the Mesa 2.

Turn the Mesa 2 on and Off

To turn the Mesa 2 on, press and release the power key . The tablet powers on and begins the startup process. When it is complete, the Lock screen is shown. Swipe up on this screen to unlock it. If this is the first time you have turned the Mesa 2 on, a screen is shown that highlights the apps button . Take note of the location of this button, and press the box that says OK. The primary Home screen is shown.

Note: The display automatically goes to sleep after a set amount of time passes. Press the power key and the lock screen appears. After you swipe up, the last screen that was opened is shown.

To power the Mesa 2 off, press the power key for a few seconds until a menu is shown with these selections:

- Power off
- Airplane mode
- Lock now

Select *Power off*.



2

STANDARD FEATURES

Standard Features

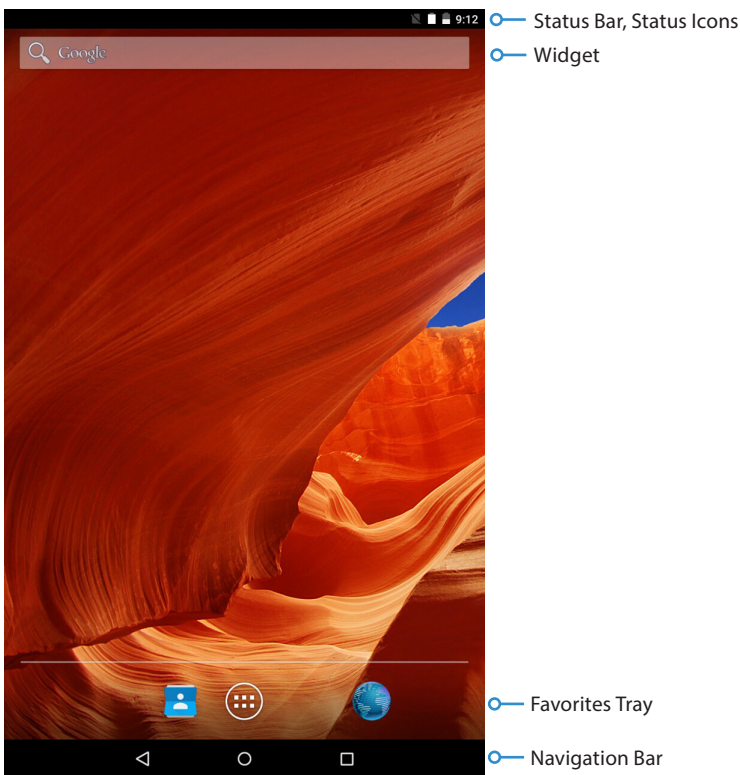
This chapter discusses the standard features included with all Mesa 2 models with Android.

Operating System

This owner's manual covers the Mesa 2 with the Android operating system. If you need additional information about Android, there is a wealth of information on the internet.

Home Screen

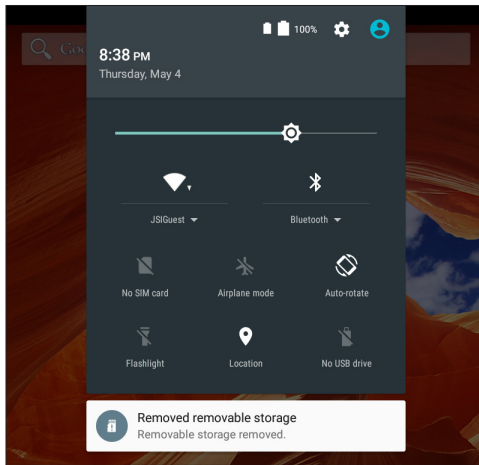
The Home screen consists of the following elements:



A fifth of the Home screen is shown on the display. Touch and scroll right or left to see other portions of the screen. Each section can be customized with different apps and widgets if desired.

Quick Settings and Notifications

Touch and hold the status bar from any screen to see the Notification drawer. Swipe down twice from the drawer and the Quick Settings tray is shown which lets you to adjust some settings (screen brightness) and toggle certain apps on and off (*Bluetooth*, flashlight). To close it, swipe the tray up, then the drawer.



Applications and Widgets

From the Home screen, press the apps icon  located in the middle of the favorites bar to see a list of the applications and widgets available on your Mesa 2.

You can customize a Home screen with app icons and widgets for quick access. Press and hold an icon to select it and place it on the main Home screen. You can move icons to the favorites bar, onto another Home screen by dragging them right or left, or delete them by dragging them to the top of the screen where it says X Remove.

To manage apps, swipe from the left of this screen and a Manage Apps screen is shown. Select the menu icon in the upper left hand corner of this screen to view your options.

Operating System Languages

The Android operating system is available in multiple languages. Select *Settings > Languages & input > Language* to view the options and make a selection. Some unique Mesa 2 settings and apps like Touch Control and the Barcode Connector are only available in English.

Settings

The Settings app is used to set up many features of the Mesa 2. From the Home screen, select *Apps > Settings*. You can also get to settings from the Quick Settings tray discussed earlier in this section.

Display and Touchscreen

The Mesa 2 has a bright color display and capacitive touchscreen with a diagonal viewing area of 7 inches (178 mm). It is easy to view outdoors and is sealed against water and dust. The Mesa 2 recognizes touch gestures, making it easy to use a finger to make selections and navigate. You can also use the fine tip capacitive stylus included with the Mesa 2 or optimize it for wet conditions (see *Touchscreen Profile Settings* in the next section).

To adjust display settings including the font size, brightness, sleep interval, orientation, go to *Settings > Display*.

Backlight Brightness

There are a few ways to adjust the display backlight brightness.

- Press the **▲** key to increase the brightness or **▼** key to decrease the brightness.
- Pull down the Quick Settings tray. On the horizontal bar, drag the sun icon to the right to increase the brightness or to the left to decrease the brightness.
- Go to *Settings > Display > Brightness level*

Light Sensor

An ambient light sensor is located on the front of the Mesa 2 in the upper-right corner. The light sensor can dynamically adjust the backlight on the display based on lighting changes. You can enable this process by going to *Settings > Display > Adaptive brightness*.

Display Magnifier

To turn the magnifier on, go to *Settings > Accessibility*. Turn *Magnification gestures* on. Read the instructions on the screen to see what your options are.

Touchscreen Touch Control Setting

To adjust the Touchscreen Control setting, go to *Settings > Touch Control*. Select the profile you want the screen optimized for: Finger and Stylus (default), Finger, Fine Tip Stylus, Wet, or Glove. As the new profile loads, a progress bar is shown. You can try different profiles to see which one works best for the conditions the Mesa 2 is being used in.

Note: When using the Mesa 2 in wet conditions, you must use your finger or the soft-tipped stylus that is included, even after selecting the wet conditions touchscreen profile. The hard-tipped stylus will not work. Other third party styli might work with the Mesa 2 touch profiles, but we cannot guarantee it.

Touchscreen Enable/Disable

There are times when you might want to disable the touchscreen (so selections are not inadvertently made, for example). To use this function, a button needs to be assigned to it. Go to *Settings > Buttons*. A menu is displayed with all of the possible functions, including, *Touchscreen enable/disable*. Select it and choose the button you wish to assign to this function. Once that function has been set, the assigned button can be used to enable and disable the touchscreen.

Keypad Features

The Mesa 2 keys (buttons) are sealed and have backlight illumination. They are programmable. The standard functions are shown in the following chart:

Key	Function
	Back
	Home
	Recent
	Volume -
	Volume +
	Brightness +
	Brightness -
	Menu (for models with a barcode imager, scan barcode when the application is open)
	Enter (for models with an RFID reader, read RFID tag when the application is open)
	Power ■ Press and release: On or sleep ■ Hold for 4 seconds and pull down screen: Power off ■ Hold for 10 seconds: Power off the device. CAUTION: before doing this, see the Sleep, Power-Off, Lock up, and Recovery section in this chapter. ■ Hold for 20 seconds: Electrically disconnect the battery pack(s); to reconnect the batteries, you are required to plug in the charger or external 12 V power. CAUTION: before doing this, see the Sleep, Power-Off, Lock up, and Recovery section later in this chapter.

Programmable Keys

All of the keys except for power  are programmable. Select *Apps > Settings > Buttons*. The keys and their current assignments are shown. Select your preferred function for individual keys from the drop down menus.

Connector Ports

The Mesa 2 has the following jacks and connectors:



The connector protector is removable and replaceable. See your sales representative if you need a new one. To remove it, pull it out of the ports, then gently pull the curved rubber retainers out of the holes they are in. Replace it by inserting the curved rubber retainers back into the holes.

Note: The connectors are sealed. A connector protector is not required to prevent water ingress. It protects the connectors from exposure to excessive dust and dirt.

Battery Packs

The Mesa 2 runs on battery power, using a removable, rechargeable, Li-Ion battery pack. A non-removable, internal battery pack is an option. The tablet operates on either or both battery packs.

Battery Status and Management

Battery icons on the Status bar shows the status of installed batteries. The large battery icon represents a removable battery while a smaller battery icon represents an optional internal battery. The status of these icons follows:

- If both the internal and the removable batteries are installed, a bigger battery icon and a smaller battery icon are shown.
- If a removable battery is not present, both battery icons are shown, but the larger battery icon has an exclamation mark signifying that it is not present.
- If only the removable battery is present, only the large battery icon is shown.

- The charge state of both batteries can be observed by the state of the battery icons in the Status bar. The more the batteries are filled in, the greater the charges are.

By tapping on the battery icons in the Quick Setting tray or by going to *Settings > Battery*, a more detailed view of battery usage is shown in a graph. If both batteries are present, there is a dotted line at 33% representing the smaller internal battery, which makes up only a third of the entire charge. If only the internal battery is present, the charge line will go no higher than 33%. The removable battery is represented above 33%.

Preserving Battery Power

There are settings you can adjust to preserve battery power.

- The backlight brightness can be adjusted with the ▲ and ▼ keys, in *Settings > Display*, or from the Quick Settings tray. The Mesa 2 uses less power when the display brightness is decreased.
- The time that the unit stays on before sleeping can be set in *Settings > Display > Sleep*. The Mesa 2 uses less power when it is sleeping than when it is fully awake.

Charging the Battery Pack(s)

For instructions on how to insert and charge the removable battery pack, refer to the instructions in *Chapter 1, [Getting Started, Install the Battery...](#)* It typically takes 4 to 5 hours to fully charge a battery pack.

For tablets that have both a removable battery pack and an optional internal battery pack, the intelligent internal battery charging circuit first charges the battery pack with the least amount of energy. When this battery pack comes to the same level as the other battery pack, then both battery packs are charged at the same time until they are both fully charged.

Battery packs are charged most efficiently at room temperature (68°F or 20°C). They will not charge if it is too hot or too cold.

We recommend that you keep the Mesa 2 battery pack(s) charging when it is not in use for up to two weeks. When you

plug the tablet into the wall charger that comes with it, the batteries are prevented from being overcharged.

Battery Life

Battery life on a full charge can be 20 hours or more. This varies depending on whether or not you also have an optional internal battery, the applications used, backlight usage, and radio usage. The optional internal battery adds 5-6 extra hours of battery life.

The shelf life for battery packs is about one year. The battery packs should be recharged at least once per year. This prevents the battery packs from discharging to a level that might damage the batteries. Battery packs that are not recharged at least every year, could fail to work or may have reduced capacity. Battery packs typically last 1,000 to 3,000 charging cycles.

⚠ CAUTION: Only use batteries designed for the Mesa 2 from an approved vendor. Use of non-approved batteries may void your product warranty. The Mesa 2 must be returned to the factory for replacement of the optional internal battery, although the internal battery pack is designed to last the life of the tablet.

Power States

The Mesa 2 runs on battery power, or external power. If external power is used, a replaceable and/or internal battery must be installed.

⚠ CAUTION: The unit is not designed to run on external power without a battery installed. Doing so can damage internal components of your unit and void the warranty.

Removing the Replaceable Battery

To remove the replaceable battery to replace it or to insert or remove SD cards, follow these steps.

1. Power off the tablet.
2. To remove the battery compartment door, push the battery lock switch in, slide it to the unlocked position, and remove the door.



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



CAUTION: Always power off the tablet before removing the battery. Failure to do so may cause loss of data or damage to the tablet. **EXCEPTION:** If your tablet has an internal battery, this caution does not apply. You can safely remove the removable battery while the unit is running.

3. Remove the battery pack by pulling up on the black tab on the battery pack.



LED Activity Indicators

LED activity indicators are located on the front of the Mesa 2 in the upper-left corner.

- Red LED, solid: 1) When the Mesa 2 is put to sleep or powered off by pressing the power key , the red LED is solid until the unit has successfully completed the process, and then the red LED turns off. If powering off the device, do not remove the battery while the light is solid. 2) The AC wall charger is plugged in and the battery is full (not charging).
- Red LED, blinking: The AC wall charger is plugged in and the battery is in the process of charging.
- Blue or green LED, solid or blinking: Android notifications, such as mail being received.

- Amber Light: Front or rear facing camera is in use.

Data Storage Options

The Mesa 2 has 64 or 128 GB of internal flash data storage. Go to *Settings > Storage* to see how much storage there is, how much is available, and how it is being used (storing Apps or Pictures, for example).

Additional storage can be added with an SD card and a USB Storage device like a thumb drive. These are managed in *Settings > Storage*. Scroll to the bottom of the screen.

SD Cards

The Mesa 2 has a slot for a micro SD card located in the battery compartment. SD Cards provide an ideal way to increase available storage on the device, and can be considered longer term removable storage, with the SD Card left in the device for long periods of time.

The card slot and flexible card holder are designed to hold the card securely in place so it will not come out or disconnect if the tablet is dropped.

To insert or remove a card, follow these steps:

1. If you are removing a card, go to *Settings > Storage* and under *SD card*, tap *Unmount*. Otherwise, go to step 2.
2. Power off the tablet.
3. Remove the battery door as outlined in chapter 1.



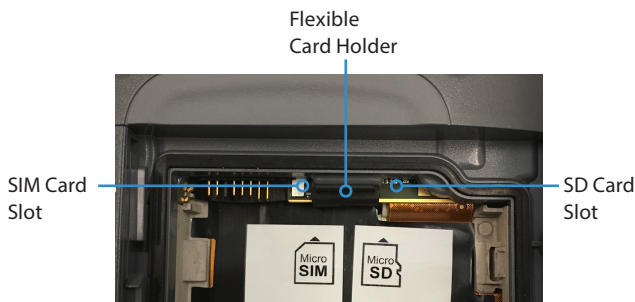
CAUTION: The Mesa 2 is not sealed against water and dust when the battery pack and battery door are not installed properly.



CAUTION: Always power off the tablet before removing the battery. Failure to do so may cause loss of data or damage to the tablet. EXCEPTION: If your tablet has an internal battery, this caution does not apply. You can safely remove the removable battery while the unit is running.

4. Remove the battery pack by pulling up on the black tab on the battery pack.
5. An image on the battery compartment label shows the correct location and orientation for the SD card. Pull

the flexible card holder back out of the way. To insert a card, push the card into the slot. To remove a card, pull it out. Use tape or an eraser if you have trouble grabbing it.



6. Push the flexible card holder back into place, covering the card slots.
7. Replace the battery pack and attach the battery door as explained in Chapter 1.
8. To view and manage an inserted card, power on the Mesa 2 and go to *Settings > Storage*. Under *SD card*, make sure the card has mounted so you can access the files. You can manually mount it if necessary by tapping *Mount*. To erase the contents, tap *Erase*. Before removal, tap *Unmount*. After a few seconds a message is shown that says *Removable storage will be unmounted*. Wait until it disappears to remove the card. This ensures that any ongoing activities with the USB Storage Device are terminated properly.

USB Storage Device

The Mesa 2 is equipped with a USB host port that can be used for a variety of functions including connecting a USB Storage device like a thumb drive. This is ideal for transferring data between other devices and the Mesa 2.

1. Insert the USB storage device into the USB host port.
2. To view and manage an inserted USB storage device, go to *Settings > Storage*. Under *USB Storage*, make sure the device has mounted so you can access the files. You can manually mount it if necessary by tapping *Mount*.

To erase the contents, tap *Erase*. Before removal, tap *Unmount*. After a few seconds a message is shown that says *Removable storage will be unmounted*. Wait until it disappears to remove the device. This ensures that any ongoing activities with the USB Storage Device are terminated properly.

Note: You can also unmount a USB storage device from the Quick Settings tray.

Audio Features

The Mesa 2 has the following audio features (see [The Anatomy of the Mesa 2](#) images for the locations of these items):

- **Speaker** - The speaker provides audible indicators and program feedback. You can listen to mono audio files and watch video. For stereo audio, use *Bluetooth*, headphones or HDMI output from the optional dock.
- **Microphone** - Use the microphones to record audio notes or include sound in a video, using the camera (option). Built in microphones can also be used for Skype calls.
- **Audio Jack** - The audio jack supports a stereo headset or headset/microphone combination with 3.5 mm connections.

Sleep, Power Off, Lock up, and Recovery

Putting the Mesa 2 to Sleep

The Mesa 2 goes to sleep after a minute by default. When the tablet is in a sleep state, it is still powered, but in a minimum run state.

1. To put the Mesa to sleep, press and release the power key . While the screen immediately darkens, the Mesa 2 may take a minute or more to reduce power consumption to its lowest level.
2. To wake the tablet from a sleep state, press and release the power key again. When it is awakened, the tablet shows the Lock screen.
3. You can change the sleep default setting by going to *Settings > Display > Sleep* and selecting a value from 15 seconds up to 30 minutes.

Powering Off and Restarting the Mesa 2

To preserve battery power, we recommend you power off (shut down) the Mesa 2 if it will not be used over a long weekend or for several days.

1. Press and hold the power button for 2-3 seconds.
2. A menu appears with *Power off*, *Airplane mode*, and *Lock now* options. Tap *Power Off*.
3. Powering off can take from a few seconds up to a minute or more to complete. When the Mesa 2 is powered off, no lights are evident and the display is dark.
4. To restart the Mesa 2, hold down the power button for 2-3 seconds. Some graphics are shown, and then you see the Lock screen. Swipe up and the Home screen appears.



CAUTION: Be aware that when the Mesa 2 is powered off, it closes all programs and powers down all system components.

Powering Off for Long-Term Storage

To power off the Mesa 2 for long-term storage (two weeks or more), follow these steps:

1. Power off the Mesa 2 as described in the previous section, *Short-term Storage*.
2. Press and hold the power button for 20 seconds. This disconnects the batteries from the system.
3. Take out the removable battery and store it in a cool, dry location.
4. When you are ready to power on the Mesa 2, replace the battery pack. Plug in the AC wall charger and connect it to the Mesa 2 **BEFORE** you power it on. Hold down the power button for 2-3 seconds until the Lock screen is shown.

How to Handle a Locked Up Unit

If the Mesa 2 is completely stuck and won't respond, hold the power key down for 2 to 3 seconds to see if the menu with the "Power off" option appears, and select that

operation. If that doesn't work, hold the power key down for 10 seconds. This causes a hardware shut off. Press the power key again to power it on.

If 10 seconds doesn't work, hold the power button down for 20 seconds. Batteries are forced to electrically disconnect from the tablet, causing a complete shut down. The tablet cannot be powered on again until it is plugged in with the AC wall charger. Keep this in mind if you are in the field.

! CAUTION: Forcing a shut-down while the unit is running can cause damage to the device. NEVER do this to power off a Mesa 2 in normal circumstances.

Recovery or Factory Reset

The Mesa 2 can be restored to the factory state with all user data removed from the unit.

In order to perform the Factory Reset, go to *Settings > Backup & Reset > Factory Data Reset*. You are presented with a screen describing all of the data that will be removed from the device. Tap **RESET TABLET** at the bottom of the screen to begin the process. This operation can take up to an hour for some models. When the process is complete, all changes that have been made by the user are removed.

Sensors

Compass, Gyroscope, and Accelerometer

The Mesa 2 has a built-in compass, gyroscope, and accelerometer. The accelerometer assists the compass in determining direction, even when the device is not resting flat. The gyroscope senses change in angular motion. The compass, accelerometer, and gyroscope can also be used by other user applications.

Compass Calibration

The compass has been factory calibrated. Periodic user calibrations help the compass function in the environment the Mesa 2 is being used in.

1. Go to *Settings > Sensor Calibration > Compass calibration*.

2. Tap the “Start Calibration” button.
3. Move the tablet in a 3D figure 8 motion repeatedly until a *Result, Calibration Succeeded!* message appears.



Gyroscope Calibration

The Gyroscope has also been factory calibrated. A recalibration tool is provided.

1. Go to *Settings > Sensor Calibration > Gyroscope calibration*.
2. Place the Mesa 2 on a flat surface.
3. Tap the *Start Calibration* button.
4. Calibration is complete when a *Result, Calibration Succeeded!* message appears.

Bluetooth® Wireless Communication

The Mesa 2 has built-in *Bluetooth®* wireless technology, allowing you to connect it to other wireless devices with *Bluetooth* technology.

Creating a Partnership/Pairing a Bluetooth Device

To create a partnership between the Mesa 2 and another device with *Bluetooth* technology, follow these steps:

1. Turn both devices on.
2. Place them within a few feet of each other. (The Mesa has long range *Bluetooth*, but the other device might not.)
3. Make *Bluetooth* discoverable on both devices. *Bluetooth* on the Mesa 2 is off by default. To activate it, go to *Settings > Bluetooth* and tap *Off* in the upper left hand corner to toggle it on. You can also pull down the Quick Settings Tray and tap the *Bluetooth* symbol to turn it on. Tap the word *Bluetooth* underneath the symbol. A list of

discoverable devices is shown. Tap *MORE SETTINGS* to go to the settings screen.

4. In the *Bluetooth* settings screen, a list of all *Bluetooth* devices within range is shown. Tap on the name of the device in the list you would like to pair with. A *Bluetooth* pairing request box is shown. If prompted, enter the PIN or pass code of the device you want to pair with. You should now be paired with the device.

Note: If Bluetooth is on and the tablet enters sleep or hibernate mode, Bluetooth turns off to save battery power. The connection is resumed once it powers back on. (This is not the case with the extended range Bluetooth)

Wi-Fi Wireless Networking

The Mesa 2 has built-in Wi-Fi wireless networking to connect to the internet or an 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 set up Wi-Fi, follow these steps:

1. Go to *Settings > Wi-Fi* and tap *Off* in the upper left hand corner to toggle it on. You can also pull down the Quick Settings Tray and tap the *Wi-Fi* symbol to turn it on. Tap the word *Wi-Fi* underneath the symbol. A list of discoverable devices is shown. Tap *MORE SETTINGS* to go to the settings screen.
2. The Mesa 2 automatically starts scanning the area for available Wi-Fi networks. A list is shown. Select the network you want to use and enter the network password (for locked networks). The Mesa 2 remembers the Wi-Fi network connections created.
3. Wi-Fi can be turned off and on and settings can be managed from the set up screen. Tap the network you selected to view information like *Link speed*. Tap and hold to view other options like *Modify network*.

Note: Android does not support shared key WEP.



3

OPTIONAL FEATURES AND ACCESSORIES

Optional Features and Accessories

This chapter discusses the optional features that can be included with the Mesa 2 Rugged Tablet.

Note: The RS-232 connector is not available in combination with the barcode imager or the RFID reader. The NEO-M8T GNSS receiver with external antenna is not available in combination with the barcode imager or the RFID reader.

GPS/GNSS

Mesa 2 Geo models use an integrated GPS/GNSS receiver with an internal antenna to provide position information.

u-blox NEO-M8T GNSS Receiver

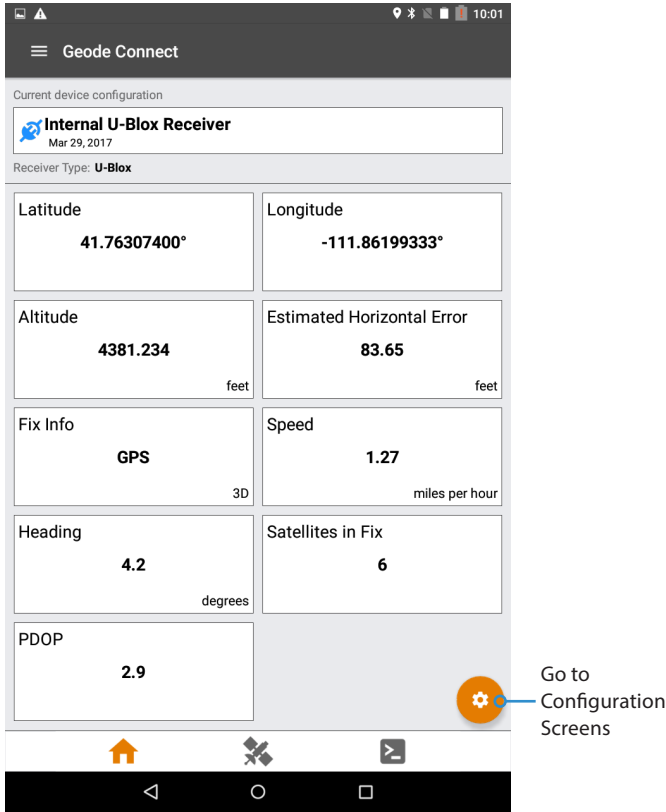
The u-blox NEO-M8T with an external antenna port is available as an upgrade option for GPS/GNSS in Mesa 2 Geo models. The NEO-M8T can collect data for post processing. When connected to an external GNSS antenna, the GPS/GNSS receiver automatically detects and uses the external antenna. Otherwise, the GNSS receiver uses the internal GNSS antenna.

GPS/GNSS Support

The Android operating system provides built-in support for GPS/GNSS devices. As part of that support, Android Location Services provides a standard way for GPS/GNSS information to be made available to applications that have been designed using the Android Location Services application programming interfaces (APIs).

Configuring the GNSS Receiver

The Geode Connect utility allows you to configure the internal u-blox GPS/GNSS Receiver. Go to Apps > Geode Connect. A screen is shown that lists all of the devices discovered. Select *Internal GNSS*. A screen like the following is shown:

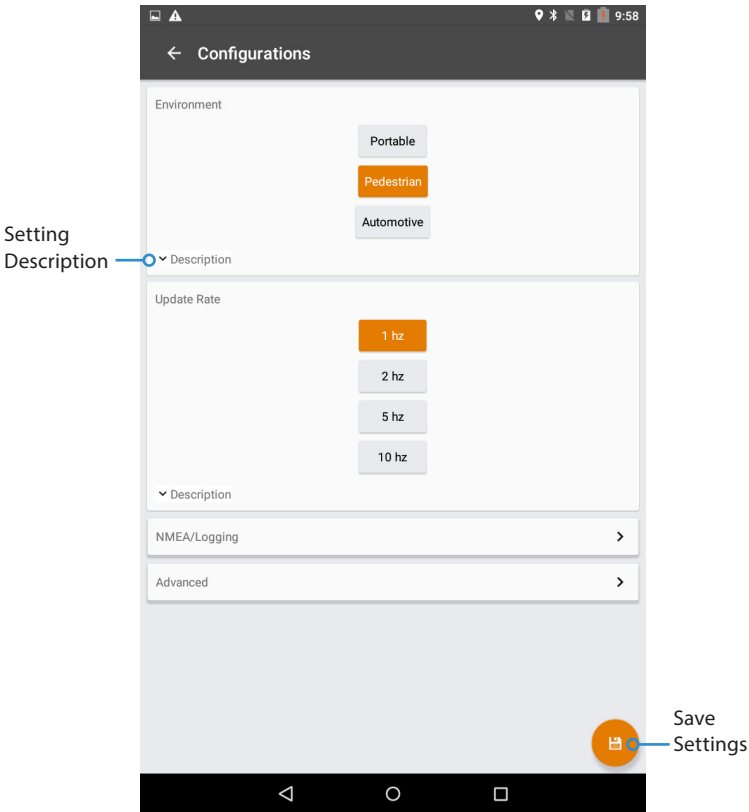


Tap on the gear icon in the lower right hand corner to go to the configuration screens. Configure the settings to meet your specific application.

Note: There is a description for specific settings in the lower left hand corner of the box for that setting.

Note: Select the memory icon in the lower right hand corner of the set up screens to save your settings.

From the main Configurations screen, select the desired *Environment* and *Update Rate*.



From this screen, select *NMEA/Logging* to set up the *NMEA Messages* and *NMEA Talker ID*.

Go back to the main Configurations screen and select *Advanced* to set up the *Elevation Mask Angle*, *SBAS*, *SBAS Services*, *Static Hold*, and *GNSS Constellations*.

Note: On the Advanced configuration screen, there is a Factory Reset option.

GPS/GNSS Accuracy

The GPS/GNSS antenna is under the notification LEDs and is intended to work in both portrait view and landscape view. Do not put your hand or another object over this area. Accuracy could be reduced. The more items between the antenna and the satellites, the lower the accuracy.

Camera

Mesa 2 Geo models have a front facing camera that is 2 MP and a rear facing camera that is 8 MP.

The camera application can be found in the apps list and can be placed on the Home screen if you wish. Capturing both still images and videos can be done from the camera application. Other options such as timer, flash, and switching between front and back cameras are available.

Photo and Video Gallery

Photographs and videos can be viewed on the device with the Gallery application.

4G LTE Data Modem

The 4G LTE data modem is an option for Mesa 2 Geo models, adding Wireless Wide Area Network data modem capability.

This modem supports service providers in North America, Europe, and many other regions of the world (*The modem is not compatible with a Verizon network*). Refer to frequency bands and modes supported by the Mesa 2 located in [Appendix D, Specifications](#), and your service provider of choice for compatibility.

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 micro SIM card. Provide the following information:

1. Billing Information and business ID, such as your Federal Tax I.D. or VAT number.
2. The wireless services required. You only need data service. You do not need voice or messaging services.

3. You may be asked for the modem's IMEI number. Go to *Settings > About Tablet > Status > SIM Status* to see the IMEI number.

Install the SIM Card

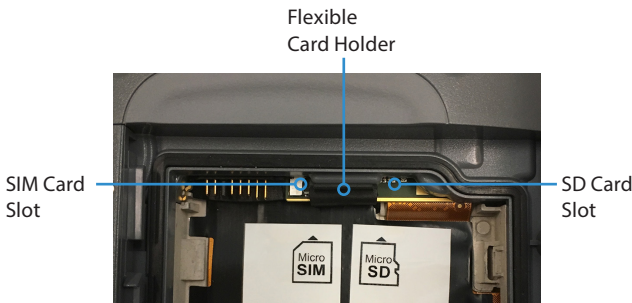
The card slot and flexible card holder are designed to hold the card securely in place so it will not come out or disconnect if the tablet is dropped. To insert or remove a card, follow these steps:

1. You must power off the tablet.
2. Remove the battery door as outlined in chapter 1.



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

3. Remove the battery pack by pulling up on the black tab on the front of the battery pack.
4. An image on the battery compartment label shows the correct location and orientation for the SIM card. Pull the flexible card holder back out of the way. Push the card into the slot to insert it.

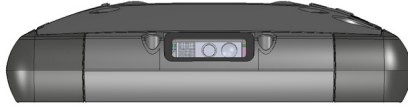


5. Push the flexible card holder back into place, covering the card slots.
6. Replace the battery pack, and attach the battery door.

To remove the SIM card, gently pull it out with tweezers or a piece of tape.

Barcode Imager

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

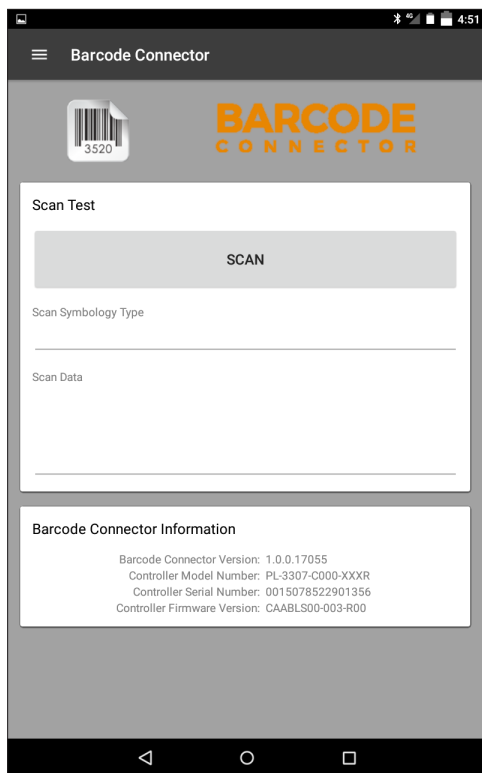


Barcode Connector Utility

The Barcode Connector™ utility is a barcode wedge program provided with the barcode imager. Open it from *Apps > Barcode Connector*.

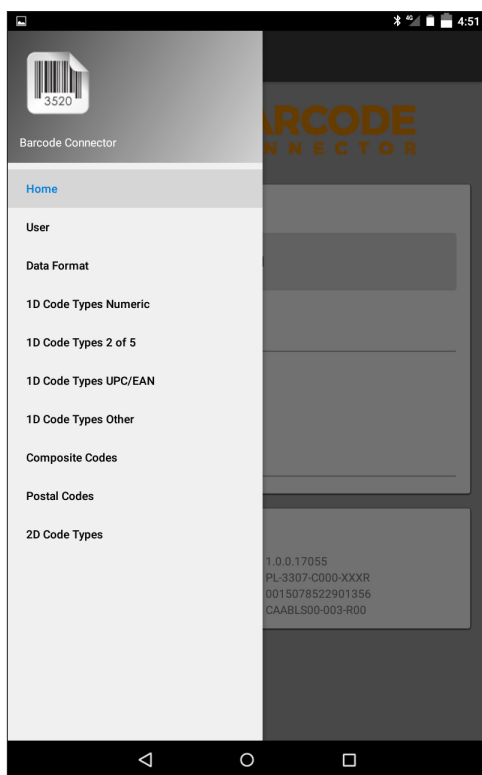
Home Screen

When the Barcode Connector utility loads, the home screen appears. From the home screen, you can do a *Scan Test* right away. Aim the imager towards a barcode. Tap *Scan* on the screen or press the scan button  on the keypad. When a red aiming LED appears, place it on or near the barcode. After a successful scan, the *Scan Symbology Type* and *Scan Data* are shown on the screen.



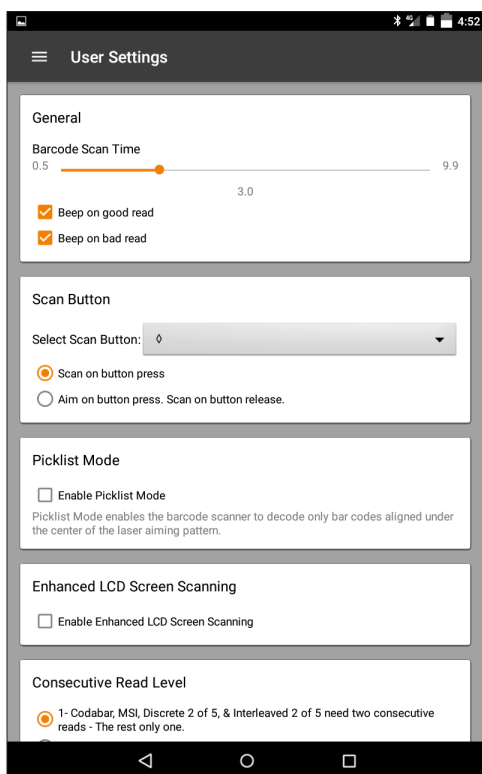
Barcode Menu

Select the menu symbol in the upper left hand corner of the home screen or swipe the screen from left to right to see the menu (you can do this from any screen in the application). This menu gives you access to several setting screens.



User Settings

From the menu, select *User* to open the User Settings screen. From this screen, set up options like *Barcode Scan Time* and which button to use to scan barcodes.



Data Format and Barcode Types

On the Data Format screen, you can set up a prefix and suffix. Use the rest of the menu options to set up different types of barcodes, including 1D code types, composite Codes, postal codes, and 2D code types.

Reading a Tag

Once the Barcode Connector utility is set up, you can start scanning barcodes.

1. Minimize the Barcode Connector utility.

2. Open an application or document to receive the barcode data and put the cursor where you want the data to be placed.
3. The barcode imager is located on the top of the Mesa 2 when in portrait mode. Aim the barcode imager at the barcode.
4. The distance required between the barcode and Mesa 2 varies depending on the barcode being read. There is a red aiming LED that helps you aim at the correct barcode. Press the scan button (◇ by default any time the application is opened). When the barcode is successfully scanned, the barcode information is placed in your application or document.

Troubleshooting the Barcode Scanner

If the barcode scanner is not functioning correctly, you can use these steps to set the scanner to factory default settings.

1. Launch the Barcode Connector utility.
2. Scan the Set Factory Default barcode shown here.



3. Go to the User Settings screen and tap *Reset Settings* to restore the settings to the default operating parameters.
4. Close the Barcode Connector utility.
5. Launch the Barcode Connector utility again and verify that correct functionality has been restored.

Sample Barcodes
1D Barcodes



Code 39



Code 128

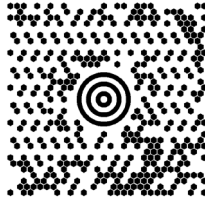


UPC-A

2D Barcodes



Aztec



Maxicode



MicroPDF417



QR Code

RFID Reader

The Mesa 2 Rugged Tablet with an RFID reader allows you to read UHF RFID tags, and easily import data into custom or standard programs running on the Mesa 2.

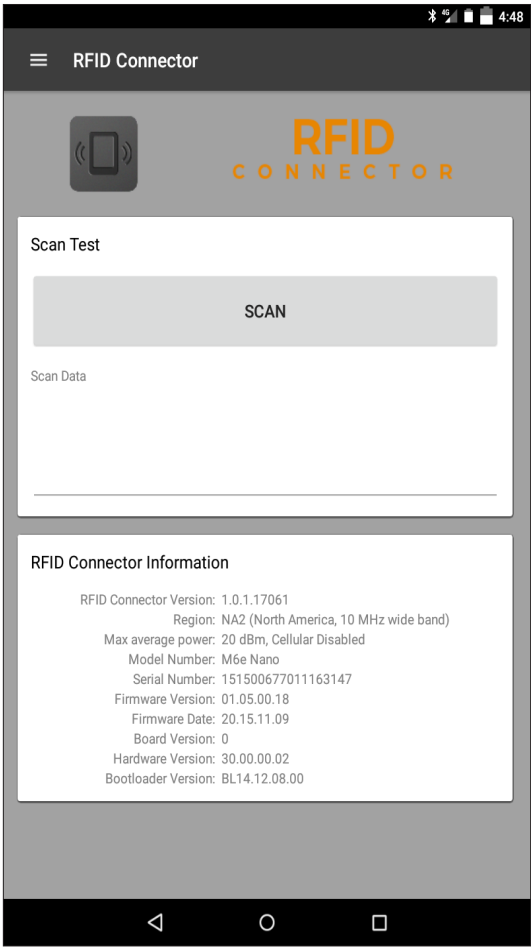
RFID Connector Utility

The RFID Connector™ utility is a wedge program provided with the RFID reader. Open it from *Apps > RFID Connector*.

Home Screen

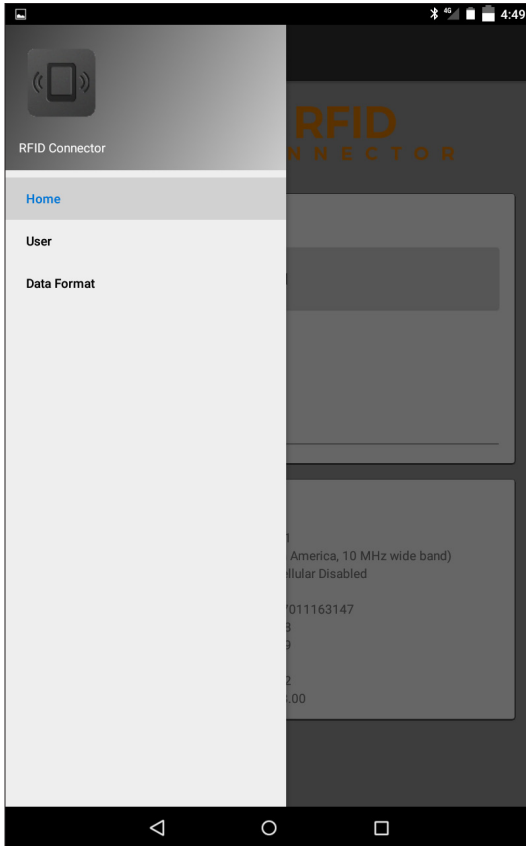
When the RFID Connector utility loads, the home screen appears. From the home screen, you can do a *Scan Test* right away. Hold the Mesa 2 with the display facing you,

and an RFID tag directly away from the back of the Mesa 2. Tap **Scan** on the screen or press the scan button  on the keypad. After a tag is successfully read, the *Scan Data* is shown on the screen.



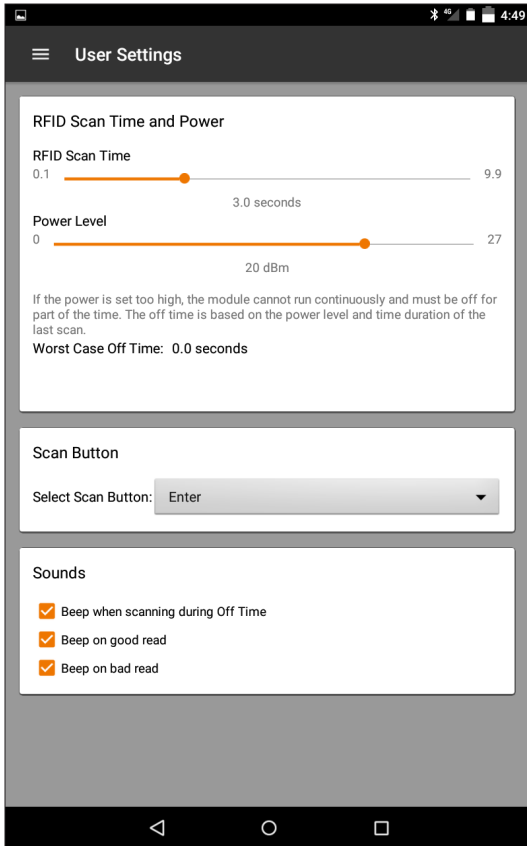
RFID Connector Menu

Select the menu symbol in the upper left hand corner of the home screen or swipe the screen from left to right to see the menu (you can do this from any screen in the application). This menu gives you access to User and Data Format setting screens.



User Settings

From the menu, select *User* to open the User Settings screen. From this screen, set up options like *RFID Scan Time* and which button to use to scan RFID tags.



Data Format

On the Data Format screen, you can set up a prefix and suffix.

Reading a Tag

Once the RFID Connector utility is set up, you can start reading tags.

1. Minimize the RFID Connector utility.
2. Open an application or document to receive the RFID data and put the cursor where you want the data to be placed.
3. For best read performance, hold the Mesa 2 with the display facing you, and the tag directly away from the back of the Mesa 2. The RFID reader is internal and roughly 2" to the right of the camera when looking at the back of the Mesa 2. The best orientation is portrait or landscape with Mesa 2 orthogonal or normal to the tag. The distance required between the tag and Mesa 2 varies depending on the tag. This is not a long range reader, so you may need to be as close as a few inches and may be as far as 3 feet from the tag.
4. Press the scan button (↵ by default any time the application is opened). When the tag is successfully scanned, the RFID information is placed in your application or document.

Antenna for RFID Reader

The antenna is a circularly polarized antenna. This has reduced range, but allows the Mesa 2 to be held in any orientation (linear antennas can have longer range if held in the right orientation).

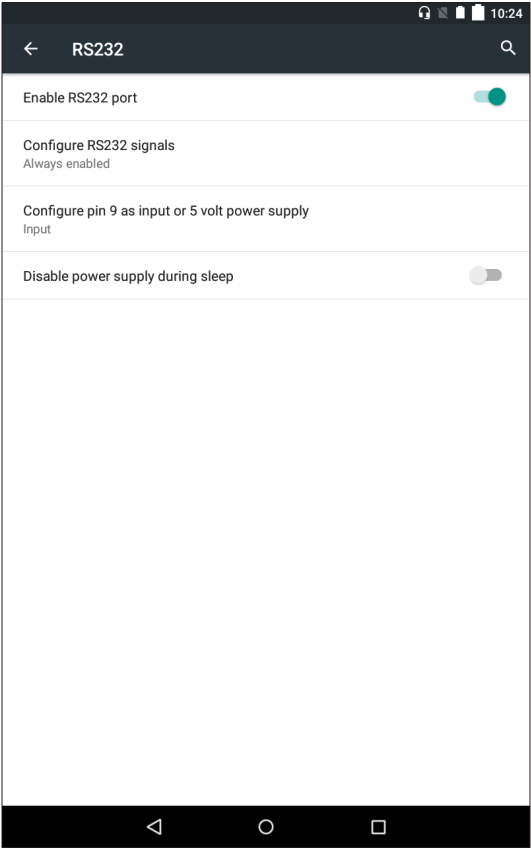
For the EU and Australia: When the RFID is in use, cellular is disabled. If you have a cellular connection and you hit the scan button for RFID, the cellular connection will disappear for 10-20 seconds.

RS-232 Port

An RS-232 9-Pin D-Sub connector is an option for the Mesa 2. Depending on the factory configuration, it will provide either 5 VDC or 12 VDC on pin 9.

The behavior of the RS-232 port can be configured in *Settings > RS-232*.

When you open the RS-232 Settings Screen, the default configuration is shown:



The options can be edited to suit your application:

- **Enable RS-232 port:** When this option is off, it powers down. When it is on, it powers up the RS-232 hardware. It then displays the assigned COM port number.

NOTE: If you do not have a device plugged into the RS-232 port, the port pins corrode more quickly when left powered up. Use the setting to power down when it is not going to be used.

NOTE: Power consumption during sleep is higher when the RS-232 hardware is powered up.

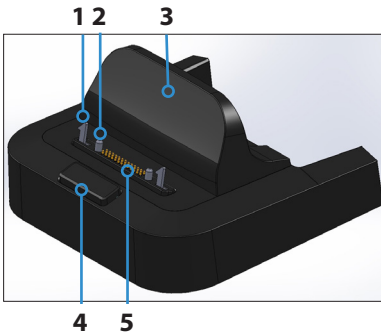
- **Configure RS-232 Signals:** Select *Always enabled* to have the RS-232 output signals driving and input signals enabled when the Mesa 2 is running or in sleep mode. Select *Disabled during sleep* to have the RS-232 output and input signals disabled automatically when the tablet is in sleep mode. If your app and/or RS-232 device experiences communication failures when tablet enters or exits sleep mode, then do not use this option.
- **Configure pin 9 as input or 5 volt power supply:** Pin 9 is the Ring-In signal input. It is rarely used by devices anymore and has become a popular pin to provide a power source to an RS-232 device. Select *Input* if your device uses Ring-In signal or if it does not need to be powered from the RS-232 port. Select *5 Volt Power Supply* to make pin 9 a power supply to be used by the RS-232 device. The power supply is enabled automatically without needing any interaction with the COM port. Depending on the model, the power supply supplies either 5 VDC or 12 VDC.
- **Turn on *Disable power supply during sleep*** to cause the power supply to automatically turn off when the tablet is in sleep mode. This can allow the RS-232 device to conserve battery power in sleep mode. If your app and/or RS-232 device experiences communication failures when the Mesa 2 enters or exits sleep mode, then leave this option off.

Office Docking Station

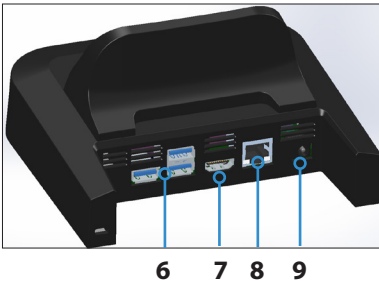
The Office Docking Station enables you to perform the following functions:

- Charge your Mesa 2 Rugged Tablet
- Use your Mesa 2 as a desktop computer
- Transfer data to or from another computer or network via the Ethernet connection

Dock Features



- 1 Lock Latch (2)
- 2 Alignment Pin (2)
- 3 Back Rest
- 4 Release Button
- 5 Pogo Pins
- 6 USB Ports, Host (3)
- 7 HDMI Port
- 8 Ethernet Port
- 9 Power Input Jack



Ports

- The USB ports are for attaching devices to the Mesa 2 such as a mouse, keyboard, or external storage device.
- The HDMI port is for connecting a video monitor to the Mesa 2, giving you a second monitor.
- The Ethernet port is used for networking (an Ethernet cable is not included).

How to Use the Dock

1. Provide power to the dock using the 20 W AC wall charger provided with your Mesa 2 (the ports require

external power). A 45 W charger is available as an option, and we recommend this charger if you are using the dock as an office computer with several peripheral functions. The 20 W AC wall charger might not provide enough power to charge the batteries and run the Mesa 2.

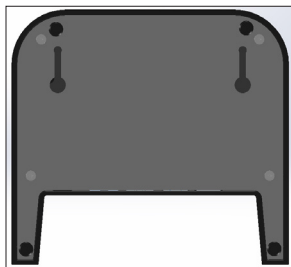
2. Plug in the cables for your desired setup.
3. If a hand strap is covering the pin contacts on the Mesa 2, unhook one end or remove it.
4. Hold the Mesa 2 horizontally with the docking pin contacts facing down. Place it over the dock alignment pins and press down until you feel and hear the lock engage.
5. To remove the Mesa 2 from the dock, press on the release button and pull the Mesa 2 up.

Adding a Video Monitor or Projector

To connect to a video monitor to the Mesa 2, plug the device into the HDMI port. To configure video settings such as resolution, scale modes, and overscan compensation, go to *Settings > HDMI*.

Mounting the Dock to a Surface

The Office Docking Station is freestanding. It can also be mounted to a surface like a desk or shelf. There are keyhole slots on the bottom for this purpose. The spacing between the holes is 4" (101.5 mm).



Ethernet Specifications

- 10/100/1000 Mbps twisted-pair Ethernet
- IEEE802.3/802.3u/802.3ab 10BASE-T, 100BASE-TX, and 1000BASE-T

- Manages twisted pair crossover detection and correction
- Full-duplex and half-duplex capability (only full-duplex operation at 1000 Mbps)

Maintenance and Environmental Issues

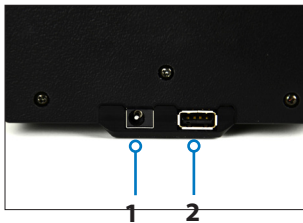
- The dock is intended for indoor use only.
- Temperatures should be between 0°C to 50°C.
- Avoid using the dock in situations where water can enter the connector ports. It is not sealed against water and must be kept dry.
- Do not touch the docking pins (spring loaded contacts) with conductive items when power is applied to the dock.
- Do not drop items on the dock that can damage the pins.
- Keep debris off of the docking pins.

Mesa 2 Powered Vehicle Dock

The Mesa 2 powered vehicle dock allows the Mesa 2 to be easily and securely mounted in a vehicle. This allows you to perform the following functions:

- Charge the Mesa 2 via the included vehicle charging cord
- Connect the Mesa 2 to any USB device using the USB pass-through connection

Dock Features



- 1 Power Input Jack
- 2 USB Port, Host
- 3 Lock Bar with Key



How to Use the Dock

1. Attach a Ram Mount system (sold separately) to the vehicle using a standard 35 mm VESA bolt pattern. Plug the 12 V charging cable into the vehicle power port, and then into the dock.
2. If a hand strap is covering the pin contacts on the Mesa 2, unhook one end or remove it.
3. Hold the Mesa 2 horizontally with the docking pin contacts facing down. Place it over the dock alignment pins and press down until you feel and hear the lock engage.
4. Press the lock bar down until it engages the Mesa 2.
5. Push the lock button in. The Mesa 2 is now locked in the dock, and cannot be accidentally removed.



6. To remove the Mesa 2, turn the key until the lock button pops out. Lift the lock bar, and remove the Mesa 2.

The vehicle dock is also available in a non-powered model.

Maintenance and Environmental Issues

- Temperatures should be between 0°C to 50°C.
- Avoid using the dock in situations where water can enter the connector ports. It is not sealed against water and must be kept dry.
- Do not touch the docking pins (spring loaded contacts) with conductive items when power is applied to the dock.
- Do not drop items on the dock that can damage the pins.
- Keep debris off of the docking pins.

Battery Charger

The Battery Charger is an optional accessory, allowing you to charge spare battery packs for the Mesa 2.

How to Use the Battery Charger

Batteries charge best at room temperature (about 68°F or 20°C). Batteries will not charge (or might charge slowly) at temperatures below 32°F (0°C) or above 122°F (50°C).

Power the Battery Charger by using the AC wall charger provided with your battery charger kit or your Mesa 2. Slide the battery pack into the battery charger, orienting it so that the battery contacts meet the charging contacts in the battery charger. The red LED flashes slowly, indicating that the battery pack is charging.

LED Indicator

The LED indicates the charging status:

- Solid, on: The battery pack is fully charged.
- Blinking (slow): The battery pack is charging.
- Off: There is no power. The battery is not charging.



A

**STORAGE,
MAINTENANCE, AND
RECYCLING**

Storage, Maintenance, and Recycling

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

Storing the Mesa 2 and Battery Pack

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

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

Storing the Mesa 2 for Less Than Two Weeks

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

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

Storing the Mesa 2 for More than Two Weeks

To store the tablet 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 tablet.
3. Remove the battery pack.
4. If you have an internal battery pack, press and hold the power button for 20 seconds to disconnect it.
5. Place the battery pack in a cool, dry location.
6. The AC wall charger must be plugged in and connected to the Mesa 2 in order to turn it on after storage.

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) using 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 Mesa 2

Make sure the battery door is securely installed. Remove the screen protector if you want to clean underneath it. Use warm water, a mild cleaning solution, and a soft bristle brush to gently clean the Mesa 2.

! 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.

! 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 or with water.

Recycling the Mesa 2 and Batteries

When the Mesa 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.

The Li-Ion battery packs for your Mesa 2 are recyclable. Avoid placing them in the trash or municipal waste system. To find the nearest battery recycling center in the USA, you can contact the Rechargeable Battery Recycling Corporation's at 1-877-723-1297.



B

WARRANTY AND REPAIR INFORMATION

Warranty and Repair Information

Limited Product Warranty

Two Year Warranty

Juniper Systems, Inc. ("JS") warrants that the Mesa 2 Rugged Tablet and optional internal battery shall be free from defects in materials and workmanship, under normal intended use, for a period of 24 months from the date of shipment, excepting that this warranty shall not apply to user replaceable battery packs, media containing tablet and desktop PC programs, user documentation, and any accessories.

Ninety Day Warranty

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:

- User replaceable battery packs
- Media containing the Mesa 2 and desktop computer programs
- User documentation
- 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 (such as the tamper evident VOID label indicating certified IP [Ingress Protection] seal area has been tampered with or removed).

Parts that are excessively worn are not covered under warranty. These may include, but are not limited to, the keyboard elastomer and switch matrix, hand straps, and the touch screen (if applicable).

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, after evaluation by a technician at a certified repair center, 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.

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.

Warranty Repairs

Warranty information for the Mesa 2 Rugged Tablet is located on our website at <http://www.junipersys.com/Juniper-Systems-Rugged-Handheld-Computers/support/Warranty>. You can evaluate and order service plans, check warranty status, and view warranty terms and conditions.

To obtain warranty repair, paid upgrade, or service on the Mesa 2, submit a Repair (RMA) Request Form on our website at https://www.junipersys.com/design/junipersys/rma_request.php and fill out or contact an authorized repair center within the applicable warranty period.

Standard repair orders and 3-Day Expedite Service repair orders are valid for 30 days from the date issued. 1-Day Expedite Service repair orders are valid for 7 days from the date issued. If you will not be sending the product to us immediately, please wait to request a repair until closer to the time when you are ready to send us the product.

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
- Shipping costs to return device to customer

JS strives to provide continued full repair services for our products for five years or more from the final production date of each product model. However, in some rare cases (depending on the repair need), it may not be possible to perform a repair due to an unforeseen discontinuation or lack of supplied parts from third-party vendors. Repair support for a product may continue beyond five years if obtaining replacement parts or tools remains economically feasible. Our policy is that we will do what is best and most beneficial for our customers and company.

Complete Care Service Plans

We offer service plan options that provide additional benefits through participating repair centers. Services include:

- Service plan coverage up to five years from the original product ship date
- Up to a 50% discount on all charged repairs
- Expedited repairs and return shipping at no additional charge
- Replacement of worn and/or damaged parts at no additional charge
- Complete comprehensive coverage to protect your investment even when accidents occur
- Loaner product option when an expedited repair is not enough
- Priority support through a personal account specialist

For more information about our Complete Care service plans, go to our website at <http://www.junipersys.com/Juniper-Systems-Rugged-Handheld-Computers/support/Warranty>.

Repairs, Upgrades, and Evaluations



CAUTION: Do not attempt to repair the Mesa 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:

- The product serial number. Information about your Mesa 2 is shown when you go to *Settings > About Tablet*. The serial number is located inside the battery compartment as well.

Note: Before opening the battery door and removing the battery, see the proper procedure in Chapter 2, [Power Management](#).

- 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 Mesa 2

You might be asked to provide additional information about your Mesa 2 when you contact a repair center. To view information like the operating system edition, OS build and serial number, go to *Settings > About Tablet*.



**WARNINGS,
REGULATORY
INFORMATION,
LICENSING**

Warnings, Regulatory Information, Licensing

Product Warnings

Follow the warnings listed below to use the Mesa 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.

Excell Battery Company Charge Instructions

- 2EXL7524 Internal Battery: 3A Constant Current to 4.2V, 4.2V Constant Voltage to termination current of 50mA
- 2EXL7525 Removable Battery: 6A Constant Current to 4.2V, 4.2V Constant Voltage to termination current of 100mA



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.

The AC wall charger must be approved by Juniper Systems, have an output rating of 12 VDC and a minimum 1.67 A, and be certified or listed by a nationally recognized testing laboratory. The AC wall charger provided with the Mesa 2 meets these criteria. Using any other external power source can damage your product and void your warranty.

Certifications and Standards

There are North America and European Union versions of the Mesa 2, with different certifications and standards.

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 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 Tablet 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.

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.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Canadian regulations restrict the use of channels in the band 5150 MHz to 5250 MHz to indoor use only. When this product is connected with an access point that is operating in this frequency range, or when using ad-hoc mode, the use of this product is restricted to indoor use only.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

La réglementation canadienne restreignent l'utilisation des canaux dans la bande 5150 MHz à 5250 MHz pour une utilisation en intérieur. Lorsque ce produit est connecté à un point d'accès qui fonctionne dans cette gamme de fréquences, ou lorsque vous utilisez le mode ad-hoc, l'utilisation de ce produit est limitée à une utilisation en intérieur.

Radio Frequency Safety

This equipment complies with radiation exposure limits set forth for an uncontrolled environment. This equipment is in direct contact with the body of the user under normal operating conditions. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement est en contact direct avec le corps de l'utilisateur dans des conditions de fonctionnement normales. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec tout autre antenne ou transmetteur.

CE Marking (European Union)



Products bearing the CE marking comply with the EU Directive 2014/53/EU.

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 Mesa 2.

Declaration of Conformity

The Declaration of Conformity for CE Marking is available at: <http://www.junipersys.com/doc>

Licensing Information

This Product is licensed under the AVC, the VC-1 and the MPEG-4 Part 2 Visual patent portfolio licenses for the personal and non-commercial use of a consumer to (i) encode video in compliance with the above standards ("Video Standards") and/or (ii) decode AVC, VC-1 and MPEG-4 Part 2 Visual that was encoded by a consumer engaged in personal and non-commercial activity or was obtained from a video provider licensed to provide such video. None of the licenses extend to any other product regardless of whether such product is included with this product in a single article. No license is granted or will be implied for any other use. Additional information may be obtained from MPEG LA, LLC. See www.mpegla.com.

No rights are given for Dolby patents used in the Dolby portion of this product. A list of relevant patents may be obtained from Dolby Laboratories, Inc. No rights are granted to any Dolby copyrights, including the right to reproduce or distribute any portions of this product that includes Dolby intellectual property. Licenses for these activities may be obtained from Dolby.

Any use of this product in any manner other than personal use that complies with the MPEG-2 standard for encoding video information for packaged media is expressly prohibited without a license under applicable patents in the MPEG-2 patent portfolio, which license is available from MPEG LA, LLC, 6312 S. Fiddlers Green Circle, Suite 400E, Greenwood Village, Colorado 80111 U.S.A.



D

SPECIFICATIONS

Mesa 2 Rugged Tablet Specifications

Note: Specifications are subject to change without notice.

FEATURE	SPECIFICATION
Operating System	■ Android™ 5.1.1 by Google
Processor	■ Quad-core Intel® Atom™ Z3745
Memory	■ 4 GB RAM (LPDDR3)
Primary Data Storage	■ 64 or 128 GB flash storage
Micro SD/SDXC Card Slot	■ SD/SDXC slot, user accessible
Physical Features	■ Dimensions, standard: 5,4" wide x 8.48" long x 1.36" thick (137 mm x 215 mm x 35 mm) ■ Weight: 1.5 to 2.2 lb (680-907 g) depending on battery configuration and internal options installed ■ Durable, chemical- and shock-resistant design ■ Easy-to-grip, impact-absorbing, overmolded bumpers
Display	■ Active viewing area: 7" (178 mm) ■ WXGA 800 x 1280 pixel resolution ■ Backlit LCD ■ Outdoor viewable ■ Portrait or landscape orientation
Touchscreen	■ Capacitive multi-touch interface for use with gloves, small tip stylus, and in wet conditions ■ Chemically-strengthened Dragontrail™ High Ion-Exchange (HIE™) coverglass for impact and scratch resistance ■ Touchscreen profile options
Keyboard	■ Programmable keys ■ Backlit keys

FEATURE	SPECIFICATION
Batteries	■ Rechargeable Li-Ion battery pack, 3.6 VDC 12000 mAh, 43.6 Whr ■ Run time of up to 20 hours ■ Charging time 4 to 6 hours ■ Built-in battery intelligence ■ User-replaceable ■ Optional internal 19.3 Whr battery provides an additional 50% of runtime and hot-swap capability; not user replaceable or accessible
Connector Ports	■ USB 3.0 Host (full size A connector) ■ Power input is 10 V - 17 V, nominal 12 VDC ■ 3.5 mm audio jack, supports stereo headset/microphone
Wireless Connectivity	■ <i>Bluetooth®</i> wireless technology 4.0, extra long range ■ Wi-Fi 802.11 a/b/g/n 2.4 GHz and 5 GHz
Audio	■ Mono speaker, loud and clear ■ Microphone, low noise
LED Activity Indicators	■ Red: power applied/charging status ■ Green: Android notifications ■ Blue: Android notifications ■ Amber Light: Front or rear facing camera is in use
Standard Sensors/Features	■ Ambient light sensor ■ Compass ■ Accelerometer ■ Gyroscope ■ TPM (Trusted Platform Module) v2.0
Temperature Specifications	■ Operating Temperature: -4°F to 122°F (-20°C to 50°C). Storage Temperature: -22°F to 158°F (-30°C to 70°C) ■ Battery Charging Temperature: 32°F to 122°F (0°C to 50°C)

FEATURE	SPECIFICATION
Shock Resistance	Withstands multiple 4 foot drops to concrete
Environmental Ratings and Standards	- IP68 rating (1.4 meters for 2 hours), waterproof and dustproof - Designed to MIL-STD810G. Tests: ME-60: sand & dust ME-51,53,& 54: X,Y,& Z-axis helicopter vibrate ME-55, 56, & 57: X, Y, & Z -axis general vibrate ME-52: Water Immersion, 1 meter ME-59: Aggravated Temperature-Humidity cycle ME-67: Temperature cycle ME-62: Temperature shock ME-66: Altitude
Certifications and Standards	- FCC Class B - CE Marking - Industry Canada - Australia (ACMA) - IEC/EN 60950 safety - Bluetooth SIG qualification - IP68 waterproof and dustproof - Designed to MIL-STD 810G - RoHS 2 compliant
Warranties	24 months for Mesa 2 90 days for accessories - Extended service and maintenance plans

FEATURE	SPECIFICATION
Software Included	■ Astro File Manager ■ Browser ■ Barcode Connector ■ Calculator ■ Calendar ■ Camera ■ Clock ■ Contacts ■ Email ■ Gallery ■ Geode Connect ■ MuPDF (PDF reader) ■ Music ■ RFID Connector ■ Search ■ Settings <i>Software on individual units may vary from list based on the model</i>
Camera (Geo models)	■ Resolution: 8 MP rear, 2 MP front ■ Auto focus ■ Video capture ■ JPEG image format ■ Flash
4G LTE Data Modem (Geo model option)	■ Sierra Wireless AirPrime EM7355 or EM7305 (region dependant) ■ Supports micro-SIM card only. Micro-SIM card header inside battery compartment with card detect feature and card retainer. ■ Does not support voice calls or SMS ■ Supports 3G UMTS, HSPA, HSPA+, WCDMA, EVDO, LTE <i>See more details at the end of this chapter</i>

FEATURE	SPECIFICATION
GPS/GNSS (Geo models)	■ 2 to 5 meter typical accuracy ■ u-blox NEO-M8N GNSS receiver and integrated antenna ■ Integrated real-time SBAS receiver (WAAS, EGNOS, etc.) ■ 72 GNSS tracking channels ■ Optional upgrade: u-blox NEO-M8T with post-processing data output and external GNSS antenna connection for sub-meter accuracy
UHF RFID (Geo Models)	■ Optional built-in UHF RFID module and antenna ■ Region-specific frequency configurations (859–873 MHz & 915–930 MHz) ■ EPCglobal Gen 2 (ISO 18000-6C) protocol support ■ Wide output range (0 dBm to +27 dBm)

FEATURE	SPECIFICATION
Barcode 1D/2D Imager (Geo models)	■ Imager and Decoder: Motorola/Symbol SE4710 imager and PL3307C 400 MHz decoder ■ Sensor Resolution: 1280 x 800 ■ Field of View: Horizontal 42°, vertical 28° ■ Reading Angles: Skew & pitch $\pm 60^\circ$, roll 360° ■ Read Range: 1" to 24" depending on code type, size, and density ■ Aiming dot: Visible with low light illumination ■ Symbolologies: 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 ■ Barcode Connector™ Utility: Wedge and configuration ■ Power: 1.49 W active, 0.54 W standby, 8 mW sleep; by default device returns to sleep after 1 second of inactivity
RS-232 (Geo Models)	■ RS-232C 9-pin D-sub connector ■ Hardware option for either 5 V @ 600 mA or 12 V @ 390 mA available on pin 9 (ring in)

FEATURE	SPECIFICATION
Configurations	■ Standard with Wi-Fi, <i>Bluetooth</i>, 4 GB RAM, 64 flash storage ■ Geo with Standard features plus front and rear cameras and a GNSS receiver and internal antenna ■ Geo/Cell with Geo features plus integrated 4G LTE modem These are configured for North America. Optional integrated features for Geo and Geo/Cell models: ■ 128 GB flash storage ■ Internal battery pack ■ Barcode scanner ■ RFID reader ■ Barcode scanner and RFID reader ■ Upgrade GNSS to NEO-M8T with external antenna port ■ RS-232 port with 5 V supply
Standard Accessories	■ Removable Li-Ion battery ■ Adjustable hand strap ■ AC wall charger with international plug kit - Input: 100-240 VAC, 50/60 Hz, 0.5 A - Output: 12 VDC, 1.67 A ■ Capacitive fine tip stylus with tether ■ Quick Start Guide ■ Owner's Manual (on our website) ■ Two year warranty on Mesa 2

FEATURE	SPECIFICATION
Optional Accessories	■ Internal extended battery, 3.65 V @5300 mAh, 19.3 Whr Li-Ion ■ Integrated UHF RFID Reader and Antenna ■ Integrated RS-232 9-Pin, D-Sub Communication ■ u-blox NEO-M8T GNSS receiver and external antenna connection ■ Survey/GPS pole clamp and mount ■ Vehicle charger cable, 12 V vehicle power port, 6 ft. ■ Vehicle mounting dock with power and communications. ■ Vehicle Dock/Pole mount - dock attachment ■ Office Docking Station with power/charge input, HDMI output, 3 USB 2.0 (full size A), Ethernet ■ AC wall charger, 45 W - includes cord with U.S. plug - Input: 120-240 VAC, 50/60 Hz - Output: 12 VDC, 3.75 A ■ Travel charger ■ Shoulder strap ■ Serial cable ■ Holster carrying case ■ Flip cover fitted case ■ 4-point harness ■ SD cards in various sizes ■ Screen protector (anti-glare, ultra-clear, or polarized)

* 4G LTE Data Modem - Additional Information

<u>Mode</u>	<u>Model/Region</u>	<u>Frequency Bands</u>
LTE	North America	B2, B4, B5, B17, B25
	EU/ROW	B1, B3, B7, B8, B20
UMTS/HSPA+	North America	B1, B2, B4, B5, B8
	EU/ROW	B1, B2, B5, B8
GSM/GPRS/EDGE	North America	GSM 850, EGSM 900, DCS 1800, PCS 1900
	EU/ROW	GSM 850, EGSM 900, DCS 1800, PCS 1900
CDMA 1xRTT/ EV-DO Rev A	North America	BC0, BC1, BC10

Note: ROW = Rest of World, or Non-North America.

Note: This device cannot be activated on Verizon.



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