

Updating the OS and EC on Mesa 3 Android

This document explains how to update the critical operating system (OS) and the embedded controller (EC) on the Mesa 3 Android tablet. This process also updates the firmware on the internal and removable battery.

Required equipment:

- Mesa 3 Android tablet
- Internet connection
- 12 V power supply
- USB-C cable provided with the Mesa 3 tablet

These instructions work for various upgrade pathways, as detailed in the following table.

Current OS Version	Upgrading to OS Version	Retains User's Data?
Android 9	Android 9 P-1.0.1-20230228	Retains
Android 9	Android 11 R-1.0.0-20230530	Deletes
Android 11	Android 11 R-1.0.0-20230530	Retains

1. Back Up the Mesa 3 Tablet

Although the user data is retained in two of the upgrade pathways, Juniper Systems strongly recommends always backing up all critical data on the Mesa 3 tablet before updating the OS and EC. To back up your tablet, use one or more of the following methods.

- Save your apps and settings to the associated Google account. To backup to Google, select **Settings > Google > Backup**. Tap **Back up now**. This method may not back up user data files and side-loaded apps.
- Copy your files to a microSD card. Remove the microSD card before upgrading the tablet to prevent the microSD card from being erased.
- Connect an external hard drive to the Mesa 3 USB port and copy your files to the hard drive.

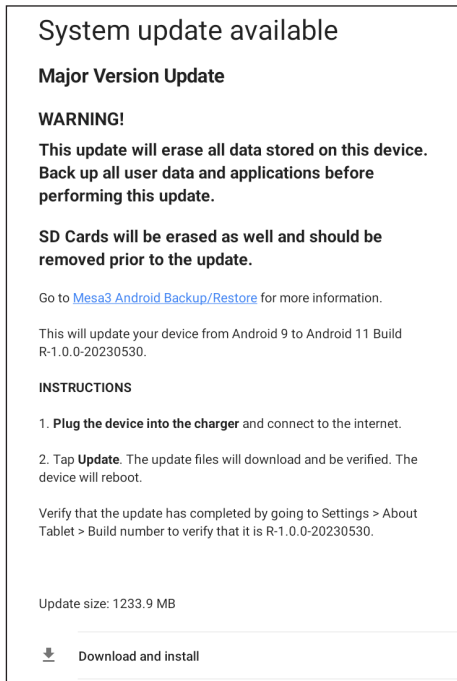
2. Update the Android OS

The process for updating the Android OS was developed by Google.

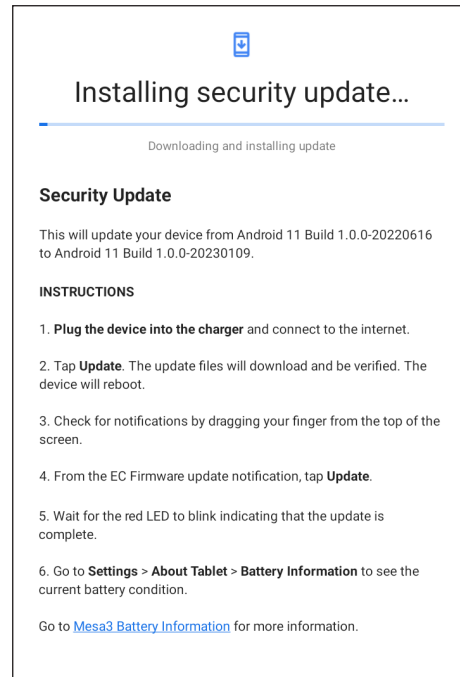
To update the OS,

1. Power on the tablet.
2. Make sure the tablet is connected to the internet.

Android notifies you that an OS update is available and instructs you to connect the 12 V power supply. The message that appears depends on your current OS version.



Android 9



Android 11

3. Connect the 12 V power supply to the Mesa 3 power input jack and a power source.

Note: Having a USB-C cable connected to the tablet does not affect the OS update process.

4. Tap **Update**.

Android downloads the new OS to the tablet and restarts the tablet. First, the tablet loads the OS in Update mode. After a few minutes, the tablet restarts again and loads the Android OS.

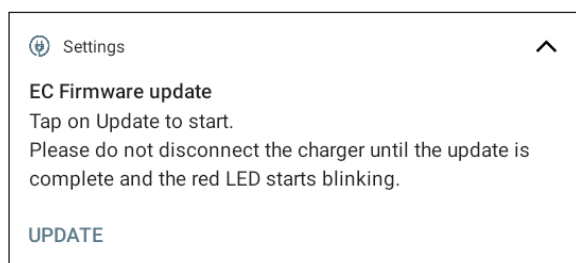
After the Android OS is loaded, Android checks the following.

- Is the microcontroller version NOT 29?
- Is a removable battery present AND is it's version earlier than 7A?
- Is an internal battery present AND is it's version earlier than 7A?

If the answer to any of these items is yes, Android notifies you that the EC needs to be updated.

3. Update the EC

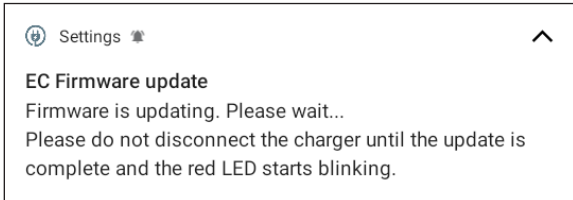
The following message appears if you need to update the EC.



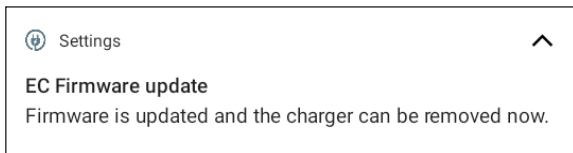
To update the EC,

1. Make sure the 12 V power supply is connected, and tap **Update**.

Android notifies you that the EC is updating.



2. Android changes the notification when the EC update is complete.



While Android updates the EC, the following occurs.

- The red LED turns off.
- The power button stops functioning.
- The EC begins updating. *This process takes about five minutes.*
 - Android skips this step if the EC version is already 29.
- After the EC is updated, Android updates the removable battery. *This takes about 45 seconds.*
 - Android skips this step if battery firmware is already version 7A or later.
- After the removable battery updates, Android updates the internal battery. *This takes about 45 seconds.*
 - Android skips this step if battery firmware is already version 7A or later.
- The power button functions again.
- The red LED turns on or begins flashing.

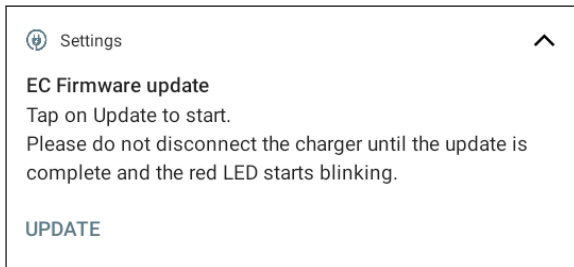
4. Update the Firmware on a Removable Battery

After you update the EC to version 29, the Mesa 3 tablet will only recognize a removable battery with firmware version 7A or later. You can update the firmware on a removable battery by inserting the battery into a Mesa 3 tablet with updated EC.

To update the firmware on a removable battery,

1. Insert the battery into a Mesa 3 tablet with EC version 29.
2. Press and hold the power button for two seconds.
3. Tap **Power off**.
4. Wait 10 seconds, and press the power button again.

Android notifies you that an EC update is available.



5. Tap **Update**. Android only updates the battery to version 7A.

Note: If you insert a battery with version 7A into a tablet running an EC version earlier than 29, the battery firmware remains version 7A. The tablet and battery operate normally.

5. Troubleshooting

5.1 The Tablet Crashes

If the 12 V power supply was removed during the EC update, the Mesa 3 tablet crashes. To reboot the tablet, refer to “5.3 The Tablet Is in a Non-Functioning State” on page 4.

5.2 Android Doesn’t Notify That the Update Completed

Occasionally, Android stops the notification process even though the update is ongoing and eventually completes.

To determine whether the update was successful,

1. Wait at least seven minutes.
2. Look at the red LED light.
 - If the light is on or flashing, the update was successful. Press and hold the power button for two seconds, and tap **Power off**. Wait 10 seconds, and press the power button again.
 - If the red LED light is off, a communication error occurred. Remove the 12 V power supply and USB-C cable (if connected) to force the tablet to power off. See “5.3 The Tablet Is in a Non-Functioning State” on page 4.

5.3 The Tablet Is in a Non-Functioning State

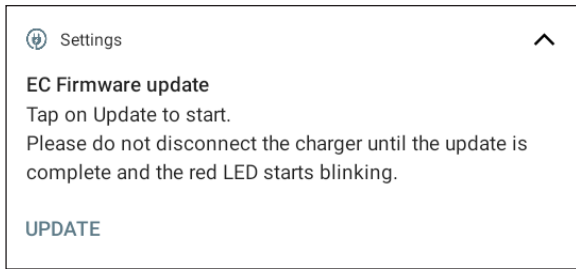
If the EC update fails, the Mesa 3 tablet will be in a non-functional state, and the power button, red LED, and batteries will no longer work.

To restore the Mesa 3 and finish the EC update, follow the steps in Option 1. If that process fails, go to Option 2.

Option 1

1. Connect the 12 V power supply.
2. Connect the USB-C cable to the tablet with the other end connected to a hub or computer. This will power on the Mesa 3 tablet automatically.
3. When you see the four spinning dots, disconnect the USB-C cable.

After the tablet finishes booting, Android displays the EC update notification.

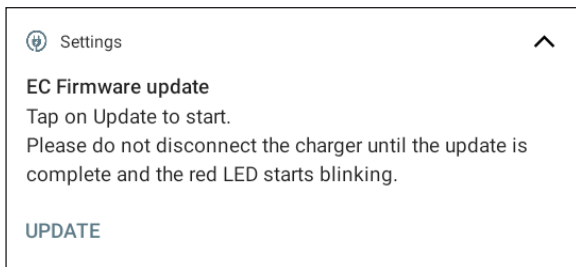


4. Tap **Update**. (See “3. Update the EC” on page 2.)

Option 2

1. Remove the 12 V power supply or USB-C cable (if connected) for more than 30 seconds.
2. Connect the USB-C cable to the tablet with the other end connected to a hub or computer. This will power on the Mesa 3 tablet automatically.
3. Wait one second.
4. Connect the 12 V power supply.
5. When you see the four spinning dots, remove the USB-C cable.

After the tablet finishes booting, Android displays the EC update notification.



6. Tap **Update**. (See “3. Update the EC” on page 2.)

5.4 Android Notifies of Missing Power Supply

If you are updating to Android 9 P-1.0.1-20230228, Android may notify you that the 12 V power supply is not connected even if it is.

To correct this problem,

1. Remove the 12 V power supply and USB-C cable (if connected) from the tablet.
2. Let the tablet sit for a few hours.
3. Repeat Option 2. (See “Option 2” on page 5.)

If the update fails again,

1. Remove the 12 V power supply and USB-C cable (if connected) from the tablet.
2. Let the tablet sit overnight.
3. Repeat Option 2. (See “Option 2” on page 5.)

5.5 OS and EC Update Fails

If the OS and EC update fails after following the outlined steps and troubleshooting methods, return the tablet to a Juniper Systems service center.