



LTM Advanced Utilities & Features

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Abstract

This document elaborates on additional utilities that may be used alongside LTM. These utilities may help prolong the life of your mobile device battery, and may provide you with data pertaining to the operational status of your mobile device as well. The Screen Brightness Management feature can be found directly in the LTM application by clicking the Go To Configuration menu on the LTM homepage. Other supplementary LTM applications are included in the LAVA Software Release Package, and are located in the “Extras” folder.

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Screen Brightness Management

Screen Brightness Management is an LTM feature that determines if the application should automatically change the screen brightness to a certain percentage at a certain time. The screen is a significant consumer of power and generator of heat within the mobile device. If the screen is too bright, the mobile device battery may not adequately charge and the mobile device will eventually power off. It is **strongly** recommended that you use the Screen Brightness Management feature, as it can greatly increase the longevity of your mobile device battery and other internal components.

During the daytime window, selecting the lowest possible screen brightness reduces heat generation and improves the ability to charge the battery. In many instances, a device screen brightness level of 85-90% causes minimal perceivable change compared to a level of 100%, yet significantly reduces heat generation within the mobile device. During the night time window, selecting a very low screen level reduces heat generation dramatically. Setting a level of 15% allows the screen to be seen. Turning the screen off during night-time is preferred.

The Screen Brightness Management application will only function provided the following requirements are met:

1. LTM must have permission to change system settings.
 - a) Enter “Apps” in mobile device Settings.
 - b) Locate the LTM page.
 - c) Click “Apps that can change system settings”.
 - d) Grant the permission.
2. If the mobile device has an Auto Brightness setting, **must** be disabled.
3. The time zone and time of day **must** be correct on the mobile device.

The Brightness Management feature has two windows for day and night operation. Time 1 is assumed to be the start of the night-time operation. Time 2 is assumed to be the start of the daytime operation. A brightness level can be configured for each of these time windows. This feature may be enabled and configured in “Brightness Settings” in the Go To Configuration menu on the LTM application.

Product Setup

LTM has two modes of operation: “Configuration Console” and “Background Mode”. Configuration Console is intended to configure the application settings upon initial installation, and verify that the LAVA product has been connected to the mobile device properly. It is recommended to operate LTM with the default settings. Once configured, LTM is intended to be in “Background Mode” at all times. In this mode the application will be invisible to the user while remaining operational. Even if the application logo is clicked on while in this mode, it will remain invisible. This is to prevent LTM from interfering with other applications being run. When in Background Mode, LTM will remain invisible until reverted to Configuration Console.

LBI Application

The LAVA Battery Information (LBI) application is designed to collect battery data and inform the customer whether the LAVA product being used is providing sufficient power to the device that is connected to it. When LTM is running, the mobile device battery level is maintained between the predetermined upper and lower percentage thresholds. When the charging state is active the LBI application can be used to monitor the battery charge status and view the battery charging current, as the mobile device's charging icon is not a reliable indication of whether the mobile device is actually being charged. The only valid verifications are to check the battery charge current, or observe the charge level for a period of time.

If the mobile device is not charging, verify that the voltage reaching the connected LAVA product is at least 5 volts. In some cases, reducing the mobile device screen brightness by 10-20% allows the mobile device battery to charge. The LBI application can also be used to log the battery charging status to a file, which allows its behaviour to be monitored over several hours. Removing power to a LAVA product shuts down the LTM application, and all USB accessories are disconnected.

This application is located in the “Extras” folder in the LTM Software Release Package.

Note: The installation of LTM is not required to install and run LBI.

Installation procedure:

The LAVA Advanced Battery Info app can be downloaded directly from the Google Play Store or accessed through the the LTM Software Release Package.

1. For the latter option, ensure that the mobile device is permitted to download applications from unknown sources. Instructions for providing this permission can be found in the Quick Start Guide for your LAVA product.
2. Gain access to the LTM Software Release Package by contacting LAVA support.
3. Locate the file titled “LBI.apk” in the folder labelled “Extra” in the Release Package.
4. Click on the LBI.apk file in order to install it.

Legacy Configuration Files

If the mobile device has previously used a version of the LTM application, it is possible to import a legacy configuration file that will implement all of the previously used settings.

Install LTM version 5 from the Google Play Store or access the LTM Software Release Package for version 4 and download the LTM.apk file. (LTM v4.** and v5.** are exactly the same. The only difference is LTM v4.** must be side loaded, while v5.** is available in the Google Play Store.)

NOTE: When installing LTM 4 or 5, it isn't necessary to uninstall the legacy version on your mobile device, as it will automatically be overridden by the newer version. However, if you want to switch between version 4 and version 5, you must remove the installed first. Otherwise, you will have two versions of the app and they will conflict with one another.

Import procedure

1. Upon opening the Go to Configuration menu, a pop-up will appear with the following message:

“A configuration file used by the previous generation of LTM (LTM.ini) has been detected in the “Internal Storage” folder.”

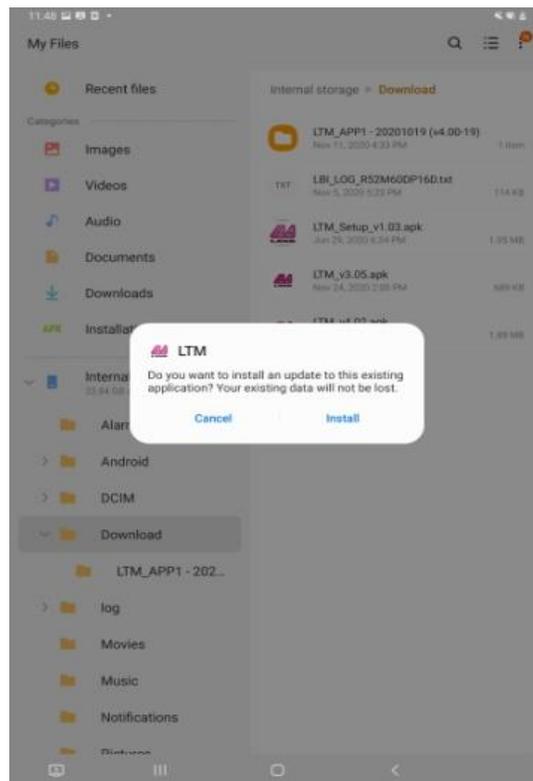


Figure 1: Pre-installation pop-up message

If you wish to import the configuration settings that were previously used, click “OKAY”.

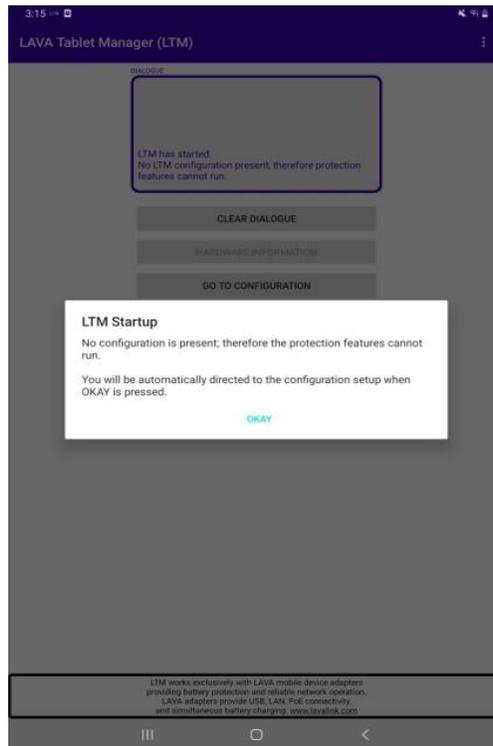


Figure 2: Installation pop-up message

Once you enter the Configuration screen, there will be another pop-up indicating that a legacy configuration file used by the previous generation of LTM has been detected in the internal storage folder. To import the configuration settings from a previous version of LTM click “okay.”

NOTE: If LTM was not previously installed then the application will say that a Configuration was not found.

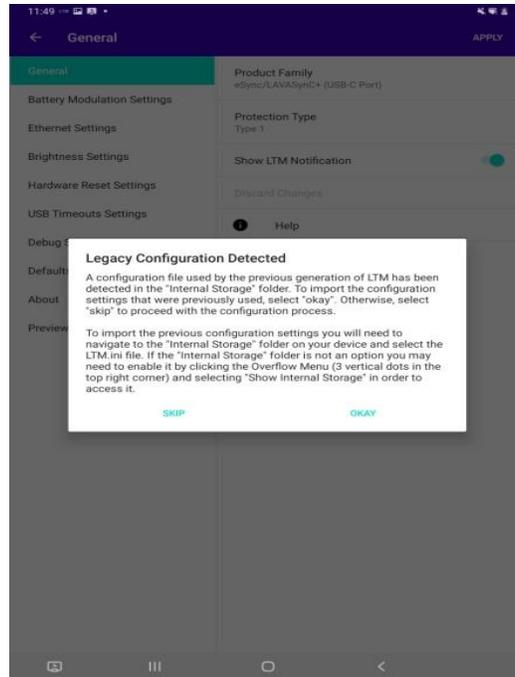


Figure 3: Installation pop-up message if configuration is found

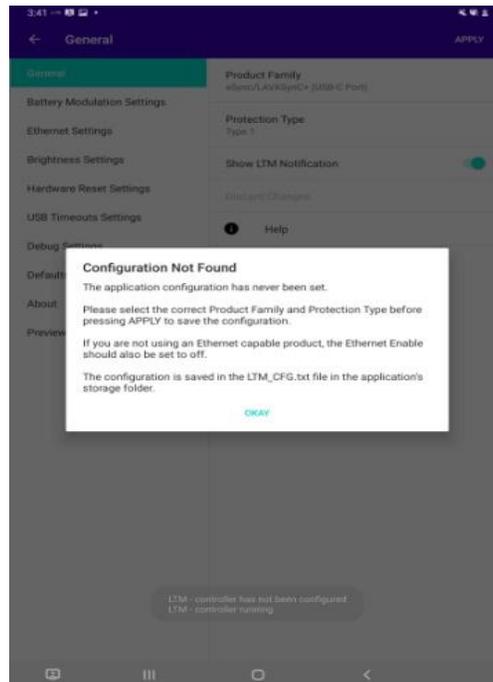


Figure 4: Installation pop-up message if configuration is not found

2. After clicking “OKAY”, use the file selection dialogue to navigate to the “Internal Storage” folder on your device and select the LTM.ini file.

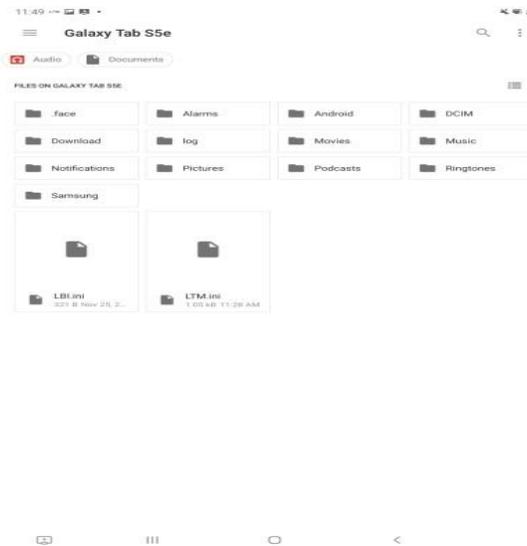


Figure 5: Internal storage folder with LTM.ini file

3. If your device is not already in the state that shows the Internal Storage folder, you may need to click the Overflow menu icon (3 vertical dots) and select the option named “Show internal storage” to reach it.

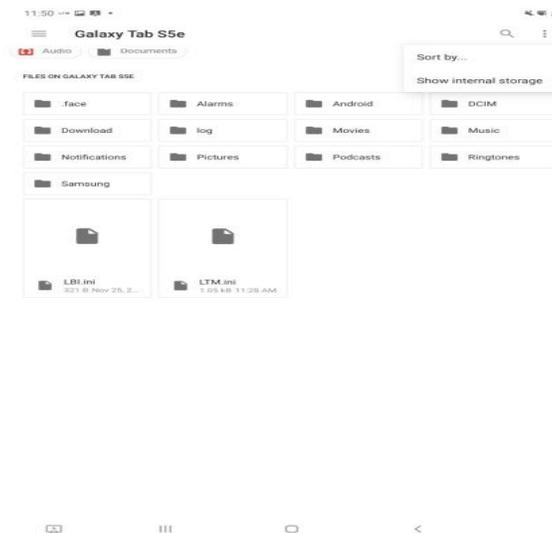


Figure 6: Overflow menu showing with "Show internal storage" option

4. Next, select the List icon (3 horizontal bars). This will give you the option to “Open from” one of several locations such as Audio, Recent, Downloads and the “mobile device”. Select “mobile device” which will be the name of your device, such as “Galaxy Tab A”.
5. From this point the folders of the “Internal Storage” will be visible, including the legacy configuration file LTM.ini. Click on the legacy configuration file in order to import it.

This file selection mechanism has been carefully designed by the creators of Android to enhance the user experience.

Additional Go To Configuration Settings

USB Timeouts Settings

The LAVA Tablet Manager Application launches automatically when it detects LAVA hardware and is intended to run in Background Mode on the mobile device. If LTM is accidentally shut down, it is woken up within 7 minutes by the recovery timeouts that are built into the LAVA hardware. The recovery timeouts of the hardware are an important safety feature which should never be disabled because the LAVA product needs to work in unison with LTM in order to function properly. The configuration permits the timeouts to be disabled in the event that the LAVA hardware is moved to a mobile device that does not have the LTM application installed. Configuration changes require up to 30 seconds to take effect. LAVA **does not recommend** modifying the default USB Timeouts Settings in the LTM application.

Hardware Reset Settings

The Hardware Reset feature provides the option for the LAVA Tablet Manager application to periodically initiate a hardware reset in order to prevent the LAVA product from shutting down unexpectedly. Go to Configuration enables the user to determine the Hardware Reset Frequency, which is the number of hours between initiated hardware resets, as well as a set time frame within which the resets will be performed.

NOTE: Hardware Reset Settings does not work in LTM 4 or 5, The feature requires access to the Samsung Knox Customization libraries to operate properly. Due to changes in Samsung's licensing practices, LTM 4 and 5 do not use Knox.

Mobile Device Managers (MDMs)

The LAVA Tablet Manager may be enabled under a Mobile Device Manager (MDM) if the device administrator wishes to use one. If an MDM is being used to manage several applications, LTM must be placed on a white list. The MDM will need to be set up by the mobile device administrator. LAVA cannot assist or facilitate the use of an MDM on behalf of the mobile device administrator.