**Factory Restore Nexus 4**

By

Regards

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I have created this thread to give a step-by-step on how to *flash* a stock ROM build available on Google's developer site. (For those that are unaware, an unlocked bootloader is needed, and unlocking is part of the instructions below.) I've also added a section on how to root for those that want it.

Note: There are other methods that are abbreviated and/or faster, but I wanted to spell out each step in the process for the purposes of learning. I'm a big believer in doing things manually before using a "toolkit", much the same way that, in school, we are taught to do math first, before being allowed to use a calculator. See [**here**](http://forum.xda-developers.com/showthread.php?t=1469909) for some further explanation.

How to flash a stock ROM

**Step-by-step**

**A. Install the drivers**

1) Do not install [LG](http://www.target.com/s?searchTerm=lg+g3&category=9975894) drivers or the PDAnet drivers, or any other driver you come across. If you have, and you are SURE they are working properly, fine, leave them. Otherwise uninstall them if you are unsure;

2) Download the drivers from [**here**](http://forum.xda-developers.com/showthread.php?t=1996051) or from [**here**](http://forum.xda-developers.com/showthread.php?t=1992345);

3) Install the drivers. See [**here**](https://developer.android.com/tools/extras/oem-usb.html) on how to install them. Note that the driver has to install twice: once when your device is booted normally (not required for this tutorial) with USB Debugging enabled in Settings, and once when your device is booted in fastboot (i.e., bootloader) mode (which is required for this tutorial). (To enable USB Debugging, you first need to enable Developer options by going to Settings->About phone and tapping 7 times on the build number.) If you are using Windows 8, you will need to do [**this**](http://forum.xda-developers.com/showpost.php?p=33463359&postcount=109) before installing the drivers.

**C. Download the required files to your computer and extract them**

1) All of the files that are required, need to be in one (i.e., the same) directory. It does not matter what it is called, but all the files need to be in there, with NO subfolders. EVERYTHING needs to be extracted into this one directory;

2) Download the attachment from the end of this post and extract the contents to the directory created in step 1. (Latest version for Windows is [**here**](http://forum.xda-developers.com/showpost.php?p=44961712&postcount=1248)). **Note:** if all you want to do is unlock your bootloader, skip to step 7 in this section (C).

3) Download the version of Android you want from [**here**](https://developers.google.com/android/nexus/images). Make sure you are using an **occam** image which is for the Nexus 4. Most old versions are not usually available on that site; however, there is a mirror on this site: [**Random Phantasmagoria**](http://www.randomphantasmagoria.com/firmware).

4) Download the appropriate version (for your computer) of 7-zip from [**here**](http://www.7-zip.org/) and install it.

5) Extract the files from within the .tgz file which you downloaded in step 3 **using 7-zip,** not WinZip or WinRAR or whatever.

6) Make sure you have extracted ALL the files (including extracting any files in any archives inside the .tgz file). You should have six (6) files ending with .img in the directory you created in step 1. The other files you extracted from the .tgz are not necessary;

7) Reboot your device into bootloader mode (by turning it off, hold volume down, and press and hold power) and plug it into your computer;

8) Open a command prompt **in the same directory** (i.e., make sure you are in the same directory as your files are located). You can hold the shift key when you are in the folder in Windows explorer and right-click in a blank spot and it will open a command prompt.

**D. Type in the commands into the command prompt**

1) Make sure your computer recognizes your device by typing: fastboot devices

2) Unlock your bootloader (if you have not already done so): fastboot oem unlock

3) You will see a prompt on your device. **This will wipe your entire device (including the /sdcard folder).** Accept. Note: you use the volume keys to change the option and the power button to accept. You cannot use the touch screen.

4) Reboot by typing: fastboot reboot-bootloader

5) Flash the bootloader: fastboot flash bootloader bootloader-mako-makoz10o.img (or whatever the name of the bootloader image that you downloaded).

6) Reboot: fastboot reboot-bootloader

7) Flash the radio: fastboot flash radio radio-mako-m9615a-cefwmazm-2.0.1700.48.img (or whatever the name is of the radio image that you downloaded).

8) Reboot: fastboot reboot-bootloader

9) Flash the system partition: fastboot flash system system.img

10) **Optional, but read note.** Flash the data partition: fastboot flash userdata userdata.img **Note: this command will wipe your device (including /sdcard), EVEN if your bootloader is already unlocked.** **See note 2 below.**

11) Flash the kernel/ramdisk: fastboot flash boot boot.img

12) Flash the recovery partition: fastboot flash recovery recovery.img

13) Erase the cache partition: ~~either a) fastboot erase cache OR b)~~ **fastboot format cache** ~~<<== the second option seems to work better for most people.~~ Thanks joostburg.

14) Reboot: fastboot reboot

15) Done! The first boot will likely take quite a bit longer than you are used to, as Android builds the Dalvik cache.

Now you have a fully stock image on your device. The only thing that is different from out-of-the-box condition is that your bootloader is unlocked. See the notes section at the end of this post for information on re-locking the bootloader.

**Note that some users indicate that they can't get past the X on boot. If this happens to you, reboot into the bootloader and select recovery. Then, when you see the Android with the red exclamation mark, hold power and press volume up to take you to the menu. Wipe cache. If that still doesn't work, boot back into recovery and do a factory reset (this will obviously delete all your data & files in /sdcard...).**

If you have a 16GB device, and it now shows up as 8GB, reboot into recovery (hold power and press volume up when you are at the screen with the android and the red exclamation mark), and wipe cache. If that still doesn't work, boot back into recovery and do a factory reset (which will **obviously** delete all your data & files in /sdcard...). Or do [this](http://forum.xda-developers.com/showthread.php?t=2033692).

**E. Optional -- Root**

If you want to get root access follow the steps below. (And no, this will not flash a custom recovery, and not, it will not make you "not stock".) Unlocked bootloader required. See steps above.

1) Download (to your computer) the latest version of CWM (from [**here**](http://www.clockworkmod.com/rommanager/)) or TWRP (from [**here**](http://forum.xda-developers.com/showthread.php?t=2002326)) for your device;

2) Rename the file to customrecovery.img, and make sure it is in the same directory as your fastboot.exe file;

3) Download (to /sdcard on your device) the latest version of ~~either ChainsDD's~~ [**~~Superuser~~**](http://androidsu.com/superuser/) ~~(not currently working), or~~ Chainfire's [**SuperSU**](http://download.chainfire.eu/supersu) or ~~Koush's~~ [**~~Superuser~~**](http://q=http:/download.clockworkmod.com/superuser/superuser.zip); **NOTE: So far, only SuperSU v1.43 and newer currently work properly with JWR66V (i.e., 4.3). I've attached v1.51 below.**

4) Restart your device in fastboot mode and plug into computer;

5) Open a command prompt in the directory mentioned above and type: fastboot boot customrecovery.img Note: Only if you are running the z20i bootloader: the command would be: fastboot -c "lge.kcal=0|0|0|x" boot customrecovery.img Thanks [hwti & el\_charlie](http://forum.xda-developers.com/showpost.php?p=43940670&postcount=1061)

6) Wait for it to boot;

7) Navigate the menus the recovery menu on your device and select an option like "update zip from sdcard". Find the zip that you downloaded, and apply it.

8) Reboot. Done.

**Notes:**

1) Yes, you will receive the OTA update notification (when it is available) for the next update. WHEN you get the update notification, IF you want it to install automatically, you will need to ensure that that you are using the bootloader, radio, boot, radio and recovery images for the .tgz package you downloaded. Otherwise, the update will not install automatically.

2) There has been a lot of uncertainty and questions around stock ROMs and losing/wiping data. You CAN flash a stock ROM WITHOUT losing the data stored in /sdcard (and possibly even all apps and app data, although this depends on which apps you have installed). This can be done by skipping step 10 in part D. However, if your device goes into a boot loop, you will need to boot CWM, and wipe data <-- this will wipe your apps and app data, but not /sdcard.

3) Do NOT re-lock your bootloader after you are finished. The is no need. 2) Having an unlocked bootloader does not affect anything related to the ROM/GoogleWallet/OTAs. Nothing at all. If your bootloader is locked, you CANNOT use fastboot commands. This is pretty much the only thing it affects. If your bootloader is locked, and you need to unlock it, it will wipe everything, including /sdcard. This is the major drawback of re-locking your bootloader. If you do want to lock your bootloader, the command is: fastboot oem lock