Dell Tablet Flash notes

Version 1.0, May 09, 2014

Are you using a Dell Venue 7? If so, STOP and do not proceed. Using the binaries in this package will cause the tablet to brick.

Prerequisite System Setup

- 1) Google ANDROID SDK with the Google USB driver
 - a. adb.exe must be executable from a command shell
- 2) Download the file "Dell_Venue8.zip"
- 3) Have a micro-SD card of 1GB or higher.

Rooting and bootloader unlocking process using OTA package

- 1. Make sure you can connect dell tablet to your linux/windows machine and can see it through adb (if you cannot see your tablet on windows then see the section titled "Install the USB driver for adb mode").
- 2. Unplug the usb cable
- 3. Extract the file "venue8_version-1.22-ota-signed_full_rooted.zip" from Dell_Venue8.zip" on to a micro-sd card and insert that card into the micro-sd card slot of dell venue8 tablet.

Note: Do not unzip the venue8_version-1.22-ota-signed_full_rooted.zip when putting on sdcard.

- 4. Power down the tablet.
- 5. Get to bootloader on the tablet (power+vol down button).
- 6. Select recovery (3 item from list). Use vol down to navigate to it and select it by pressing power button.
- 7. You will see android lying down with an ! sign.
- 8. Now hold down the power button and briefly press the volume up button at the same time to get to the recovery menu.
- 9. Select "apply update from external storage" second item from top (use vol down to navigate to it) and then press power button to select it.
- 10. Then select the file you stored on the sdcard (use vol down button to navigate to it) and press power button.

- 11. You will see a few messages on the screen (like cannot load volume /misc and then some update messages).
- 12. After a few minutes a menu appears on screen and then select reboot system now (1st item on menu) by pressing power button.
- 13. Now you are done and the bootloader is unlocked and you have root access. If you want to build your own OS image then see the section "How to build kernel image from kernel sources" at the end of this document.

Install the USB driver for adb mode

- 1) Enable Developer Mode on the Dell Tablet
 - a. Open the Settings menu
 - b. Go down to the "System" sub-section of menu at the bottom
 - c. Hit "About Tablet"
 - d. Near the bottom of the screen you will see "Build Number"
 - e. Hit the "Build Number" area about 10 times, and the "Developer Options" menu will appear
 - f. Hit the "Developer Options" sub-menu
 - g. Turn on "USB debugging"
 - h. Turn off "Verify apps over USB"
- 2) Connect the Tablet to your workstation

- 3) Install the USB driver for adb mode
 - a. Open the device manager (Control Panel -> System and Security -> Device Manager)

e Action View Help	
🔿 📅 🔄 📅 🕺 😰 🙀 🚱	
ALIM19-MOBL1	
D atteries	
⊳ 🚛 Computer	
Disk drives	
Display adapters	
👂 🕼 Human Interface Devices	
D Car IDE ATA/ATAPI controllers	
Imaging devices	
D 👷 Intel Soc	
Keyboards	
Mice and other pointing devices	
D Monitors	
Vetwork adapters	
4 - Chier devices	
Android	
The second second	
Ports (COM & LPT)	
Processors	
Surtem devicer	

b. Right Click on "Other Device / Android"



c. Click on "Properties" and select the "Details" tab then choose "Hardware Ids" from the drop down list

ndroid Properties	×
General Driver Detail	5
Android	
Property	
Hardware Ids	•
Value	
USB/VID 413C&PID	B113&BEV 0224&MI 01
USB\VID_413C&PID_	B1138MI_01
	43
	OK Cancel

- d. Copy the two values from the window
- e. Navigate to the location of the "Google SDK for Android"
- f. Edit the file sdk->extras->google->usb_driver->android_winusb.inf file Add in the ID's that you copied into the file as show below and save the file Make sure that you add the entries to both the 32-bit section ([Google.NTx86]) and the 64-bit section ([Google.NTamd64]) of the file

```
;Google Nexus (generic)
%SingleBootLoaderInterface% = USB_Install, USB\VID_18D1&PID_4EE0
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4EE2&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4EE4&MI_02
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4EE6&MI_01
;Dell Venue8
%SingleBootLoaderInterface% = USB_Install, USB\VID_413C&PID_B113&REV_0224&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_413C&PID_B113&REV_0224&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_413C&PID_B113&MI_01
```

- 4) Back to the "Device Manager" Window
 - a. Right Click on "Android" and select "Update Driver Software"

Device Manager		
File Action View	Help	
🕨 🌒 📷 🛛 🖼 🗎	🛛 📷 💐 😭 🍢 🖏	
A 🔏 MLIM19-MOB	1	
Batteries		
D I Computer		
Disk drives		
👂 📲 Display ada	pters	
👂 🕼 Human Int	erface Devices	
D Ca IDE ATA/A	TAPI controllers	
Imaging de	vices	
👂 💇 Intel Soc		
Keyboards		
D Mice and o	ther pointing devices	
Monitors		
Network ac	lapters	
▲ Other device	ies D	
And Portable	Update Driver Software	
Ports (C	Disable	
Processo	Uninstall	
Sound y	onnistan	
System (Scan for hardware changes	
👂 👼 Universa	Properties	
•	rioperues	
aunches the Update D	river Software Wizard for the selected device.	
	AND	Louinnet name' Butburg-bu

b. Select "Browse my computer for Driver software"



c. Click the "Browse" button

0	Update Driver Software - Android
	Browse for driver software on your computer
	Search for driver software in this location: C:\Program Files\HP-UPD-PCL6 Browse Include subfolders
	Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
	Next Cancel

d. Browse to the location of the "sdk->extras->google->usb_driver" in the Google SDK



e. Select "Next" and you will see this screen

2	Windows can't verify the publisher of this driver software
	Don't install this driver software
	You should check your manufacturer's website for updated driver software for your device.
	Install this driver software anyway
(Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.

- f. Select "Install this driver software anyway"
- g. The success screen will be displayed, click "Close"

	x
Update Driver Software - Android Bootloader Interface	
Windows has successfully updated your driver software	
Windows has finished installing the driver software for this device:	
Android Bootloader Interface	
	G
	Close

h. Run "adb shell" from a window with "adb.exe" in the PATH

```
Command Prompt

Microsoft Windows [Uersion 6.1.7601]

Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\mlim19>adb devices

* daemon not running. starting it now on port 5037 *

* daemon started successfully *

List of devices attached

C:\Users\mlim19>adb devices

List of devices attached

DellVenue8000079437 device

C:\Users\mlim19>
```

Unbricking Process

Install iSoc and xfstk onto a windows 64 system

If for some reason your tablet is bricked then use the following process to unbrick it using windows.

- 1) Run the "iSocUSB-Driver-Setup-1.2.0.exe" installer
- 2) Open the "xfstk-downloader-setup-1.5.1.exe"



3) Select "Next" ; Accept the agreement ; select "Next" until you see window below

J.
and the second se
owse.
Cancel

4) Select Next

Select Start Menu Folder	a contractor
Where should Setup place the program's s	shortcuts?
Setup will create the program's s	hortcuts in the following Start Menu folder.
To continue, click Next. If you would like t	o select a different folder, dick Browse.
xFSTK-Downloader	Browse
Don't create a Start Menu folder	
	< Back Next Car



5) Select "Install"

Ready to Install	
Setup is now ready to begin inst	tailing XFSTK-Downloader on your computer.
Click Install to continue with the change any settings.	installation, or click Back if you want to review or
Destination location: C:\Program Files (x86)\xFS	лк
Start Menu folder: xFSTK-Downloader	
Additional tasks: Additional icons: Create a desktop icon	
-	-

6) You will see the screen below; Click "Yes"



7) Finish up the installation

Setup - xFSTK-Downloader	
	Completing the FSTK-Downloader Setup Wizard Setup has finished installing xFSTK-Downloader on your computer. The application may be launched by selecting the installed icons. Click Finish to exit Setup. View Readme.txt Launch xFSTK-Downloader
	Finish

Note:

If you see an error like the one shown below when you launch xfstk from the command line utility



Grab the WDAPIXXXX.dll from C:\Windows\System32 and copy paste the dll in the folder in which xfstk is installed. Rename the file to WDAPI1100.dll.

Install the USB driver for bootloader mode

- 1) Connect the Tablet to your workstation
- Open a cmd window and run "adb reboot-bootloader"; the tablet will boot into the "fastboot" menu
- 3) Install the USB driver for the fastboot mode
 - a. Open the device manager (Control Panel -> System and Security -> Device Manager)



b. Right Click on "Android-Phone" and Select "Update Device Driver"



c. Select "Browse my computer for driver software"



d. Select "Let me pick from a list of Device Drivers on my computer" and click "Next"



e. Select "Google Inc" and "Android Bootloader Interface"; click on "Have Disk"

Select the device driver	you want to install for this hardware.	
Select the manufact disk that contains th	urer and model of your hardware device and then click N ne driver you want to install, click Have Disk.	lext. If you have
Manufacturer	Model	
Google, Inc.	Android ADB Interface	
Intel Corporation	Android ADB Interface	
Intel Corporation	CAndroid Bootloader Interface	
Intercorporation	Android Bootloader Interface	
Intercorporation	Android Bootloader Interface	

f. Browse to sdk\extras\google\usb_driver and select "android_winusb.inf" and click "Open"

Look in:	usb_driver 👻	G 🗊 🕫 🖽 🕶	
Name	*	Date modified	Т
闄 amd64		1/2/2014 8:21 PM	F
🗼 i386		1/2/2014 8:21 PM	F
<	III		•
< File name:	mandroid_winusb.inf	- Open	,

g. Click "OK"

r .



h. Select "Android Bootloader Interface" and click "Next"

	It the device driver you want to install for this hardware.	
	Select the manufacturer and model of your hardware device and then click Ne disk that contains the driver you want to install, click Have Disk.	kt. If you have
Mode	el	
0-	decid ADD Leastern	
An An	ndroid ADB Interface ndroid Bootloader Interface ndroid Composite ADB Interface	

i. Device will be successfully installed



j. In a cmd window; type "fastboot devices" and you should see the screen



k. Reboot the Windows workstation

Prepare the Dell Tablet for unbricking/rooting

- 1) Hard Power off the Dell Venue tablet by holding the power button down.
- 2) VERY IMPORTANT: ******** Unplug the USB cable from the Dell Venue tablet **********
- 3) Unzip the file "venue8_version-1.22.zip"
- 4) Open a cmd shell ; cd "DellVenue8" ; and execute the batch file "setup_part1_xfstk.bat"
- 5) Now Plug in the USB cable to the device; and you will see the screen below
 - a. **NOTE:** If there are multiple USB ports on the Windows workstation, you may need to try more than one.

6)

XFS1K-LOG-USBSN:F184/HE3/F505/2CEnd of KING
XFSIR-LUG-USBSN:F1847HE37F50572CGetUpCode
XFSIK-LOG-USBSN:F1847HE37F50572CReadInHck
XFSTK-LOGUSBSN:F1847AE37F50572CGetAck
XFSTK-LOGUSBSN:F1847AE37F50572CGetAck - EOIU(0x4)
XFSTK-LOGUSBSN:F1847AE37F50572CEOIU Received
XFSTK-LOGUSBSN:F1847AE37F50572Csending DFN
XFSTK-LOGUSBSN:F1847AE37F50572CWriteOutPipe DFN
XFSTK-LOGUSBSN:F1847AE37F50572CWriteOutPipe 0
XFSTK-LOGUSBSN:F1847AE37F50572CWrite>DFN
XFSTK-PROGRESSUSBSN:F1847AE37F50572C100
XFSTK-LOGUSBSN:F1847AE37F50572COS: Operating system download completed.
XFSTK-LOG-USBSN:F1847AE37F50572CLogError
XFSTK-STATUSUSBSN:F1847AF37F50572CFrom Code: 0 - Success
XFSTK-LOGUSBSN:F18478E37F50572Cupid CloverviewPlusDownloader::do_abort()
XFSTK-L0GUSBSN:F18478F37F50572CAbort
XFSTK-LOGUSBSN:F18470F37F50572CC:\Usevs\mlim19\Documents\uenue8_uevsion0_7\D
= 1 Henue 8 CLIP CYAR IFUL UE9 6C uu42 005 P801 wifi uos hin size: 203160 hutes =
XFSTK-STATUSUSESN-F18470F37F50572CP0SS
YPSTK-STATUS-USBSN-F18470E37E50572C-Finnuane and OS download completed
$VPCTV = 10^{-110} CONST + 10^{-110} CP2 CP2 CP2 CP2 + 10^{-110} CP2 + 10^{-1$
araix hod baban.ristmes/riss/20 offedat hoof cloverolewildsbowildadercleand
C. Users with About the section of t
Press any key to continue

7) The Dell tablet will show the fastboot screen

Setup: Part 5: Flash the OS images

1) Execute the script "p801t_JB4.3_flash_device.bat"

Command Prompt - .\p801t_JB4.3_flash_device.bat - • **•** finished. total time: 0.724s c:\DellVenue8>fastboot flash /tmp/partition.tbl partition.tbl sending '/tmp/partition.tbl' (1 KB)... OKAY [0.442s] writing '/tmp/partition.tbl'... OKAY [0.562s] finished. total time: 1.005s c:\DellVenue8>fastboot oem partition /tmp/partition.tbl ... OKAY [0.923s] finished. total time: 0.924s c:\DellVenue8>fastboot erase system erasing 'system'... OKAY [4.714s] finished. total time: 4.714s :\DellVenue8>fastboot erase cache erasing 'cache'... OKAY [2.740s] finished. total time: 2.740s c:\DellVenue8≻fastboot erase config erasing 'config'... OKAY [2.183s] finished. total time: 2.184s ::\DellVenue8>fastboot erase data erasing 'data'... OKAY [12.697s] finished. total time: 12.698s c:∖DellVenue8>fastboot erase logs erasing 'logs'... OKAY [3.161s] finished. total time: 3.162s c:\DellVenue8>fastboot erase factory erasing 'factory'... OKAY [2.097s] finished. total time: 2.098s ::\DellVenue8>fastboot oem stop_partitioning OKAY [0.745s] finished. total time: 0.746s c:\DellVenue8>fastboot flash boot boot.img sending 'boot' (9232 KB)... OKAY [1.391s] writing 'boot'... OKAY [1.305s] finished. total time: 2.697s c:\DellUenue8>fastboot flash fastboot droidboot.img sending 'fastboot' (11114 KB)... OKAY [1.517s] writing 'fastboot'... OKAY [1.056s] finished. total time: 2.575s c:\DellUenue8>fastboot flash recovery recovery.img sending 'recovery' (10202 KB)... OKAY [1.417s] writing 'recovery'... OKAY [1.909s] finished. total time: 3.329s c:\DellVenue8>fastboot flash system system.img sending 'system' (728453 KB)... OKAY [92.109s] writing 'system'... OKAY [30.090s] finished. total time: 122.200s c:\DellVenue8>pause Press any key to continue

- Press any key to continue
- 3) The Dell Tablet will now boot up
- 4) Re-enable Developer Mode (Part 1, bullet 1)

How to build the kernel image from the kernel sources

This instruction shows how to build the kernel image for Dell Venue 8 3830 tablet using the kernel source package "linux-1.22.P801-Nomodem-20140321.tgz".

- 1. If you haven't changed the system or kernel image in device after your purchase, please make sure the firmwares are replaced by the ones available from where you downloaded the kernel source. If not done, the device will recognize only a signed boot image and the kernel image built in the following instruction won't be successfully flashed.
- 2. Download Android AOSP 4.3 source codes from android.com. The detailed download instruction is available at <u>https://source.android.com/source/downloading.html</u>. > pwd /localdisk3/dell_venue_8 > mkdir aosp > cd aosp > repo init -u https://android.googlesource.com/platform/manifest -b android-4.3_r3 > repo sync
- 3. Extract the kernel source package "linux-1.22.P801-Nomodem-20140321.tgz" to the Android source root directory, i.e. aosp directory in this example.
 > pwd
 /localdisk3/dell_venue_8/aosp
 > tar -xzf linux-1.22.P801-Nomodem-20140321.tgz
 Once done, you should be able to see the "linux" directory inside aosp directory
- Follow https://source.android.com/source/initializing.html to setup build environment, then install extra packages as below.
 > sudo apt-get install libxml2:i386
 > sudo apt-get install libqtgui4:i386
- 5. Build the kernel image with the kernel build script > . build/envsetup.sh
 > lunch aosp_x86-eng
 > cd linux
 > ./kernel_build.sh
- 6. Check out if the kernel image "boot.img" was created.
 > cd out/target/product/
 > pwd
 /localdisk3/dell_venue_8/aosp/linux/out/target/product
 > ls -al boot.img
 -rw-r----- 1 xxx yyy 8540672 Mar 19 14:56 boot.img
- Now flash the kernel image to the device. Connect the tablet to the machine > adb reboot bootloader

\> fastboot flash boot boot.img
\> fastboot continue

8. After the device is rebooted, confirm if the image is properly flashed. Go to Settings->About tablet and make sure if the information in Kernel version is right.