

Lytro Power Tools / ADB Installation for Windows

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Comments or Questions?

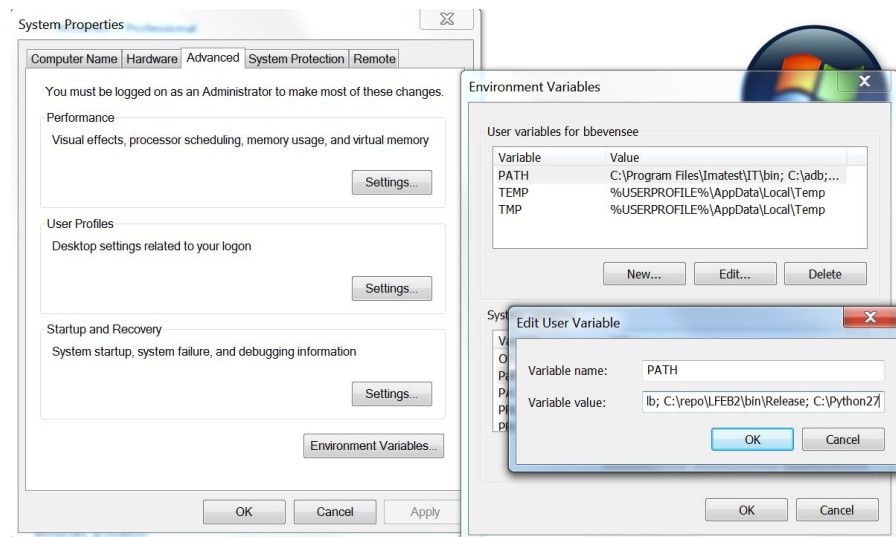
Please post them to the forums: <http://forums.lytro.com/c/technical-support-bugs>

1. Download and Install Python

Automated capture of images will require the software package Python, version 2.7. You should install this on your computer. It can be found at: <https://www.python.org/downloads/release/python-279/>

You should also make sure that the Python executable is in the system path. It will probably be located in C:\Python27.

Go to the system menu, select “Advanced System Settings”, then click on “Environmental Variables”, and edit the PATH variable by appending “;C:\Python27” to the list.



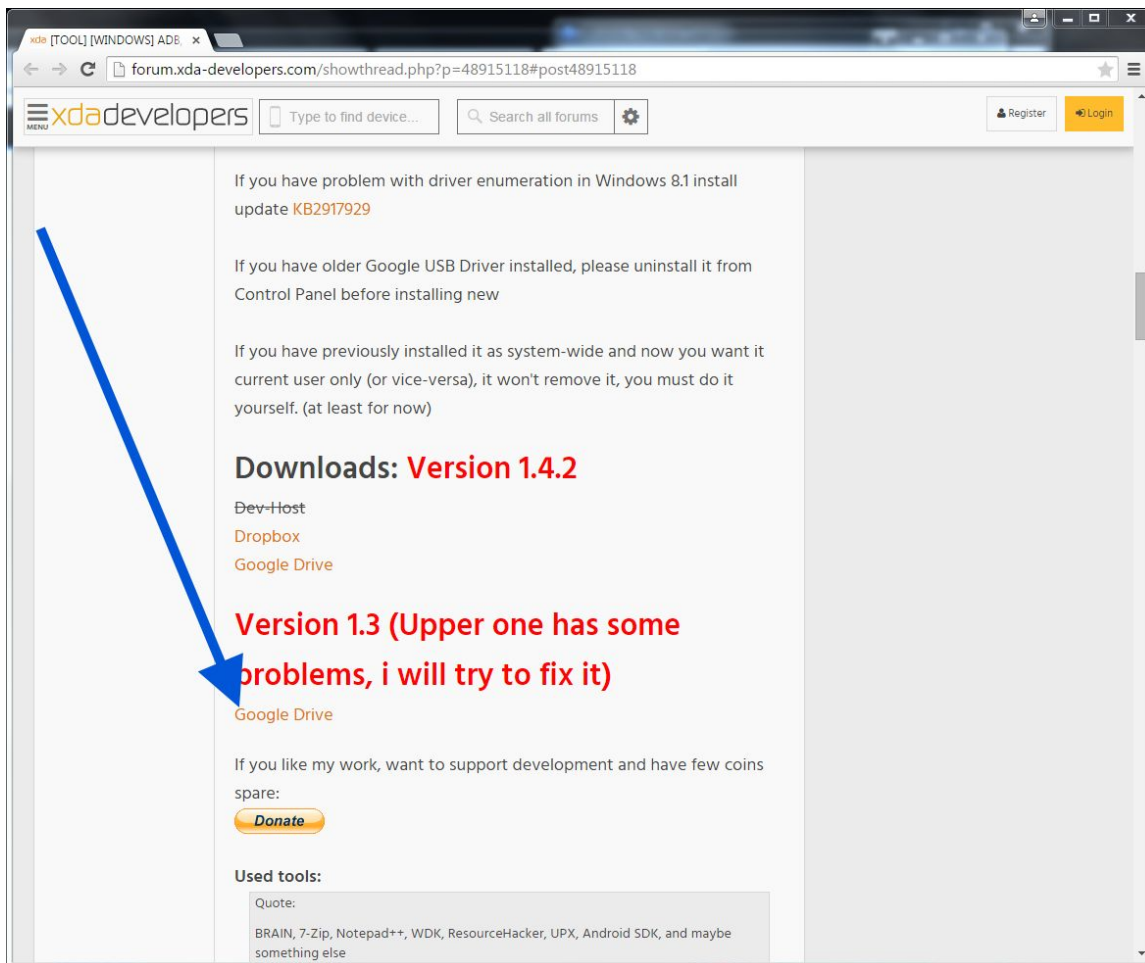
If this is done correctly, you can go to a command window (type “cmd” in the Start window), and type “python”. You should see a prompt as follows:

```
Administrator: C:\Windows\system32\cmd.exe - python
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\bbeuensee>python
Python 2.7.6 (default, Nov 10 2013, 19:24:18) [MSC v.1500 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> _
```

2. Download and Install ADB

2.1. Download ADB <http://forum.xda-developers.com/showthread.php?p=48915118#post48915118>



2.2. Run executable and follow installation steps. Enter “Yes” for all.

2.3. Open a new cmd prompt, cd into your home directory and send these two commands
`mkdir .android`
`echo 0x24CF >> .android\adb_usb.ini`

At this point you should be able to enter “adb” in cmd prompt and get a printout of adb command and arguments.

3. Download Google USB driver

3.1. Get USB Driver from here. <http://developer.android.com/sdk/win-usb.html>

The screenshot shows the Google USB Driver download page on the Android developer website. A blue arrow points from the 'Download' link in the left sidebar to the 'Click here to download the latest Google USB Driver ZIP file.' link in the main content area. Below this link, there is a list of instructions for installing the driver. An inset window shows the Android SDK Manager with the 'Google USB Driver package' selected under the 'Extras' tab.

debugging with any of the **Google Nexus devices**. The one exception is the Galaxy Nexus: the driver for Galaxy Nexus is distributed by Samsung (listed as model SCH-I515).

Windows drivers for all other devices are provided by the respective hardware manufacturer, as listed in the [OEM USB Drivers](#) document.

Note: If you're developing on Mac OS X or Linux, then you **do not** need to install a USB driver. To start developing with your device, read [Using Hardware Devices](#).

Downloading the Google USB Driver

The Google USB Driver for Windows is available for download as an optional SDK component. You need the driver only if you are developing on Windows and want to connect a Google Android-powered device (such as a Nexus 7) to your development environment over USB.

You can download the Google USB Driver for Windows in one of two ways:

- Click [here](#) to download the latest Google USB Driver ZIP file.
- Or, use the Android SDK Manager tool that is included with the **Android SDK**. Using the SDK Manager helps you keep the driver up to date by notifying you when your current driver is out of date.

- Launch the Android SDK Manager by double-clicking `SDK Manager.exe`, at the root of your SDK directory.
- Expand **Extras**.
- Check **Google USB Driver package** and click **Install**.
- Proceed to install the package. When done, the driver files are downloaded into the `<sdk>\extras\google\usb_driver\` directory.

IN THIS DOCUMENT

- [Downloading the Google USB Driver](#)

SEE ALSO

- [Installing a USB Driver Using Hardware Devices](#)

GET IT

[Download Google USB Driver](#)

latest_usb_driver_windows.zip

Android SDK Manager

SDK Path: C:\Program Files (x86)\Android\android-sdk

Name	API	Rev.	Status
Android 1.5 (API 3)			
Extras			
Android Support package		6	Not installed
Google Admob Ads Sdk package		4	Not installed
Google Analytics Sdk package		2	Not installed
Google Market Apk Expansion package		1	Not installed
Google Market Billing package		1	Not installed
Google Market Licensing package		2	Not installed
Google USB Driver package		4	Not installed
Google Webdriver package		2	Not installed
Intel Hardware Accelerated Execution Manager package		1	Not installed

Show: ☒ Updates/New ☒ Installed ☐ Obsolete Select [New](#) or [Updates](#)

Sort by: ☒ API level ☐ Repository [Deselect All](#)

[Install 1 package...](#) [Delete packages...](#)

Done loading packages.

Figure 1. The SDK Manager with the Google USB Driver selected.

3.2. Unzip folder and open "android_winusb.inf", This file needs to be edited with Lytro's unique VID and PID codes as shown in the next step.

3.3. Insert the following under both section [Google.NTx86] and section [Google.NTamd64] as shown in the screenshots below.

```
;Lytro Illum
%SingleBootLoaderInterface% = USB_Install, USB\VID_24CF&PID_BAB1
%CompositeAdbInterface%    = USB_Install, USB\VID_24CF&PID_00B1&MI_01
%CompositeAdbInterface%    = USB_Install, USB\VID_24CF&PID_00B1&MI_02
```

```
android_winusb.inf - Notepad
File Edit Format View Help

[Google.NTx86]

;Google Nexus One
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_0D02
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_0D02&MI_01
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_4E11
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E12&MI_01

;Google Nexus S
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_4E21
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E22&MI_01
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_4E23
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E24&MI_01

;Google Nexus 7
%SingleBootLoaderInterface% = USB_Install, USB\VID_18D1&PID_4E40
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E42&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E44&MI_01

;Google Nexus Q
%SingleBootLoaderInterface% = USB_Install, USB\VID_18D1&PID_2C10
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_2C11

;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
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4EE7

;Google Glass
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_9001
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_9001&MI_01

;Lytro Illum
%SingleBootLoaderInterface% = USB_Install, USB\VID_24CF&PID_BAB1
%CompositeAdbInterface% = USB_Install, USB\VID_24CF&PID_00B1&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_24CF&PID_00B1&MI_02

;Project Tango (generic)
%SingleBootLoaderInterface% = USB_Install, USB\VID_18D1&PID_4D00
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4D02&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4D04&MI_02
```

```
android_winusb.inf - Notepad
File Edit Format View Help

[Google.NTamd64]

;Google Nexus One
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_0D02
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_0D02&MI_01
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_4E11
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E12&MI_01

;Google Nexus S
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_4E21
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E22&MI_01
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_4E23
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E24&MI_01

;Google Nexus 7
%SingleBootLoaderInterface% = USB_Install, USB\VID_18D1&PID_4E40
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E42&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E44&MI_01

;Google Nexus Q
%SingleBootLoaderInterface% = USB_Install, USB\VID_18D1&PID_2C10
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_2C11

;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
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4EE7

;Google Glass
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_9001
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_9001&MI_01

;Lytro Illum
%SingleBootLoaderInterface% = USB_Install, USB\VID_24CF&PID_BAB1
%CompositeAdbInterface% = USB_Install, USB\VID_24CF&PID_00B1&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_24CF&PID_00B1&MI_02

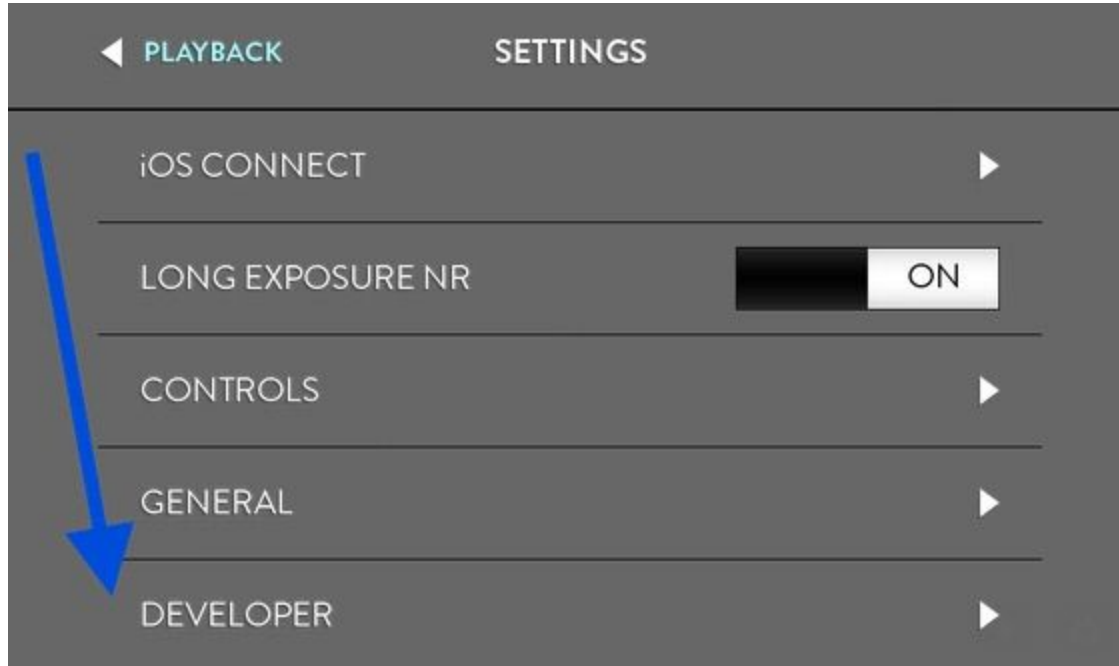
;Project Tango (generic)
%SingleBootLoaderInterface% = USB_Install, USB\VID_18D1&PID_4D00
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4D02&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4D04&MI_02
```


4. Install Google USB driver

Note: if you are running windows 8 or above you need to disable the Driver Signature Enforcement prior to installing the driver. Instructions can be found here:

<http://www.isunshare.com/windows-8/how-to-disable-or-enable-driver-signature-enforcement-in-windows-8-and-8.1.html>

4.1. Enable **ADB Mode** on the camera. To do this you need to press and hold 'AEL and Lytro buttons together on boot. If done right, you will see a new "Developer" tab at the bottom of Camera Settings. Now your camera should be visible under 'Other Devices', which you will need for step **4.4**.



4.1. Connect your Android-powered device to your computer's USB port.

4.2. Go to Control Panel and select Device Manager, or right click My Computer > Manage

4.3. Right-click the device name ILLUM under Other Devices and select Update Driver Software. This will launch the Hardware Update Wizard.

4.4. Select Browse my computer for driver software and click Next.

4.5. Click Browse and locate the usb_driver folder which was downloaded and modified on step 2

4.6. Click Next to install the driver.

Connect your camera to the computer, open cmd prompt and enter "**adb shell**". You should now be in the camera shell, If this returns a device not found error then refer to troubleshooting section below.

5. Troubleshooting

If you are connected to the camera and sending "**adb shell**" in cmd prompt returns a "**Device not found error**" there could be a number of reasons that we will asses in the next steps.

5.1. ADB mode on camera is turned OFF

- Make sure the camera ADB mode is turned on. To do this you need to press and hold 'AEL' and Lytro Button together on boot.

5.2. ADB not installed properly.

- Open cmd prompt and enter "adb". This should return a list of utilities for ADB. If this is not the case then refer back to step 2 of the instructions and reinstall ADB.

5.3. ADB application crashed or it got into weird state.

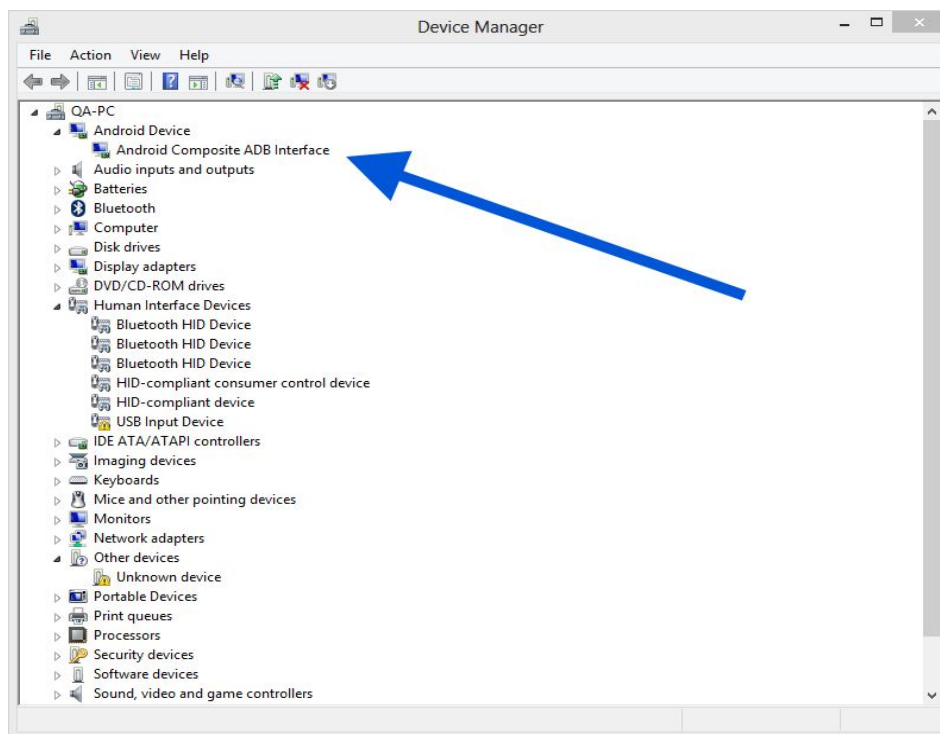
- Restart ADB. "adb kill-server", "adb start-server"

5.4. ".android" folder is not properly placed

- Make sure this folder is located on the current user home directory
- Open adb_usb.ini from inside this folder file and make sure "0X24CF" is written into it.

5.5. Google USB driver not installed properly.

- With your camera connected, go into device manager and make sure you see "Android Device Composite ADB Interface" being listed as shown by screenshot below.



If this is not the case you will need to go back to **Step 3** of the instructions and reinstall the Google USB driver.

5.6. Reboot your computer

- If all else fails, please try rebooting your computer and try connecting again

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