# Connect to Drone

1. Disconnect internet and remove LAN Cable if any
2. Connect to Drone’s Wi-Fi
3. Use telnet or FTP
   1. <ftp://192.168.1.1:5551/>
   2. telnet 192.168.1.1
4. Open version.txt to see the drone’s firmware. It should be 1.3.3 to allow hacking of drone and communicating via serial.
5. If it is 1.3.3 then move to Enabling Serial Port, else first Downgrade the drone’s firmware

# Downgrade the drone’s firmware

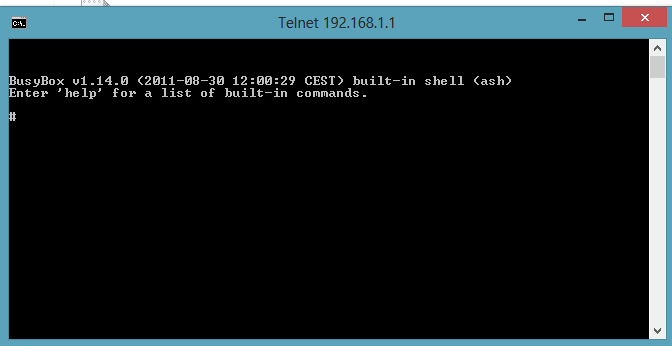
This step only needs to be performed if the Drone’s firmware **IS NOT 1.3.3**

From PC (I used windows7)

1. Connect to the drones network (Wi-Fi) with the PC.

2. Telnet to the drone  
   telnet 192.168.1.1

Telnet looks like this when connected:



3. Create two version.txt in different catalogs.  
   Write the following in the telnet session to do that:

cat > /firmware/version.txt [enter]

0.0.0 [Enter] [Ctrl-D]

cat > /update/version.txt [enter]

0.0.0 [enter] [Ctrl-D]

[Enter] means press the "enter" key   
[Ctrl-D] means press the "Ctrl and the D" key

Explanation:   
/firmware/version.txt must be "lower" than the /update/version.txt  
/update/version.txt must have same number as the update file

4. Check that you got it right.

cat /firmware/version.txt [enter]

Should say: 0.0.0

cat /update/version.txt [enter]

Should say: 0.0.0

Disconnect from telnet

5. Upload ardrone\_update.plf by simply typing <ftp://192.168.1.1:5551/> on Windows file explorer and copying the above file into the opened folder.

6. Disconnect the battery for a couple of seconds.

7. Connect the battery again and the update starts.  
    Don't disconnect until the LEDs are green, takes 2-3 minutes.

# Enabling Serial Port

1. <ftp://192.168.1.1:5551/> in windows file explorer and copy the Ardu.DroneRC\_v0.2.1/ardudrone folder to the folder that is opened.
2. Now this folder has been copied to the *update* folder of the drone file system and you need to move it to the data/video folder.
3. telnet into the drone : telnet 192.168.1.1
   1. You can use the *ls* command to see the file directory and *cd* command to change directories.
   2. You can use *cd* command and see that the ardudrone folder is in the updates folder. This folder needs to be moved.
4. Use *mv /update/ardudrone /data/video* to move the folder.
5. Verify that the folder has been moved by using *cd* and *ls* command to check the contents of the update folder and the contents of the /data/video folder. The folder should now have moved to the /data/video folder.
6. Now we need to setup some files we just uploaded. We must make **ardudrone\_setup.sh** and **atcomproxy\_arm** executable with commands seen below:

# cd /data/video/ardudrone  
# chmod 755 ardudrone\_setup.sh  
# chmod 755 atcomproxy\_arm

To check our work, use the command **ls -lisa**, there should be three *x* in the third column of its output:

# ls -lisa  
    111    0 drwxr-xr-x    2 root     root          600 Jan  1 00:52 .  
     65    0 drwxr-xr-x    4 root     root          504 Jan  1 00:52 ..  
    124    4 -rwxr-xr-x    1 root     root          821 Jan  1 00:49 ardudrone\_setup.sh  
    127   16 -rwxr-xr-x    1 root     root        12494 Jan  1 00:49 atcomproxy\_arm  
    125  876 -rw-r--r--    1 root     root       896291 Jan  1 00:49 dwc\_otg.ko  
    128  248 -rw-r--r--    1 root     root       250284 Jan  1 00:49 ftdi\_sio.ko  
    126    8 -rw-r--r--    1 root     root         6421 Jan  1 00:49 libioctl\_arm.so  
    129  340 -rw-r--r--    1 root     root       347714 Jan  1 00:49 usbserial.ko

1. Next test if the proxy app is working:

# ./atcomproxy\_arm -v -d /dev/tty  
./atcomproxy\_arm > Proxy Ready: Waiting for data in /dev/tty to send to 192.168.1.1:5556!

Type in the following line (or copy&paste)

AT\*LED=1,2,1073741824,3

Result should be:

./atcomproxy\_arm > AT\*LED=1,2,1073741824,3!  
  
[LEDS ON THE DRONE SHOULD BLINK FOR 3S!]  
  
[EXIT WITH CTRL+C]

If you get a "Segmentation fault" the binary was probably uploaded wrong as ASCII, retry in binary format!