How to Install X.USB driver on Red Hat Linux

1. First you need to make sure you have all the necessary development software that will be needed for the Linux operating system to be able to compile and install the driver module. In RHEL the necessary support software is installed via System>Administration>Add/RemoveSoftware: wpa supplicant, iw wireless tools, hw info, usbutils, CRDA, and possibly other linux headers and development files if you happen to be missing these (if at first you don't succeed keep adding other header/development files according to error messages you may receive about such missing files).

2. Go to the following website to download the latest firmware carl9170-1.fw: http://linuxwireless.org/en/users/Drivers/carl9170 Put the firmware in the location /lib/firmware

   Note: normally the download file will locate in /home/[user directory name]/Downloads the using the shell terminal copy into /lib/firmware by issuing the command

   ```
   $ sudo cp /home/[user directory name]/Downloads /lib/firmware.
   ```

3. Go to the following website http://wireless.kernel.org/en/users/Download/stable/#compat-wireless_3.6_stable_releases

4. Download the tarball file for the latest "-spn" release/version. For example, on 14 Nov 2012, compat-wireless-3.6.6-1-snp.tar.bz2 was downloaded into /home/[user directory name]/Downloads

5. Copy the tarball file to /usr/src :

   ```
   $ sudo cp /home/[user directory name]/Downloads/compat-wireless-3.6.6-1-snp.tar.bz2 /usr/src/
   ```

6. Double-click the tarball file and Extract it in /usr/src. A directory will automatically be installed named "compat-wireless-3.6.6-1-snp" and it will contain all the folders and files needed to compile/make the carl9170 driver

7. Do the following commands....

   - $ sudo ./scripts/driver-select carl9170 (this will save time by only compiling the carl9170 driver)
   - $ sudo make
   - $ sudo make install

8. You may reboot at this time. If you previously had only one wireless adapter it was called wlan0; the new one for X.USB will then be called wlan1. Or, you may do '$ sudo make unload' if you want to unload the previously loaded wireless module and driver, i.e., of wlan0.

9. If using '$ sudo make unload' three options may display:

- unload ALL – issue the command '$ sudo make unload' (unloads Bluetooth, other wireless adapters, and wireless ethernet);
- unload only the other wireless adapters – issue the command '$ sudo make wunload';
- unload only Bluetooth – issue the command '$ sudo make bunload'. NOTE: When issuing the command '$ sudo make unload' the existing wireless connection shutoff and then the new one (X.USB-3) got activated--->SUCCESS. After this action there are messages saying Bluetooth was unloaded and wlan0 was unloaded, but that's it (there was no wireless ethernet; the existing wired ethernet card was untouched. The new device “carl9170” is labeled “wlan1”.

10. Check out the X.USB features by issuing the command $ iw list

Note: When the Linux kernel updates to a new version, the new driver module may or may not be overwritten by the new kernel version's modules. If this happens, this process will need to be repeated beginning with Step 12.