

Instalando a antena Ralink com o chipset MT7601U

Notas: O modelo do Raspberry Pi usado é o 2B e o sistema operacional é o Raspbian.

1° - Conecte a antena Ralink no Raspberry e abra o terminal do linux

2° - Atualize o firmware e os programas do Raspberry Pi e reinicie

```
$sudo apt-get update  
$sudo apt-get upgrade  
$sudo rpi-update  
$sudo reboot
```

3° - Execute o comando abaixo para instalar alguns programas que serão usados

```
$sudo apt-get install gcc-4.7 dpkg git
```

4° - Verifique a versão do firmware do Raspberry Pi



```
pi@RaspberryPi ~ $ uname -r  
4.1.13-v7+  
pi@RaspberryPi ~ $ █
```

15° - Então vá ao site

<http://www.niksula.hut.fi/~mhiiienka/Rpi/linux-headers-rpi/> e baixe o pacote referente a versão do kernel

16° - Por enquanto é só isso :D

Index of /~mhiiienka/Rpi/linux-headers-rpi/

../		
old/		
linux-headers-3.18.10+_3.18.10+-2_armhf.deb	14-Feb-2015 09:41	-
linux-headers-3.18.10-v7+_3.18.10-v7+-2_armhf.deb	03-Apr-2015 21:04	8533862
linux-headers-3.18.10-v7+_3.18.10-v7+-2_armhf.deb	03-Apr-2015 21:07	8536066
linux-headers-3.18.11+_3.18.11+-2_armhf.deb	23-Apr-2015 21:03	8535480
linux-headers-3.18.11-v7+_3.18.11-v7+-2_armhf.deb	23-Apr-2015 21:06	8539254
linux-headers-3.18.12+_3.18.12+-2_armhf.deb	06-May-2015 21:03	8536520
linux-headers-3.18.12-v7+_3.18.12-v7+-2_armhf.deb	06-May-2015 21:06	8540088
linux-headers-3.18.13+_3.18.13+-2_armhf.deb	20-May-2015 21:05	8549050
linux-headers-3.18.13-v7+_3.18.13-v7+-2_armhf.deb	20-May-2015 21:08	8545046
linux-headers-3.18.14+_3.18.14+-2_armhf.deb	08-Jun-2015 21:05	8537764
linux-headers-3.18.14-v7+_3.18.14-v7+-2_armhf.deb	08-Jun-2015 21:08	8546860
linux-headers-3.18.16+_3.18.16+-2_armhf.deb	19-Jun-2015 21:05	8539918
linux-headers-3.18.16-v7+_3.18.16-v7+-2_armhf.deb	19-Jun-2015 21:07	8546782
linux-headers-3.18.4+_3.18.4+-2_armhf.deb	29-Jan-2015 22:04	8526876
linux-headers-3.18.5+_3.18.5+-2_armhf.deb	06-Feb-2015 22:04	8528644
linux-headers-3.18.6+_3.18.6+-2_armhf.deb	10-Feb-2015 22:04	8530338
linux-headers-3.18.7+_3.18.7+-2_armhf.deb	26-Feb-2015 22:05	8527588
linux-headers-3.18.7-v7+_3.18.7-v7+-2_armhf.deb	26-Feb-2015 22:08	8529104
linux-headers-3.18.8+_3.18.8+-2_armhf.deb	06-Mar-2015 22:05	8525464
linux-headers-3.18.8-v7+_3.18.8-v7+-2_armhf.deb	06-Mar-2015 22:08	8535534
linux-headers-3.18.9+_3.18.9+-2_armhf.deb	23-Mar-2015 22:04	8539068
linux-headers-3.18.9-v7+_3.18.9-v7+-2_armhf.deb	23-Mar-2015 22:07	8534532
linux-headers-4.0.6+_4.0.6+-2_armhf.deb	29-Jun-2015 21:04	8782118
linux-headers-4.0.6-v7+_4.0.6-v7+-2_armhf.deb	29-Jun-2015 21:07	8792740
linux-headers-4.0.7+_4.0.7+-2_armhf.deb	10-Jul-2015 21:05	8789088
linux-headers-4.0.7-v7+_4.0.7-v7+-2_armhf.deb	10-Jul-2015 21:08	8781098
linux-headers-4.0.8+_4.0.8+-2_armhf.deb	23-Jul-2015 21:06	8787118
linux-headers-4.0.8-v7+_4.0.8-v7+-2_armhf.deb	23-Jul-2015 21:10	8791514
linux-headers-4.0.9+_4.0.9+-2_armhf.deb	27-Jul-2015 21:06	8784496
linux-headers-4.0.9-v7+_4.0.9-v7+-2_armhf.deb	27-Jul-2015 21:09	8790650
linux-headers-4.1.10+_4.1.10+-2_armhf.deb	19-Oct-2015 21:11	8902014
linux-headers-4.1.10-v7+_4.1.10-v7+-2_armhf.deb	19-Oct-2015 21:15	8904764
linux-headers-4.1.11+_4.1.11+-2_armhf.deb	25-Oct-2015 22:05	8916568
linux-headers-4.1.11-v7+_4.1.11-v7+-2_armhf.deb	25-Oct-2015 22:08	8909074
linux-headers-4.1.12+_4.1.12+-2_armhf.deb	11-Nov-2015 22:05	8910278
linux-headers-4.1.12-v7+_4.1.12-v7+-2_armhf.deb	11-Nov-2015 22:07	8907476
linux-headers-4.1.13+_4.1.13+-2_armhf.deb	09-Dec-2015 22:04	8913410
linux-headers-4.1.13-v7+_4.1.13-v7+-2_armhf.deb	09-Dec-2015 22:07	8913502
linux-headers-4.1.14+_4.1.14+-2_armhf.deb	10-Dec-2015 16:46	8912058
linux-headers-4.1.14-v7+_4.1.14-v7+-2_armhf.deb	10-Dec-2015 16:49	8907804
linux-headers-4.1.15+_4.1.15+-2_armhf.deb	19-Jan-2016 22:05	8919410
linux-headers-4.1.15-v7+_4.1.15-v7+-2_armhf.deb	19-Jan-2016 22:07	8921672

6° - Vá na pasta onde você colocou o arquivo que você baixou e instale-o usando o dpkg



```
pi@RaspberryPi ~ $ ls -l
total 8724
drwxr-xr-x 2 pi pi 4096 Feb 16 2015 Desktop
-rw-r--r-- 1 pi pi 8913502 Dec 9 18:07 linux-headers-4.1.13-v7+_4.1.13-v7+-2_armhf.deb
drwxrwxr-x 2 pi pi 4096 Jan 27 2015 python_games
drwxr-xr-x 7 pi pi 4096 Feb 22 15:39 up
drwxr-xr-x 6 pi pi 4096 Feb 24 12:36 WiFiRalink
pi@RaspberryPi ~ $ sudo dpkg -i linux-headers-4.1.13-v7+_4.1.13-v7+-2_armhf.deb
```

7° - Baixe a pasta com os drivers usando o comando abaixo

\$git clone https://github.com/MatheusOliveira2015/WiFiRalink

8° - Abra a pasta WiFiRalink/mt7601u-master/ e compile o driver como mostra a imagem abaixo



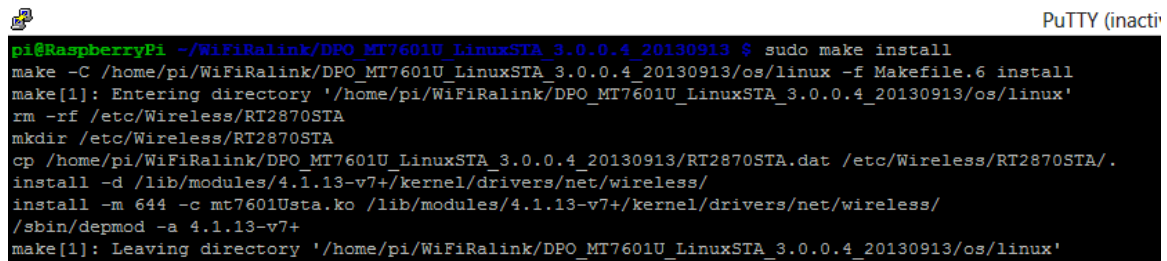
```
pi@RaspberryPi ~ $ cd WiFiRalink/
pi@RaspberryPi ~/WiFiRalink $ cd mt7601u-master/
pi@RaspberryPi ~/WiFiRalink/mt7601u-master $ sudo make
make -C /lib/modules/`uname -r`/build M=$PWD
make[1]: Entering directory '/usr/src/linux-headers-4.1.13-v7+'
LD      /home/pi/WiFiRalink/mt7601u-master/built-in.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/usb.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/init.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/main.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/mcu.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/trace.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/dma.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/core.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/eeeprom.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/phy.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/mac.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/util.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/debugfs.o
CC [M]  /home/pi/WiFiRalink/mt7601u-master/tx.o
LD [M]  /home/pi/WiFiRalink/mt7601u-master/mt7601u.o
Building modules, stage 2.
MODPOST 1 modules
CC      /home/pi/WiFiRalink/mt7601u-master/mt7601u.mod.o
LD [M]  /home/pi/WiFiRalink/mt7601u-master/mt7601u.ko
make[1]: Leaving directory '/usr/src/linux-headers-4.1.13-v7+'
pi@RaspberryPi ~/WiFiRalink/mt7601u-master $ sudo make install
make -C /lib/modules/`uname -r`/build M=$PWD modules_install
make[1]: Entering directory '/usr/src/linux-headers-4.1.13-v7+'
INSTALL /home/pi/WiFiRalink/mt7601u-master/mt7601u.ko
DEPMOD  4.1.13-v7
make[1]: Leaving directory '/usr/src/linux-headers-4.1.13-v7+'
pi@RaspberryPi ~/WiFiRalink/mt7601u-master $
```

9° - Após a instalação do driver mt7601u, é hora de instalar o driver mt7601usta. Abra a pasta WiFiRalink/DPO_MT7601.... e compile o driver como mostra a figura abaixo:



```
pi@RaspberryPi: ~/WiFiRalink/DPO
pi@RaspberryPi ~/WiFiRalink/mt7601u-master $ cd ../DPO_MT7601U_LinuxSTA_3.0.0.4_20130913/
pi@RaspberryPi ~/WiFiRalink/DPO_MT7601U_LinuxSTA_3.0.0.4_20130913 $ sudo make
```

10° Em seguida, na mesma pasta, instale o driver como mostra a figura abaixo:

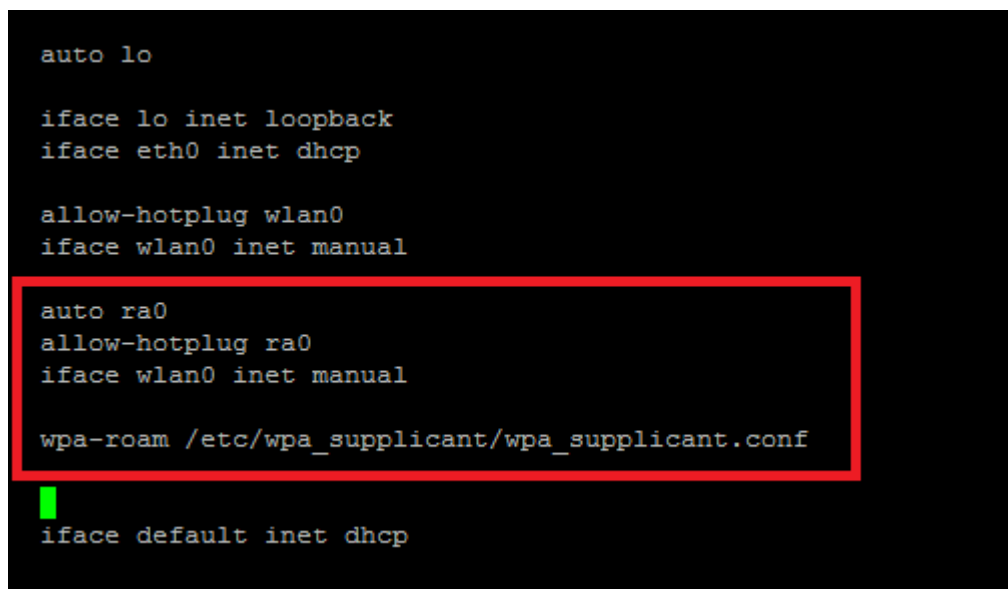


```
pi@RaspberryPi: ~/WiFiRalink/DPO_MT7601U_LinuxSTA_3.0.0.4_20130913 $ sudo make install
make -C /home/pi/WiFiRalink/DPO_MT7601U_LinuxSTA_3.0.0.4_20130913/os/linux -f Makefile.6 install
make[1]: Entering directory '/home/pi/WiFiRalink/DPO_MT7601U_LinuxSTA_3.0.0.4_20130913/os/linux'
rm -rf /etc/Wireless/RT2870STA
mkdir /etc/Wireless/RT2870STA
cp /home/pi/WiFiRalink/DPO_MT7601U_LinuxSTA_3.0.0.4_20130913/RT2870STA.dat /etc/Wireless/RT2870STA/.
install -d /lib/modules/4.1.13-v7+/kernel/drivers/net/wireless/
install -m 644 -c mt7601Usta.ko /lib/modules/4.1.13-v7+/kernel/drivers/net/wireless/
/sbin/depmod -a 4.1.13-v7+
make[1]: Leaving directory '/home/pi/WiFiRalink/DPO_MT7601U_LinuxSTA_3.0.0.4_20130913/os/linux'
```

11° Abra o arquivo /etc/network/interfaces

\$sudo nano /etc/network/interfaces

12° Modifique o arquivo colocando o trecho marcado na imagem abaixo



```
auto lo

iface lo inet loopback
iface eth0 inet dhcp

allow-hotplug wlan0
iface wlan0 inet manual

auto ra0
allow-hotplug ra0
iface wlan0 inet manual

wpa-roam /etc/wpa_supplicant/wpa_supplicant.conf

iface default inet dhcp
```

13° Salve, feche o arquivo e reinicie o Raspberry Pi.

14° Certifique-se que a antena está conectada. Caso tudo tenha dado certo, execute o comando **ifconfig** para ver o driver **ra0** funcionando



```
pi@RaspberryPi ~ $ ifconfig
eth0      Link encap:Ethernet  HWaddr b8:27:eb:7a:29:09
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:8 errors:0 dropped:0 overruns:0 frame:0
          TX packets:8 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:1104 (1.0 KiB)  TX bytes:1104 (1.0 KiB)

ra0       Link encap:Ethernet  HWaddr ac:a2:13:12:06:34
          inet addr:10.208.6.173  Bcast:10.208.255.255  Mask:255.255.0.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:225243 errors:0 dropped:49 overruns:0 frame:0
          TX packets:325 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:34576411 (32.9 MiB)  TX bytes:33541 (32.7 KiB)

pi@RaspberryPi ~ $
```

15° Execute o comando abaixo para verificar se a interface está detectando ssids próximos

\$iwlist ra0 scan