

Install WebWSPR on your Raspberry Pi 3B+

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Some hints before you start

We have found that higher speed SD-cards work better. The cheapest class10 does not work well, we are doing some tests now on A1 and A2 type of cards from SanDisk. We are using heat sinks on the Raspberry Pi 3B+. Introducing ram-disk for the temp files may make slower disks work ok. See the last page. To be tested.

Why use Ubuntu?

We think that using Ubuntu (or any other Debian based linux) for the main computer is very convenient as its command line has the same dialect as Raspbian. For burning the SD-cards we used a program called Etcher. It is very safe and easy to use. When starting you should make a directory for your files on the Ubuntu machine.

```
root@OH8GKP:~# cd WebWSPR\ 2.32
root@OH8GKP:~/WebWSPR 2.32# ls
2018-11-13-raspbian-stretch-lite.img  hamlib-3.3.tar.gz  WebWSPR-master.zip
2018-11-13-raspbian-stretch-lite.zip  ssh
root@OH8GKP:~/WebWSPR 2.32#
```

Start burning

Burn "Raspbian Stretch Lite" onto your SD card. When the SD is still attached to your Ubuntu computer enable ssh by adding an empty file called ssh to the boot section. Then put the SD into the Raspberry Pi, start the Raspberry Pi, and find its IP-address on the network. Log in with ssh:

[ssh pi@192.168.1.5](ssh://pi@192.168.1.5),

- in our test case the address was 192.1.1.5 and is used as illustration here. When you have logged into the Pi, run: `sudo apt-get update` and `sudo apt-get upgrade` as usual.

Then further install: (commands for the Raspberry Pi in **green text**)

`sudo apt-get install libgfortran3`

Download and prepare

Download WebWSPR-master.zip and hamlib-3.3.tar.gz to your Ubuntu PC.

Copy from Ubuntu to Raspberry Pi: (Ubuntu commands in **red text**)

Command for copying WebWSPR:

`scp WebWSPR-master.zip pi@192.168.1.5:/home/pi/`

Command for copying hamlib:

scp hamlib-3.3.tar.gz pi@192.168.1.5:/home/pi/

During this you will have two terminal windows open, one is the ssh channel into Raspberry Pi, the other is your Ubuntu terminal window.

After the above commands are executed observe that the two files will now appear in the Raspberry Pi window using the **ls** command.

```
pi@raspberrypi:~ $ ls
hamlib-3.3.tar.gz  WebWSPR-master.zip
pi@raspberrypi:~ $
```

Unzip the hamlib-file:

```
tar -zxvf hamlib-3.3.tar.gz
```

Unzip the WebWSPR-master file:

```
unzip WebWSPR-master.zip
```

Rename the WebWSPR directory:

```
mv WebWSPR-master wspr2
```

```
cd /home/pi/wspr2
```

Prepare raspbian for WebWSPR:

```
sudo ./raspi_prepare
```

Compilation of code

Compiler settings:

```
export CXXFLAGS='-O2 -march=native -mtune=native'  
export CFLAGS='-O2 -march=native -mtune=native'
```

Install hamlib:

```
cd /home/pi/hamlib-3.3  
./configure --prefix=/usr/local --enable-static  
make  
sudo make install  
sudo ldconfig
```

Finished hamlib!

Install WebWSPR:

```
cd /home/pi/wspr2
```

make

Before you try to start it with:

sudo ./startwspr

please remember to change from odroid to pi in the directory reference inside that file.

```
GNU nano 2.7.4
# change home directory according to user name !!!!!
cd /home/odroid/wspr2
./wsprtk arg1; while true; do ./wsprtk arg2 arg3; sleep 1; done;
```

^G Get Help	^O Write Out	^W Where Is	^K Cut Text	^J J
^X Exit	^R Read File	^\ Replace	^U Uncut Text	^T T

WebWSPR

nano startwspr

Also use the alsamixer to select sound card and adjust volume level. This will help the WebWSPR to attach to the right channel.

U02-WebWSPR V2.32

UTC: 9.03.19 12:19:35 QRG: 14.0956MHz (next:14.0956MHz) next TX: 12:20 (14.0956MHz) Op.: OH8GKP KP24RT

0:24 9% 2-way result (6h): OH8GKP 18 0 0

WebWSPR Spots Ranking Map RX/TX QRG SETUP

Show 100 entries Search:

Time	dB	DT	QRG	Call	Country	QTH	Pwr
190309 1216	-21	0.02	14.097.215.2	...		JN39VD	23 -1
190309 1216	1	-0.10	14.097.135.6	DL5MCN	Germany	JN67	43 0
190309 1216	-15	-0.06	14.097.246.9	G0CCL	UK	JO02	37 0
190309 1216	-14	0.49	14.097.028.8	G0FZM	UK	IO92	37 0
190309 1216	-24	-0.23	14.097.193.8	G3WUN	UK	IO91	23 0
190309 1216	-21	-0.19	14.097.118.7	G4FAB	UK	IO92	37 0
190309 1216	-26	0.32	14.097.151.6	G4ZAL	UK	IO80	23 0
190309 1216	-26	0.11	14.097.164.6	M0KWN	UK	IO90	23 0
190309 1216	-16	0.71	14.097.178.3	M6VKA	UK	JO01	23 0
190309 1216	-24	1.05	14.097.125.2	RX9CDR	Russia	MO06	27 0
190309 1214	-13	-0.02	14.097.247.0	G0CCL	UK	JO02	37 0
190309 1214	-6	-0.40	14.097.163.6	OE3ARB	Austria	JN88	33 0
190309 1214	-29	-0.10	14.097.227.6	PA3BTI	Netherlan.	JO22	43 0

Showing 1 to 13 of 13 entries Previous 1 Next

Use ram-disk

To make SD live longer and probably happier!

```
sudo nano /etc/fstab
```

```
tmpfs /tmp tmpfs nodev,nosuid,size=25M,mode=1777 0 0
```

```
GNU nano 2.7.4                               File: /etc/fstab                               Modified
proc          /proc          proc          defaults          0          0
PARTUUID=63854f5e-01 /boot          vfat          defaults          0          2
PARTUUID=63854f5e-02 /              ext4          defaults,noatime 0          1
tmpfs         /tmp          tmpfs         nodev,nosuid,size=25M,mode=1777 0          0
# a swapfile is not a swap partition, no line here
# use dphys-swapfile swap[on|off] for that

^G Get Help      ^O Write Out    ^W Where Is    ^K Cut Text    ^J Justify    ^C Cur Pos
^X Exit          ^R Read File   ^\ Replace     ^U Uncut Text ^T To Spell   ^_ Go To Line
```

sudo mount -a

df (just to have a look on the disks)

sudo reboot

Ref. 1 <http://www.kk5jy.net/fldigi-build/>