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Pi Chart

... openCPN, Grib and Wefax on Raspberry Pi

OpenCPN

You can build your own version of OpenCPN using the instructions on opencpn.org, or download and install a pre-built version that I've created ... howe

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The following describes an installation of OpenCPN on a Raspberry Pi using a pre-built .deb package if you are not comfortable with building your own

1. download one of my packages:
   version 3.1.1309: http://agurney.com/raspi/opencpn_3.1.1309-1_armhf.deb
   version 3.2.0   http://agurney.com/raspi/opencpn_3.2.0-1_armhf.deb
   Version 4 (compiled on Raspberry Pi 2)
   4MB (vanilla): **http://agurney.com/raspi/opencpn_4.0.0-1_armhf.deb**
   6MB (tides and lo-res world map): **http://agurney.com/raspi/opencpn_4.0.0-1_armhf_tides_map.deb**
   then copy the file to your Raspberry Pi (anywhere, for example /home/pi)

   .. alternatively, if your Pi is connected to the Internet you can pull it directly from the command line
2. Install dependencies
3. Install the package
4. Update the config file
5. Update the Pi's config file
6. Copy your charts (anywhere you want, I use /usr/local/share/charts)
7. Run OpenCPN (under the Education menu in the UI, or from the command line)
8. Identify your chart locations
9. Setup your personal settings under Options

Here's a transcript of an install session (the $ sign is the prompt, you type the stuff following):

```
$ cd /home/pi
$ mkdir opencpn
$ cd opencpn/
$ wget http://agurney.com/raspi/opencpn_4.0.0-1_armhf_tides_map.deb


[+ several lines of progress information are displayed]  if this is your first installation then you'll need to insta


$ sudo apt-get install libwxgtk2.8-0 libglu1-mesa libtinyxml2.6.2 libwxbase2.8.0 libportaudio2 libjack-jackd2-0 wx2.8


$ sudo dpkg -i opencpn_4.0.0-1_armhf.deb
[+ several lines of progress information are displayed]

Add a couple of lines to the /boot/config.txt file; use any text editor such as vi or leafpad.


These changes will be effective following the next reboot and are required to resolve problems that the Pi/armhf has

$ vi /boot/config.txt

framebuffer_depth=32
framebuffer_ignore_alpha=1

you may find it useful to edit your ~/.opencpn.opencpn.conf file and add values for MEMCacheLimit and/or NCacheLimit
Do you want a desktop icon?

cp /usr/local/share/applications/opencpn.desktop /home/pi/Desktop/


see here for information about GPS for OpenCPN using the Pi's GPIO port
```

```
Refer to the opencpn.org if you want to build the latest OpenCPN for yourself,
however I've written a script so it there's minimal typing to be done and fewer things to go wrong as follows;
```

login as the pi user and go the home directory (/home/pi)
cd ~
download the script
wget http://agurney.com/raspi/opencpn_install.sh
change the permissions to make the script executable
chmod +x opencpn_install.sh
run the script
./opencpn_install.sh
As above, add a couple of lines to the /boot/config.txt file; use any text editor such as vi or leafpad.

```
vi /boot/config.txt

framebuffer_depth=32
framebuffer_ignore_alpha=1
```

Create a directory and copy your charts, for example

mkdir /usr/local/share/charts

Free charts for the US are available from NOAA, you'll probably have to purchase charts for the rest of the world or

If, like me, you sail the West coast of Scotland you'll like Antares charts.

Grib - zyGrib

There is a version of zyGrib available in the Raspbian repository (installed using the command apt-get install zygrib)
.. unfortunately, at time of writing this is obsolete and you will be prompted to upgrade (which isn't an option!)
So.... I've adapted the script that first appeared **here**.
login as the pi user and go the home directory (/home/pi)
cd ~
download the script
wget http://agurney.com/raspi/zygrib_install.sh
change the permissions to make the script executable
chmod +x zygrib_install.sh
sudo apt-get update

run the script
./zygrib_install.sh

... it will take around 90 minutes to complete if compiling on a Pi.

Wefax, Navtex and RTTY

WEFAX Only

If you only want wefax, then hamfax is simple to install:

sudo apt-get install hamfax

WEFAX, NAVTEX and other data modes

If you want more flexibility, and modes other than Wefax, try fldigi

sudo apt-get install fldigi

SOUND:

You'll need an audio input device, presumably a USB dongle.
If you've connected an audio dongle the chances are that hamfax won't work because it sees the wrong device,
you can check by running **alsamixer** from the command line.
Press **f6** to view the sound cards, you'll probably see something like this, where the onboard device is default:

```
┌──────── Sound Card ────────┐
│- (default)                 │
│0  bcm2835 ALSA             │
│1  Generic USB Audio Device │
│   enter device name...     │
└────────────────────────────┘
```

We can force the USB device to be default as follows:

vi /etc/modules

append the line:

snd-usb-audio

vi /etc/modprobe.d/alsa-base.conf

find the line

options snd-usb-audio index=-2

and change the -2 (or whatever) to 0

► Raspberry Pi
► Install
► Raspi Pi

```
options snd-usb-audio index=0
```

After a reboot, run **alsamixer** again and change the MIC level so that audio's available to the apps.

Sorry about the adverts around the page, but the few coppers the clicks bring in help towards the upkeep of the site.