Installing AIS Receiver on STB B860H

By YD0NXX, last revision 2 July 2020

Objective: STB as *AIS Receiver* using USB Soundcard or SDR Dongle

1. Start with a properly working APRS igate using Direwolf 1.5 on STB

2. As newer direwolf requires cmake, need to install cmake

```
apt install cmake
```

3. Save the previous good working direwolf

```
mv direwolf direwolf-1.5
```

4. Download the latest direwolf

```
apt install cmake
git clone https://github.com/wb2osz/direwolf.git
cd ~/direwolf
```

5. Change to development build, compile and install

```
git checkout dev
mkdir build
cd build
cmake ..
make -j
make install
cd ../..
```

6. Create a simple config file:

```
vi ais.conf
```

that contains the following 2 lines

```
ADEVICE  plughw:1,0
MYCALL <urcall>
```

7. Radio setup:
   - Hookup: take the flat audio from the radio, typically labelled as “9600 bps data” and wire it to the USB soundcard *Mic Input*
   - Tune the radio to AIS freq of either 161.975 Mhz or 162.025 MHz

8. Kill the existing direwolf that is running in the background

```
ps ax | grep dire
kill <pid of direwolf>
```

PID is process ID, the leftmost number
Example:

```
root@AIS-YB8XM:~# ps ax | grep dire
 1525 pts/0    Tl     0:02 direwolf
 3823 pts/0    S+     0:00 grep dire
```

In this example the command would be:

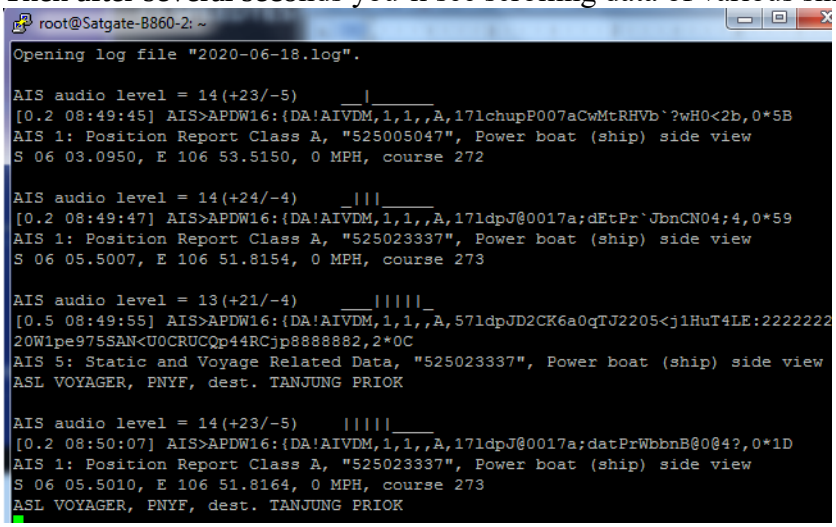
```
kill 1525
```

9. Test the new direwolf

```
direwolf -B AIS -r 48000 -T "%H:%M:%S" -c ais.conf
```

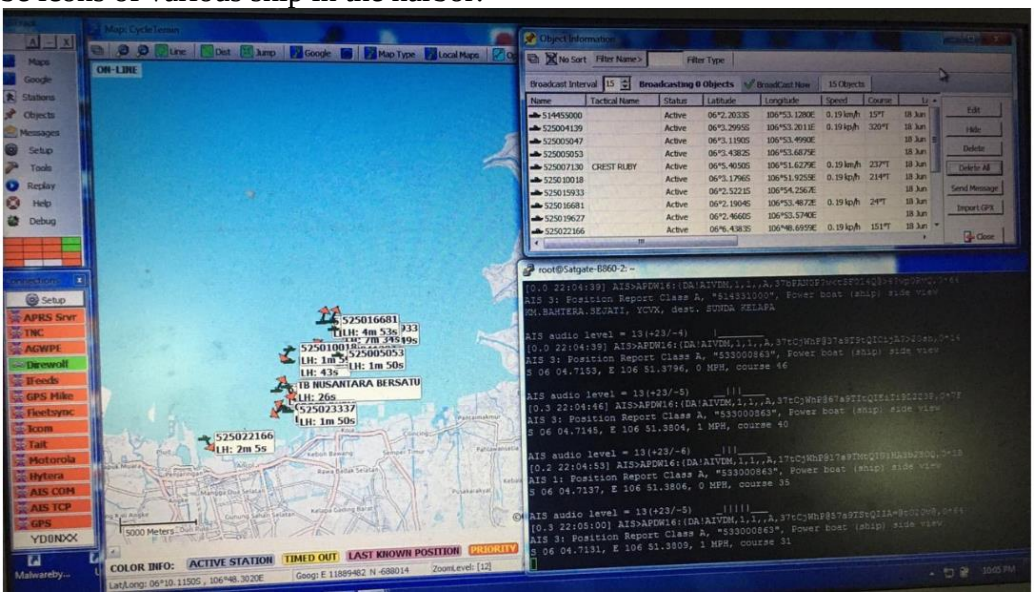
Confirm on the first line it shows Dire Wolf version 1.6

Then after several seconds you'll see scrolling data of various ships



10. Connect with application on Laptop to STB

Download SARtrack (https://www.sartrack.nz/), and configure the direwolf parameter with the IP number of the STB, and on the map of SARtrack there will be icons of various ship in the harbor:



11. Using SDR Dongle as the receiver (this is still experimental)

```
apt install rtl-sdr    (if required)
rtl_fm -f 161.975M –s 48k - | direwolf -B AIS -r 48000 -T "%H:%M:%S" -c sdr.conf
```

with sdr.conf contains

```
  ADEVICE  null null
  MYCALL <urcall>
```

Note:

- Might need to add –p for the SDR dongle *ppm* adjustment

12. Revert back to Stable Version

If required, here is the commands to revert back to version 1.5

```
cd direwolf-15
make install
```

End of file