

6 Meter Operating

Or

Why is it I only hear static

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Topics

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My Background

- Due to HOA restrictions all antennas must be in the attic.
- 6m is about the biggest 2 element beam I can put up (which I haven't done yet).
- As of today have earned VUCC with 144 grids.
 - Took me only 2 years to earn DXCC.
 - Took me 8 years to earn VUCC.
- I'm really into the challenge of the band with the working conditions I have.

Overview

- 6m is a large allocation, 4MHz.
- Amateur Radio is the exclusive user in the US.
- 6m got a bad reputation for TVI (television interference) since the 6m band is just below the broadcast TV band.
 - Since analog television transmissions ended in June 2009 TVI is just a memory.
- A Technician license or above grants full access to the band.
- Consider 6m a weak signal band due to propagation challenges.

Band Plan

- 50.000 – 50.100 CW and Beacons
 - 50.060 – 50.080 Beacon Sub Band
 - In practice CW is 50.080 – 50.100 for US ops
- 50.100 – 50.300 CW and SSB
 - 50.100 – 50.125 DX window
 - In practice US ops stay off the DX window except to listen and work the DX.
- 50.125 is the SSB calling frequency
 - Good practice is to move up after contact is made, especially if you want to rag chew.
- 50.300 – 50.600 is a free for all with all modes acceptable

Station

- Most HF rigs have 6m capability.
- It is possible to tune a HF antenna to 6m.
- Start off with a simple wire dipole.
- Feed it with low loss coax. I use LMR400.
- VHF operations is all about the antenna. Put up the best you can.
- I'm using an omni loop from M2 Inc in the attic. (Yes I need to put up a beam)

Operating Modes

- FT8 is the king.
 - FT8 was designed for 6m.
 - The short transmission time fixes a problem using JT65. Many QSOs were not completed as propagation went away before the JT65 cycles were completed.
 - Per Club Log 65% of all 6m QSOs uploaded in the last year have FT8 as the mode.
 - 50.313 USB is the FT8 frequency.

Operating Modes

- CW and SSB usage have fallen dramatically in the last year.
- Even still do check ...
 - CW from 50.080 – 50.100.
 - DX from 50.100 to 50.125.
 - SSB from 50.125 to 50.300

Propagation

- Sporadic E
 - Some openings are caused by clouds of intense ionization of the upper atmosphere known as the E Layer ionosphere. These clouds of intense ionization are called “Sporadic E” and result in erratic but often strong propagation.
 - I haven’t found a way to predict it.
 - The Es clouds typically move east to west slowly.

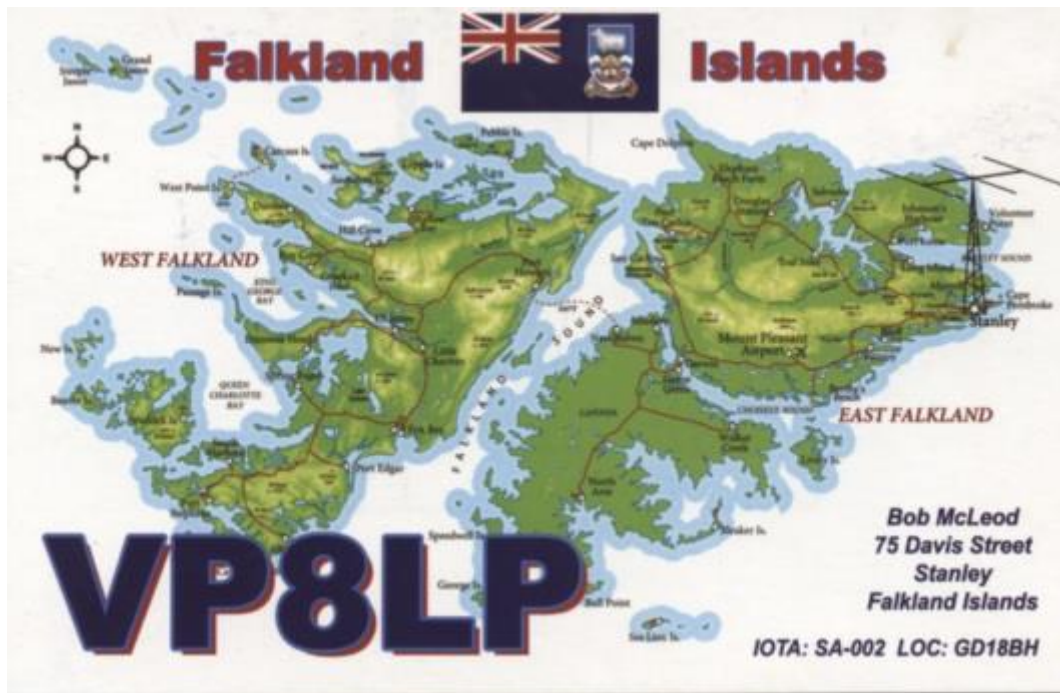
Propagation

- Tropospheric Ducting
 - Tropospheric Ducting is where a stagnant high pressure area causes alternating stratified layers of warm and cold air generally trapping the colder air beneath.
 - It causes the signal to travel or duct along the boundaries of these warm/cold atmospheric layers.
 - This can be predicted. Just watch the evening weather. If the weatherman mentions stalled high pressure system, then a tropo duct may open.

Propagation

- Trans-Equatorial Propagation (TEP)
 - Typically occurs from around 1500 to 1900 local time however listen in earlier and later.
 - It is more prevalent near the equinoxes and at times of high sunspot numbers.
 - When you catch a TEP some serious DX can be worked.

Longest DX



Longest DX



Propagation

- Extraordinary propagation events are analyzed by radio amateurs to further the knowledge base.
- My QSO and others during that time period was covered in QST.
 - July 2014 “The World Above 50MHz”
- Most likely a Es cloud at each end with a linked TEP opening in the middle made it possible.

Events

- ARRL VHF Contest
 - June VHF contest is the second full weekend. 12 – 14 June 2021.
 - January VHF contest is either the second or third full weekend. 15 – 17 January 2022.
 - Exchange is just your 4 character grid square. Signal report optional.

Events

- SELSA Net
 - Bruce KB5WNU is net control
 - QTH is Jackson, LA due north of Baton Rouge
 - Net starts with 2m simplex at 2100 local on Wednesdays then moves to 50.170 USB.

Events

- 6m Repeaters
 - LaPlace, LA W5RAR. FM mode. 53.730 output. 52.730 input. 114.8 PL tone.
 - Jackson, LA KD5UZA. FM mode. 53.830 output. 52.830 input. 107.2 PL tone.
- For fun when a good opening comes up, ping a repeater where you are hearing signals from. Worked Ohio once through a repeater during a strong Es opening.

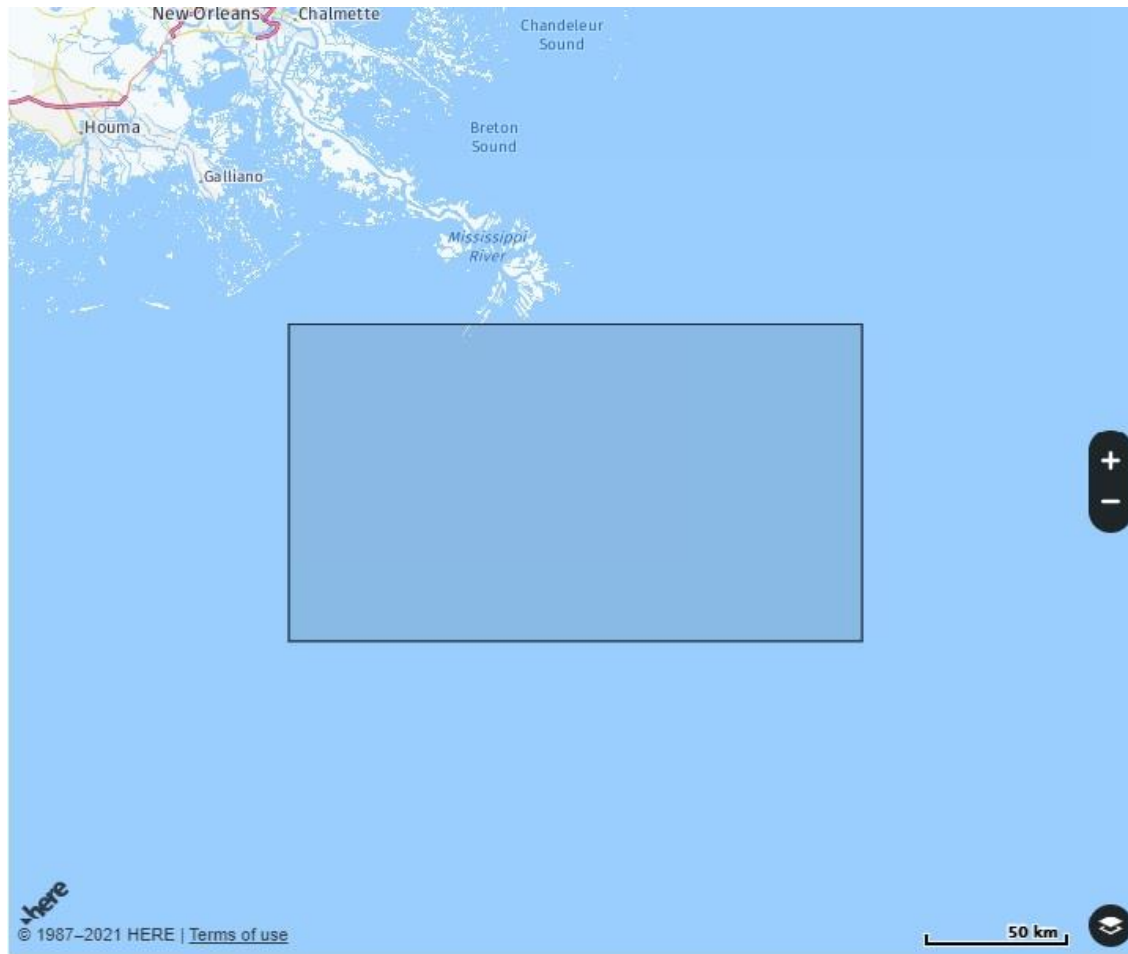
Awards

- The Fred Fish Memorial Award was created in honor of Fred Fish, W5FF (SK), who is the first amateur to have worked and confirmed all 488 Maidenhead grid squares in the 48 contiguous United States on 6 Meters.
- Started in 2008.
- As of today only 12 have received the award.

Awards

- VHF/UHF Century Club (VUCC)
- The VUCC award is given for contact with a minimum number of Maidenhead grid squares per band.
 - 100 for 6 meters.
- Much like HF DXpeditions teams go to rare grid squares to activate.
 - Most active during VHF contests.

EL58 #36 Most Wanted Grid



Questions?

Comments?