

# Capture the Magic of 6 Meters

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**ARRL**  
the national association for  
**amateur radio**®





# What Will You Learn Today?



# Jim Wilson, K5ND

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Writer — Heathkit, 73 Magazine, QST,  
National Contest Journal

Blogger — [www.k5nd.net](http://www.k5nd.net)  
Freelance Writer/Blogger

Scouter — K2BSA Past President,  
National and World Jamborees,  
Jamboree on the Air

VHF Contester & Grid Chaser  
Six Meter Addict



Learning Network



# VHF Operations

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Magic Bands  
with  
Super Results  
from  
Average Stations

*Joel Harrison, W5ZN*



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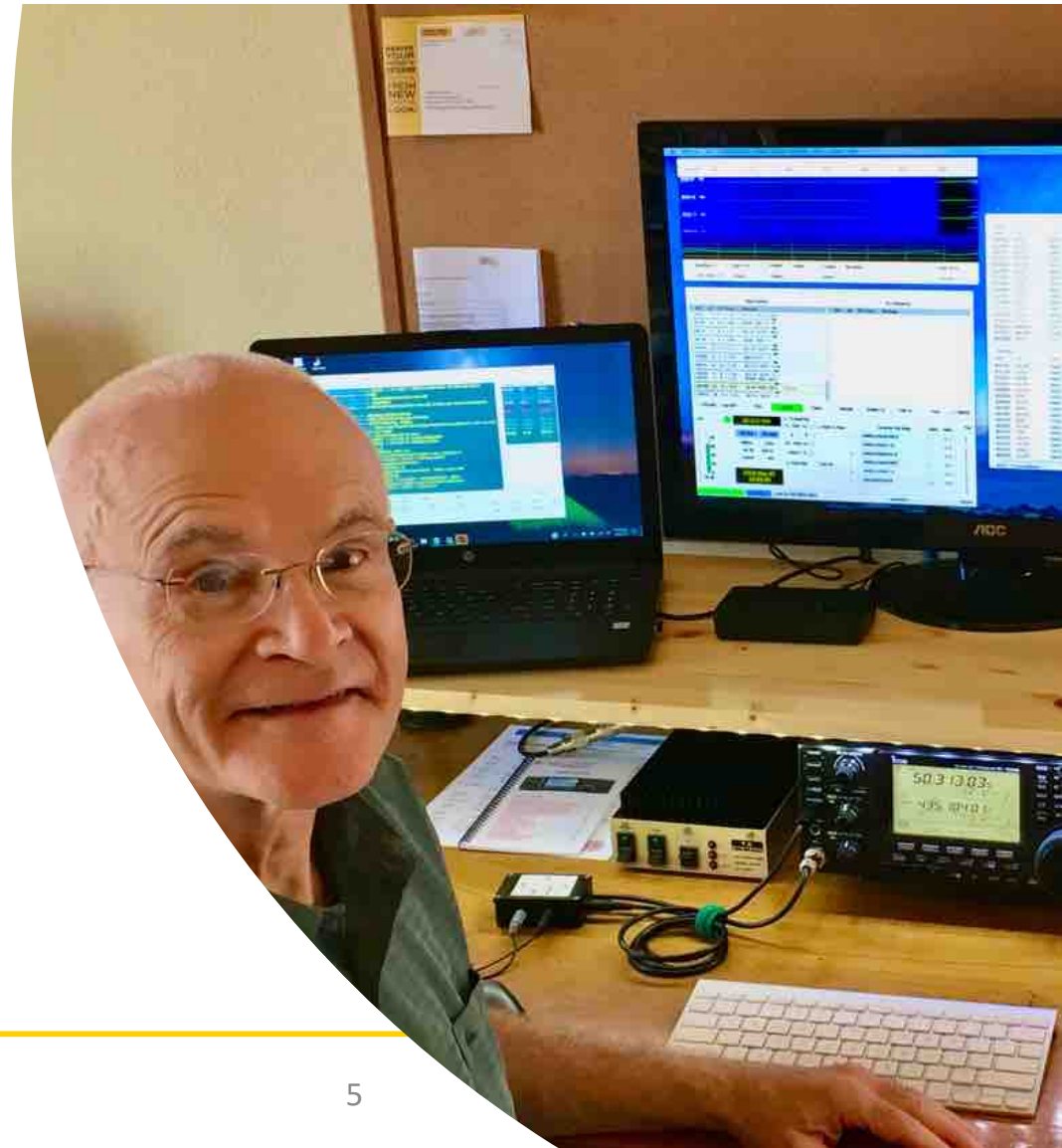
# My Results

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- Location = Dallas / Fort Worth Texas
- 6 Meter Rig = 100 watts
- Attic Dipole = LU4FPZ (CW), CX5BL
- Vertical = GM3POI (FT8)
- Moxon = ZL1RS (CW), JA1UAV (JT65)
- 500+ Grids
- 50+ DXCC



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# SIX METERS

What is 6 m?

- Transition from HF to VHF
- High Sunspot F layer Propagation
- Anytime Sporadic E Propagation
- Scatter Modes
- Moon Bounce / EME
- Aurora
- Trans-Equatorial



# Frequencies

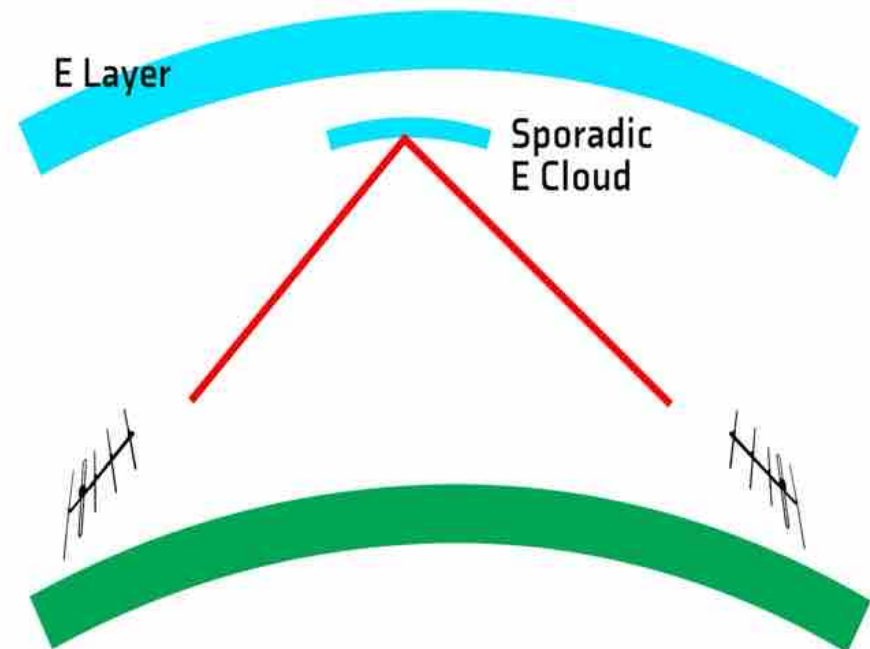
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- 50.125 SSB Calling
- 50.100 to 50.125 DX Window
- 50.080 to .100 for CW
- 50.080 and down Beacons
- 50.313 for FT8
- 50.323 for FT8 to Europe
- 50.318 for FT4



# Sporadic E

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- Primarily in the Summer months
  - Cause? Many theories but unknown
  - Can't be predicted
  - Cloud location determines the path
  - First bounce max ~ 1,500 miles
  - Multiple bounces possible

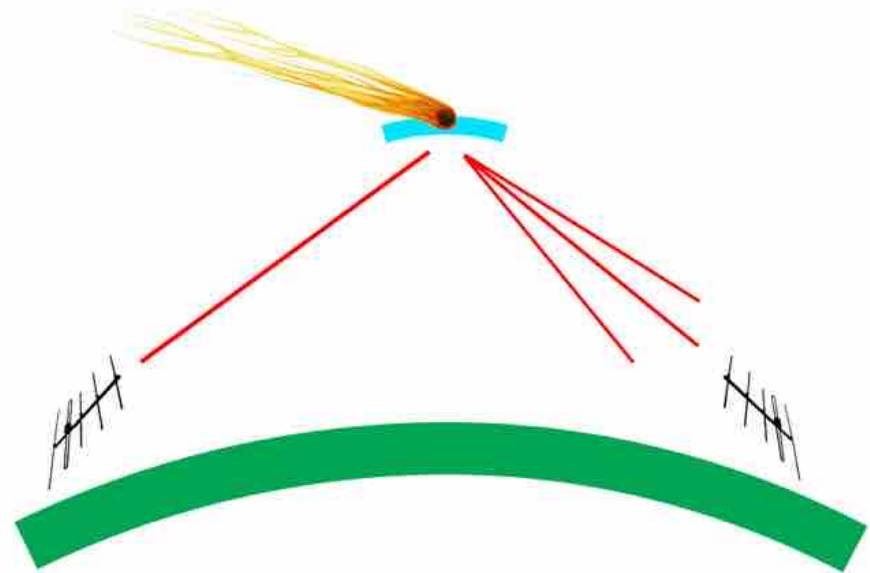




# Scatter Modes

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- Meteor Scatter
- Can Happen Anytime, morning best
- Meteor Trails
- Max distance ~ 1,500 miles
  
- Ionospheric Scatter
- Disturbances in the Ionosphere



# Other Modes

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- Moon Bounce / EME
- Aurora
- Trans-Equatorial - TEP



# Equipment

- HF + 6 Meter Rig is Perfect
- 100 watts is fine
- Preamp can help but not critical
- Coax cable — LMR400 / RG8
- Shorter the run the better
- Try what you have – Get on the Air

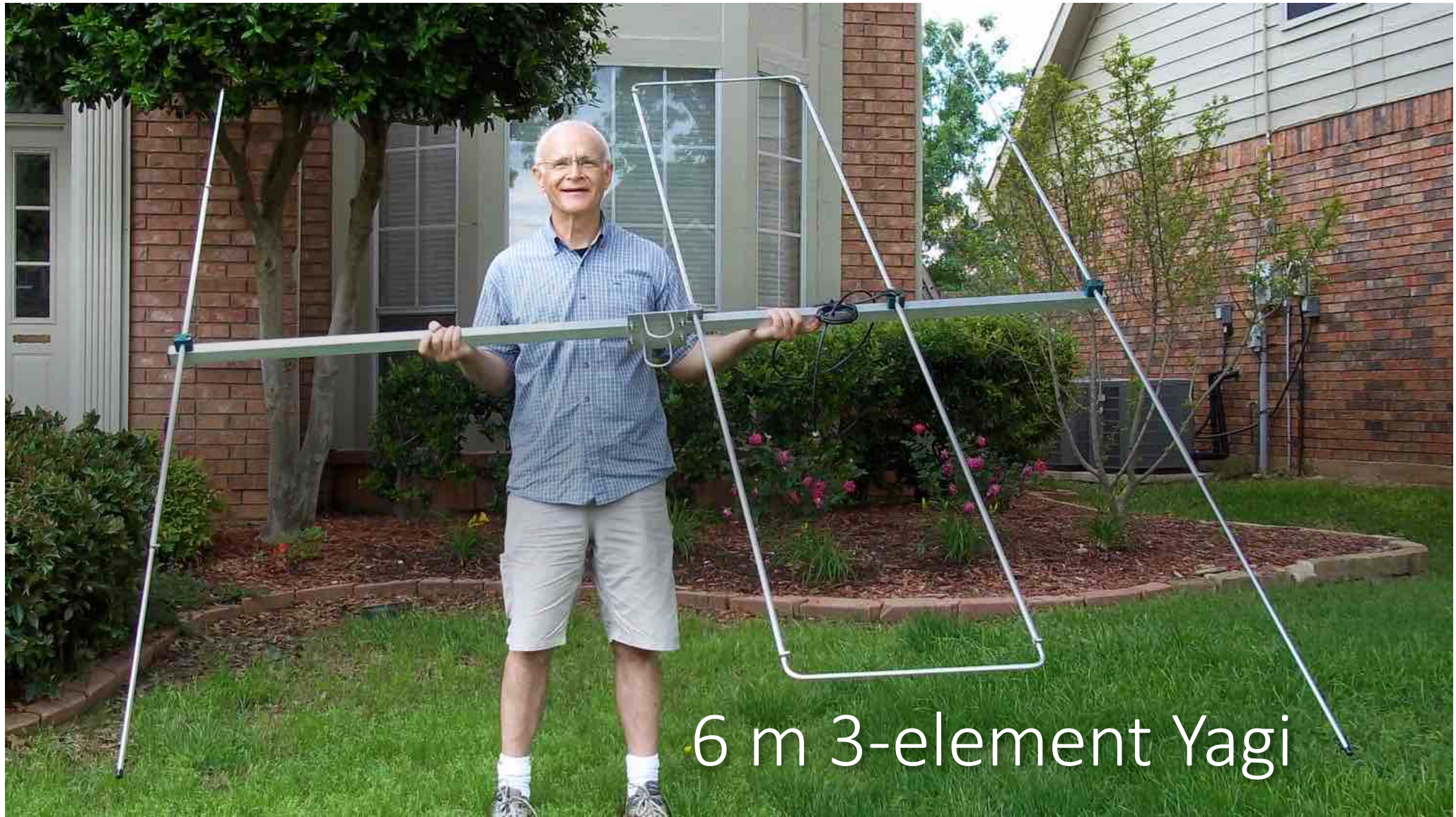


# Antennas

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- Dipole can work fine
- Vertical can also work
- Moxon is an excellent antenna
- Yagis work great
- Small size with good gain / directivity
- 30 feet high is superb





6 m 3-element Yagi

# My Backyard

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- Push Up Mast
- Strapped to Pool Fence
- M2 6M3SS 3-element Yagi
- Armstrong Rotator
- Used for Summer E Season



# WSJT-X

- FT8 and FT4
- MSK144
- NA Contest Mode
- Use your favorite logging program
- Look for QSO transfer from WSJT

The screenshot displays the WSJT-X software interface. At the top, the title bar reads "WSJT-X - ForEW1 v2.2.0-rc2 by K1JT, G4WJS, and K9AN". Below the title bar are menu options: File, Configurations, View, Mode, Decode, Save, Tools, Help.

The main window is divided into two primary sections: "Band Activity" on the left and "Rx Frequency" on the right. Both sections contain tables with columns for UTC, dB, DT, Freq, and Message. The "Band Activity" table shows various stations and their signals, with some highlighted in red and others in green. The "Rx Frequency" table shows received signals, also with some highlighted in red and others in green.

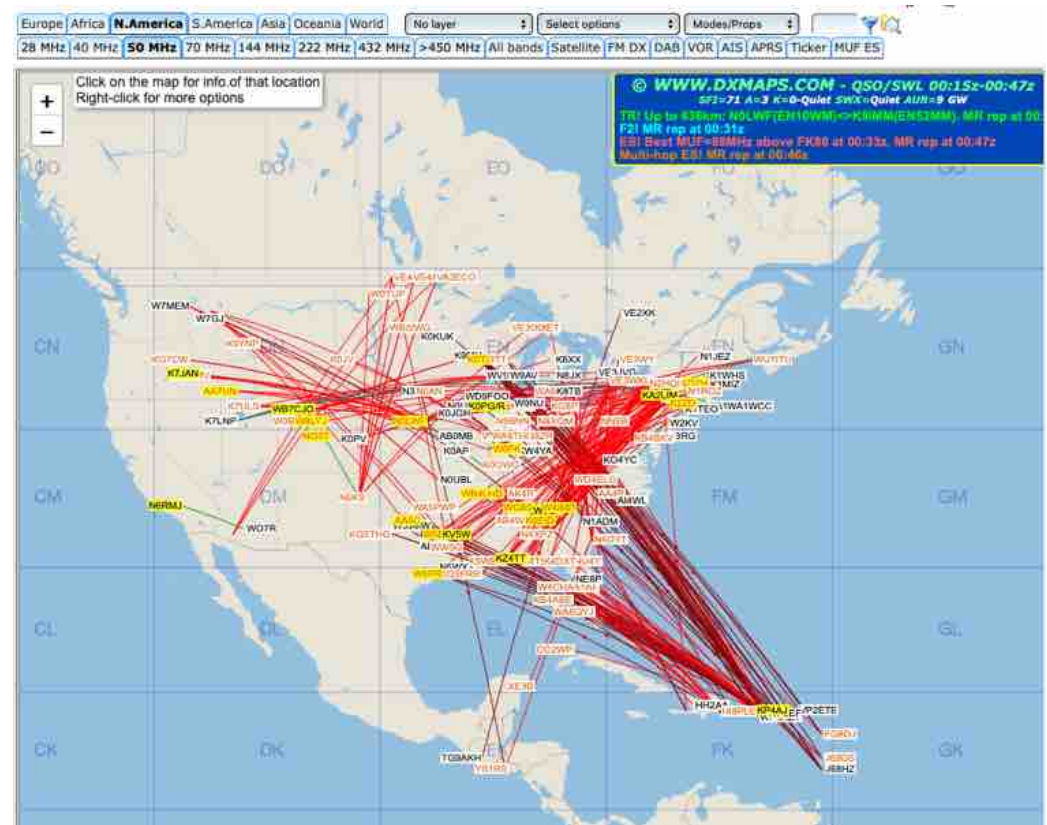
Below the tables are several control buttons: CQ only, Log QSO, Stop, Monitor, Erase, Decode, Enable Tx, Halt Tx, Tune, and a checked "Menus" checkbox. A central display shows the frequency "50.323 000" and a green "S" icon. To the right of this display are buttons for "DX Call" and "DX Grid", and a "Tx even/1st" checkbox. Below these are "Report -10" and "Auto Seq" checkboxes. A digital display shows the date and time: "2020 May 31 14:02:56".

At the bottom of the interface, there are status indicators: "Tx: EI4DQ K5ND 73", "FT8", "Last Tx: EI4DQ K5ND R-11", "8", and "11/15 WD:6m".



# Assistance

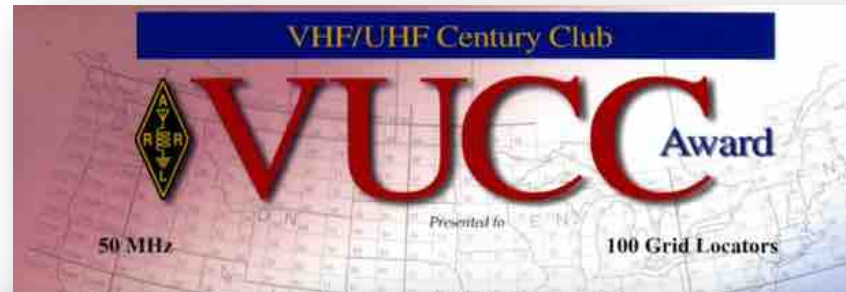
- DX Maps
- PSK Reporter
- Spotting Networks
- Slack VHF-Chat
- Ping Jockey





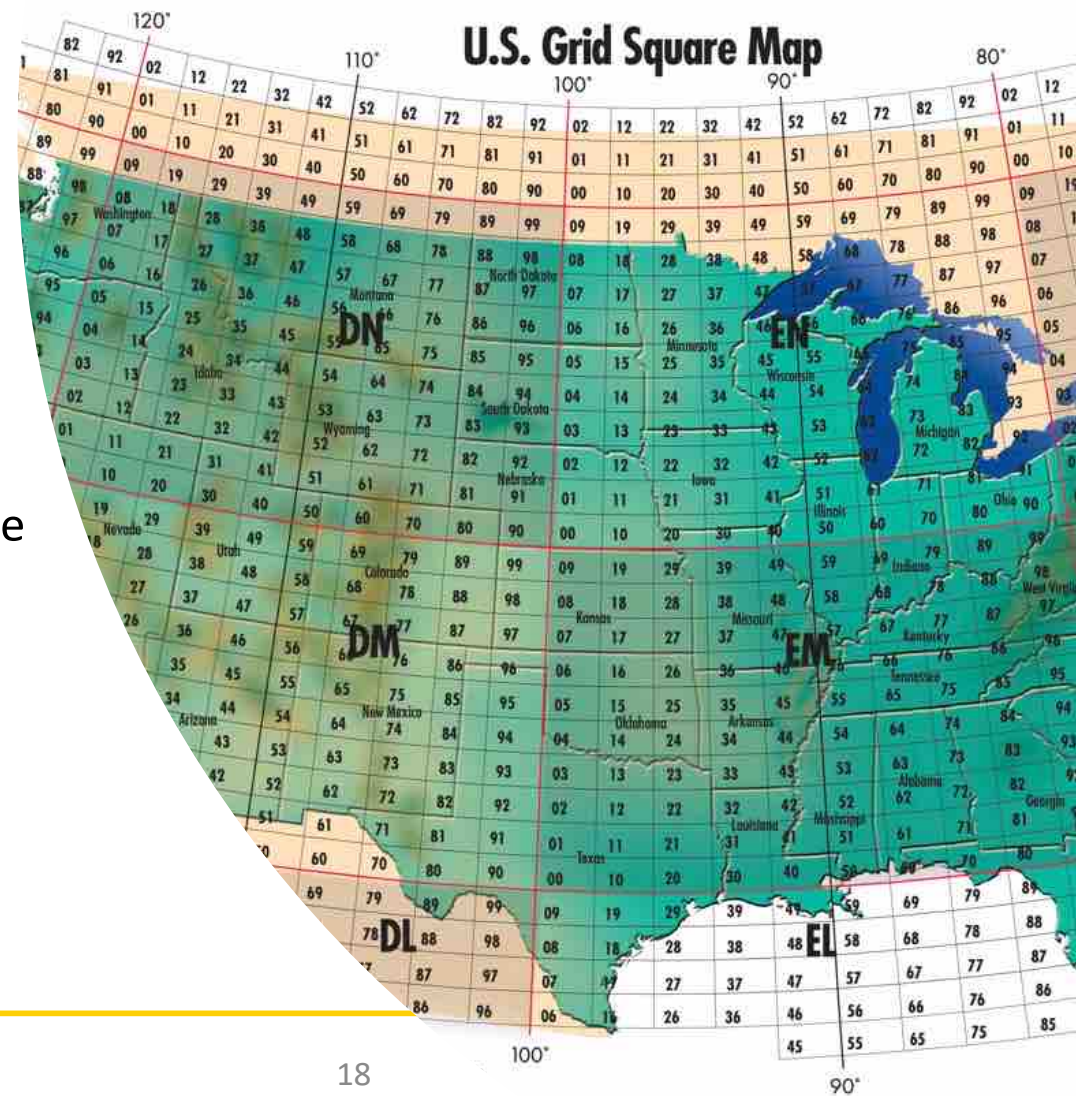
# Awards

- VUCC — 100 grids confirmed
- Worked All States
- DXCC
- FFMA
  
- Central States VHF Society
- UK Six Metre Group



# Grids

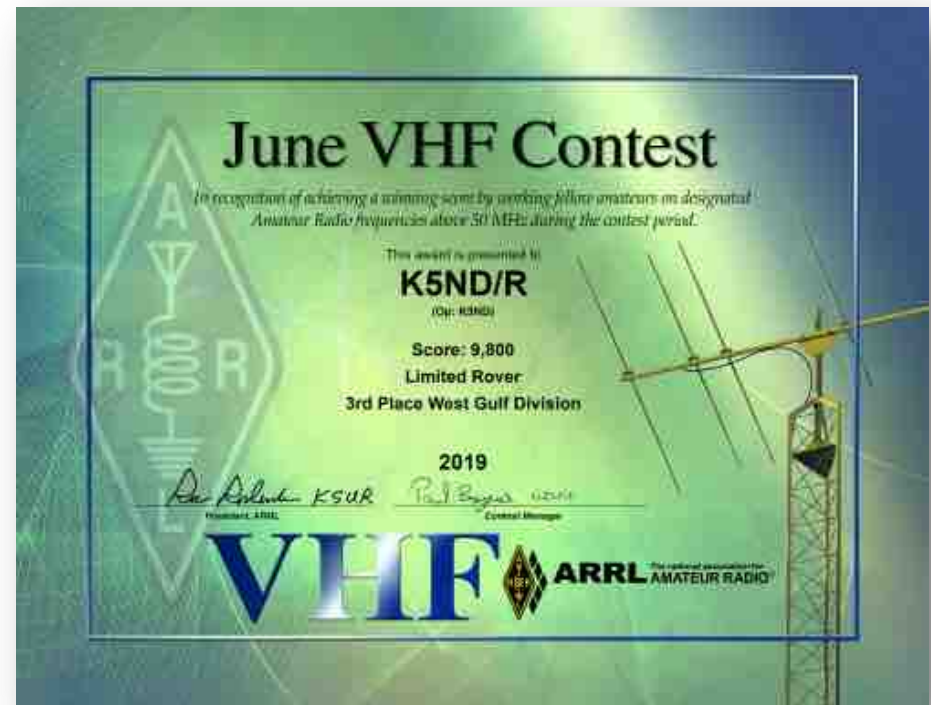
- VHF Operating uses Grids
- 1 degree latitude x 2 degrees longitude
- Roughly 70 miles x 100 miles in USA
- Grid Fields i.e. EM
- Grid Squares i.e. 12



# Contests

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- High Activity Levels
- Great for chasing new grids, states
- ARRL January, June, September VHF
- CQ WW VHF in July
- CS-VHF Sprints – Spring and Fall



# More Information

- **Central States VHF Society**  
[www.csvhfs.org](http://www.csvhfs.org)
- **UK Six Metre Group** [www.uksmg.org](http://www.uksmg.org)
- **SMIRK Six Meter International Radio Club** [www.smirk.org](http://www.smirk.org)
- **Magic Band Antennas for Ham Radio, 6 Meter Antennas You Can Build** by Bruce Walker, N3JO. Published by ARRL.
- **Websearch** on Six Meters Ham Radio
- Try my website [www.k5nd.net](http://www.k5nd.net)
- And my eBook on 6  
<https://www.k5nd.net/capture-the-magic-of-six-meters-ebook/>
- **Six & Four, The Complete Guide to 50 and 70 MHz Amateur Radio** by Don Field, G3XTT. Published by Radio Society of Great Britain.
- **Six Meters, A Guide to the Magic Band** by Ken Neubeck, WB2AMU. Published by Worldradio Books.
- **Contest University** – W5ZN Presentations on VHF Contesting  
<https://www.contestuniversity.com/files/>
- **World Wide Radio Operators Foundation Webinars Archive** -  
<https://wwrof.org/category/webinar-archive/page/2/>



# Questions

And Perhaps Some Answers

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Jim @  
**K5ND**



# Thank You!

Press the Six Meter Button on Your Rig  
Experience the Magic!



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