Non Sequitur

Bryan Nehl - K0EMT

DE Bryan, K0EMT

- I love amateur radio.
- I’m passionate about **antenna building**,

  and operating **QRP** (mostly **CW** these days).
- By profession, I am a **software developer**.
- My other hobby is **quilting**
  - with a focus on *modern quilts* and *long arm quilting*.
- Manhattan, Kansas → Missouri → Indiana

4STATE QRP GROUP

Non Sequitur

Definition:

a conclusion or statement that does not logically follow from the previous argument or *statement*

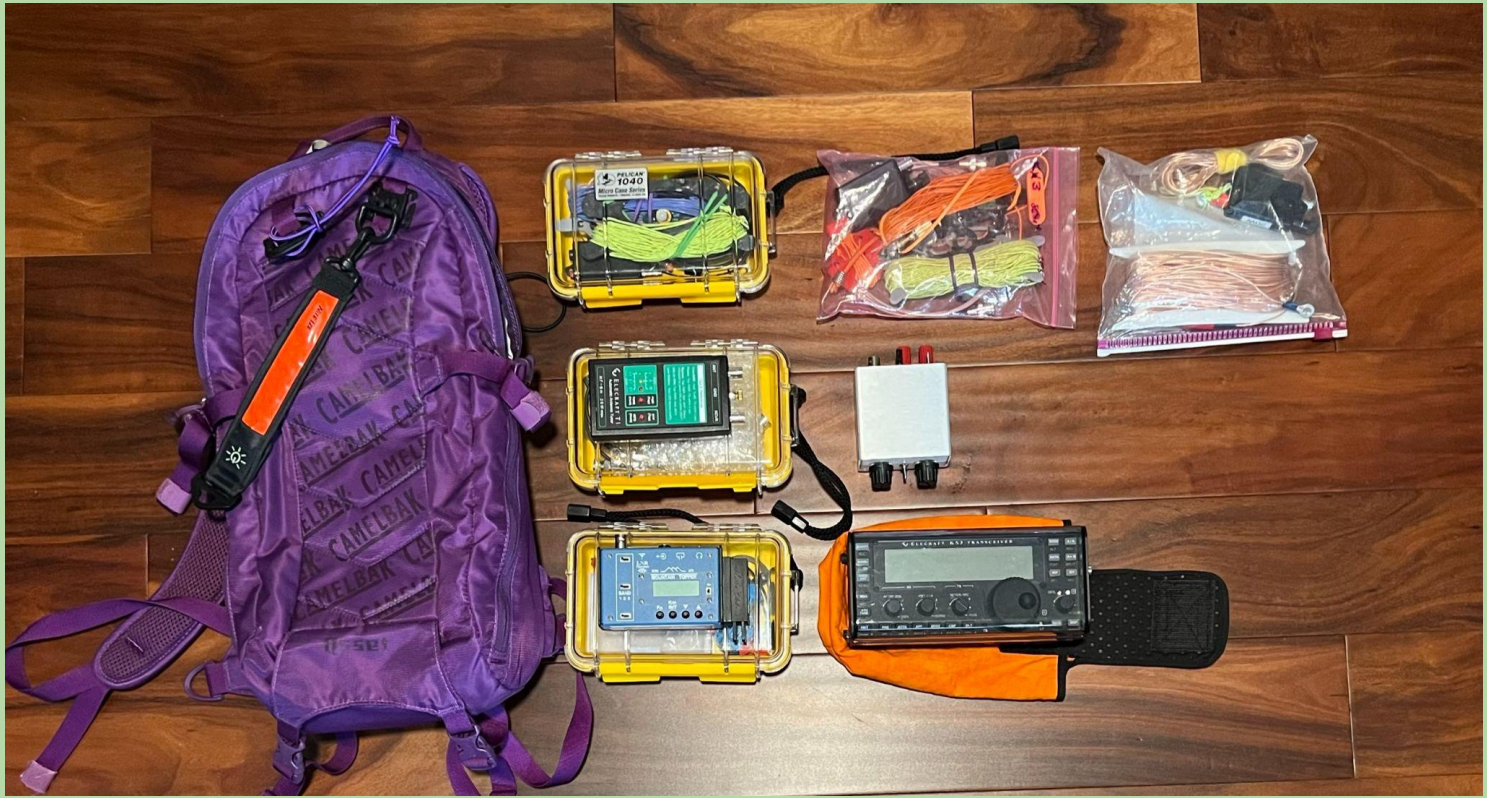
Journey

Integrated and modular implemented

- Develop your scenarios - the goals and constraints of the station
- Integrated - everything all together
- Modular - pick and choose
- Hybrid - blend of the two

4STATE QRP GROUP

Modular



4STATE QRP GROUP

Shared power solutions

Operate from home with your portable gear

Buddistick deluxe

- Modify
  - Buddistick Pro Radial Quick detach
  - Electric Fence post as radial support
- NanoVNA
  - YouTube video playlist
- Adapt and experiment
  - Electric fence post as support
  - Mix-match antenna 3/8-24
  - Mix and match Tuners and antennas
  - Camera mount for antenna mount

4STATE QRP GROUP

Epiphany

- How do we get our antennas multiband?
  - gator clips / band hopping
  - tapped coils / inductors
  - traps
- Counterpoise or elevated radial?
- Common practice to use different lengths of wire for different bands CP/ER
- In general terms what is the CP/ER ?
- Apply techniques from our "radiator" to the CP/ER

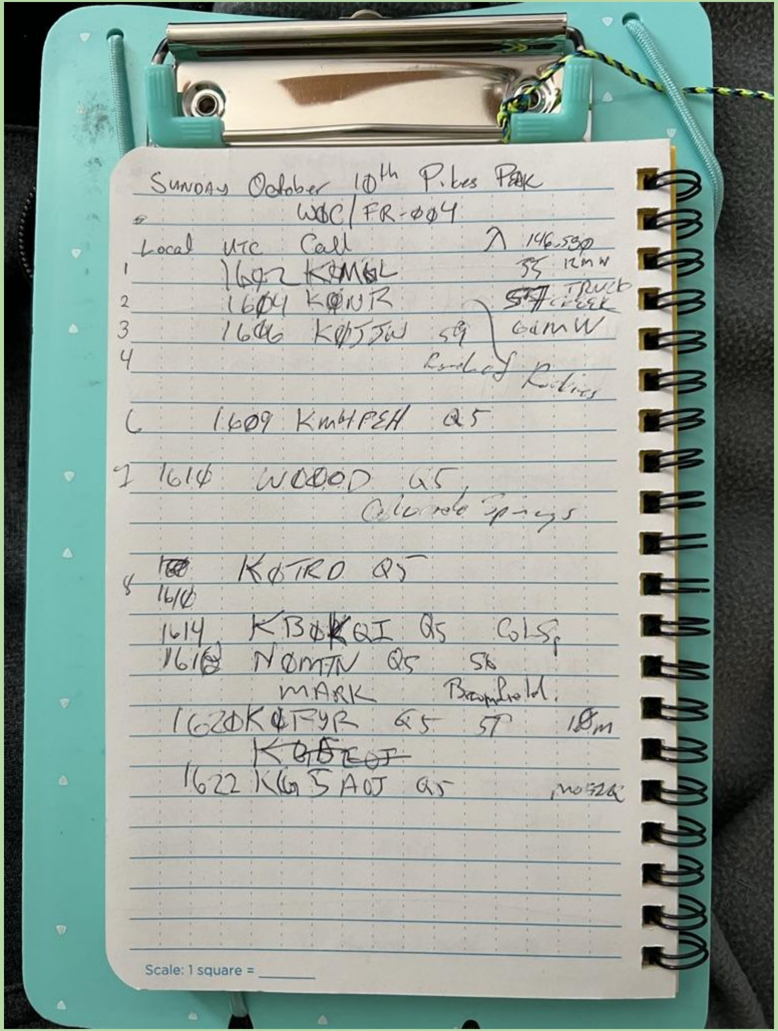
Lines in a tree

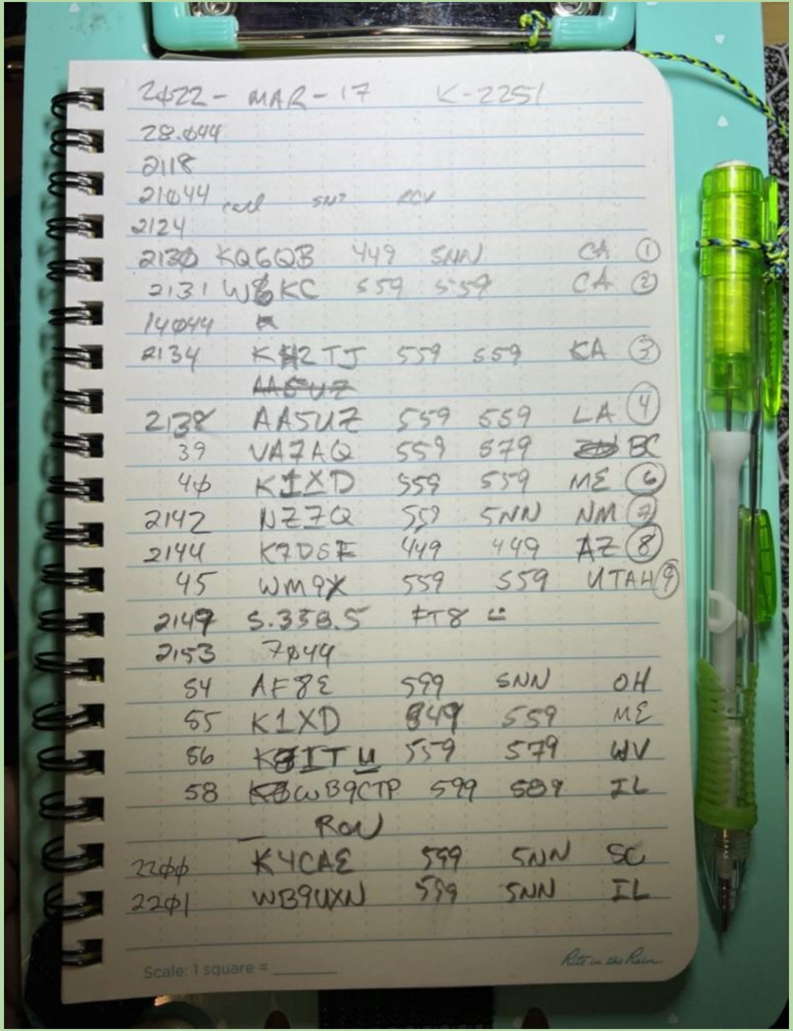
- Some places have restrictions
- Non-lead throw bag alternatives
- How to put up a throw line
  - Gloves
- K4SWL reference page

Portable expedition goals

- Bands to work
- Modes to work
- Trying different antenna / rigs
- Log and learn from your experience

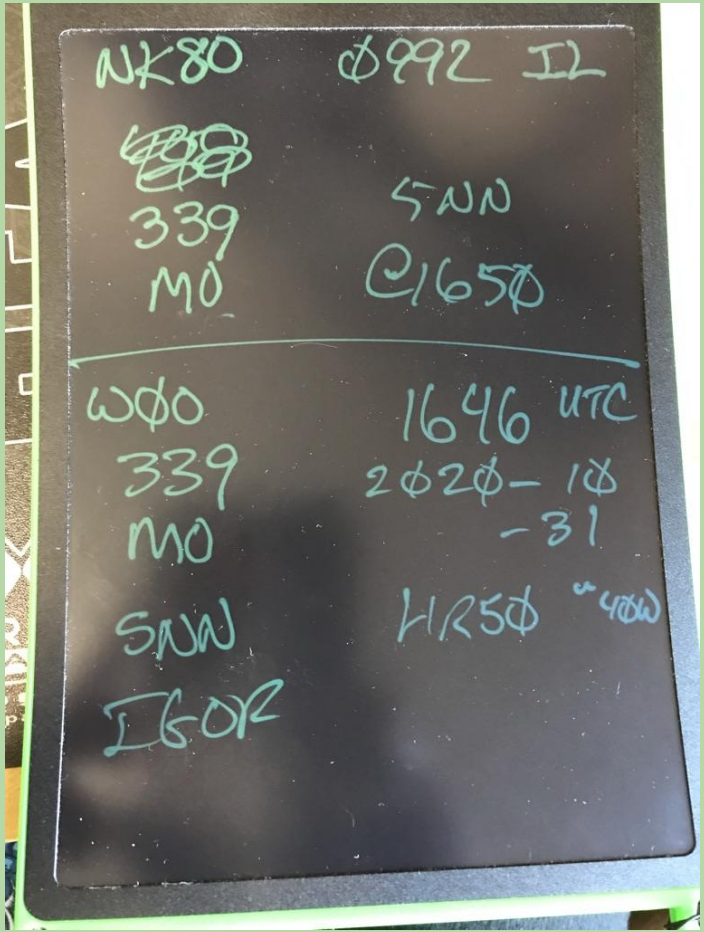
Portable Ops - 2m


Sunday October 10th Pikes Peak
W0C/FR-004
Local UTC Call 146.580
1 1602 K0MDL 55
2 1604 K0NR Truck Creek
3 1606 K0JJW 59
6 1609 KM4PEH Q5
7 1610 W0DOD Q5
Colorado Springs
K0TRO Q5
1614 KB0KQI Q5 ColSp
1618 N0MTN Q5 56
MARK Broomfield.
1620 K0RYR Q5 57
1622 KG5AOJ Q5
Scale: 1 square =


2022 - MAR - 17 K-2251
28.044
2118
21044 call snt rcv
2124
2130 KQ6QB 449 5NN CA 1
2131 W6KC 559 559 CA 2
14044
2134 K2TJ 559 559 KA 3
2138 AA5UZ 559 559 LA 4
39 VA7AQ 559 579 BC
40 K1XD 559 559 ME 6
2142 NZ7Q 559 5NN NM 7
2144 K7DSF 449 449 AZ 8
45 WM9X 559 559 UTAH 9
2149 5.338.5 FT8
2153 7044
54 AF8E 599 5NN OH
55 K1XD 349 559 ME
56 K8ITU 559 579 WV
58 WB9CTP 599 589 IL
RON
2200 K4CAE 599 5NN SC
2201 WB9UXN 599 5NN IL
Scale: 1 square =
Rite in the Rain

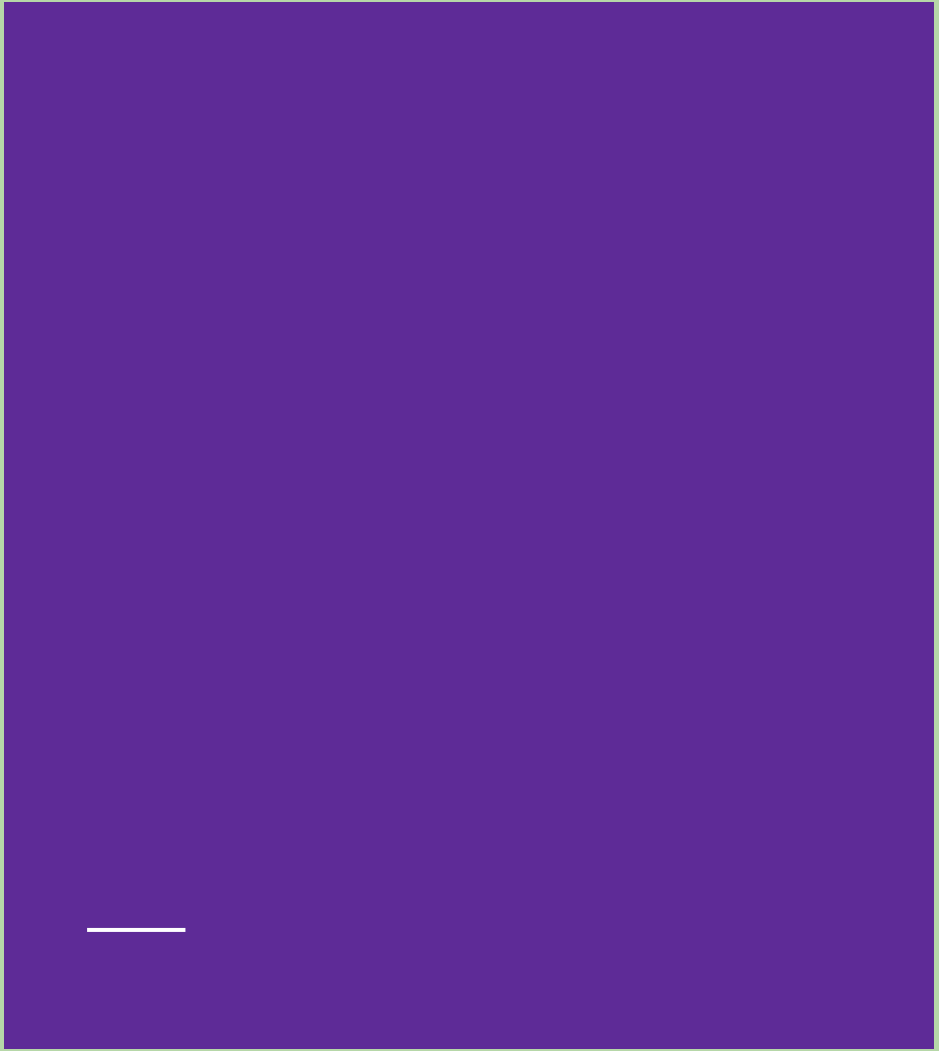
Station note taking

- LCD tablets, boogie boards
- Rocketbook + Frixion pens



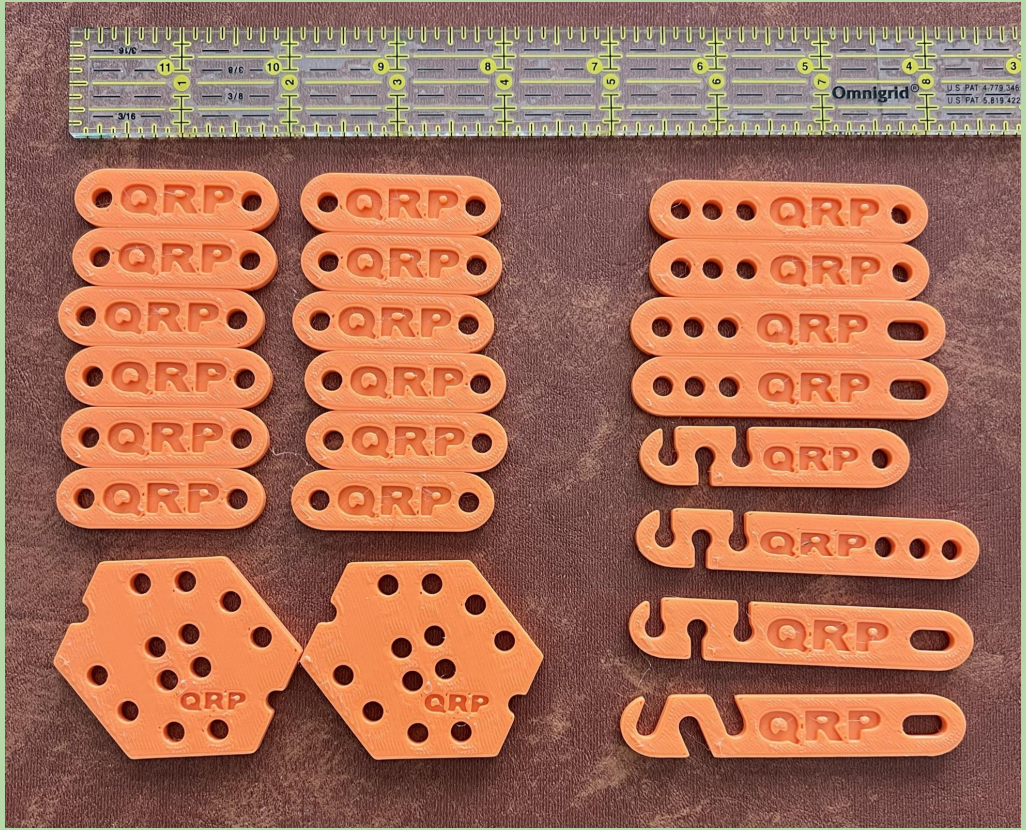
Opportunities

For learning and experimenting

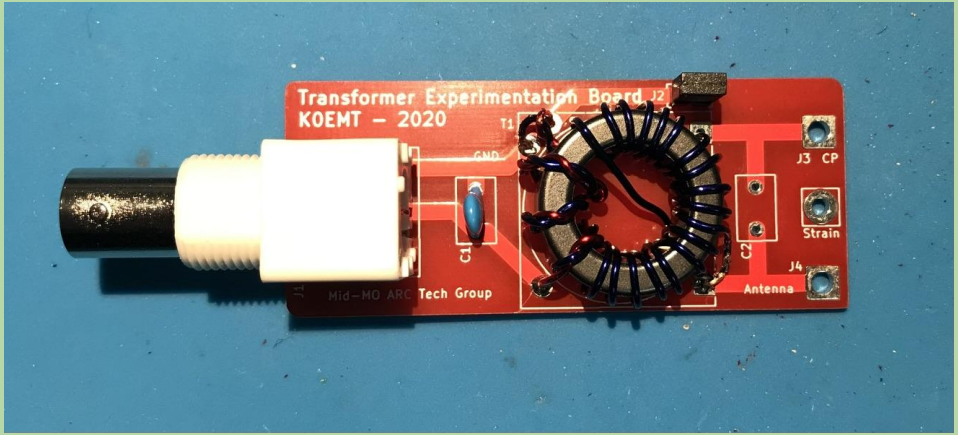


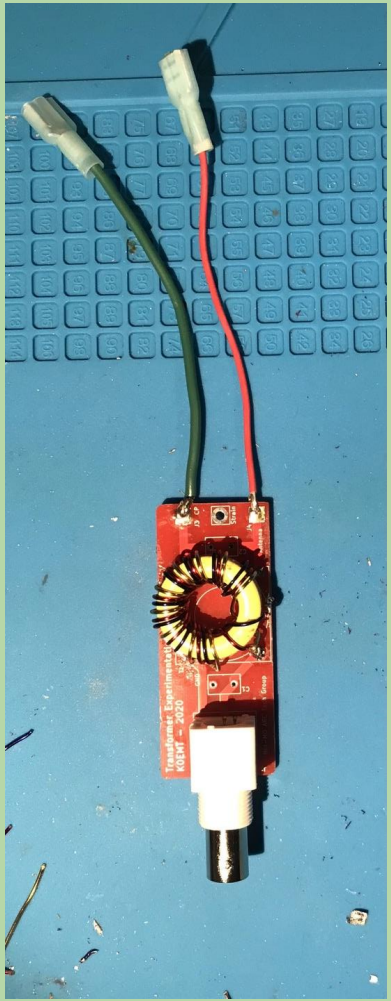
3D Printed Designs

- TinkerCAD
- Open SCAD
- Sketchup
- Thingiverse designs

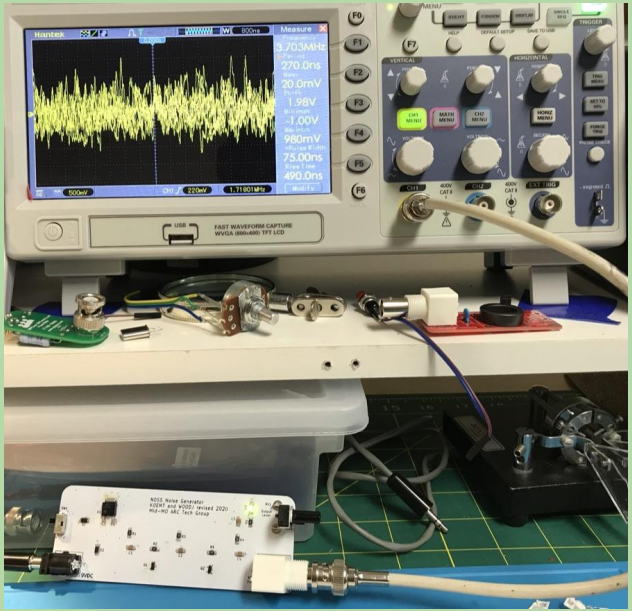


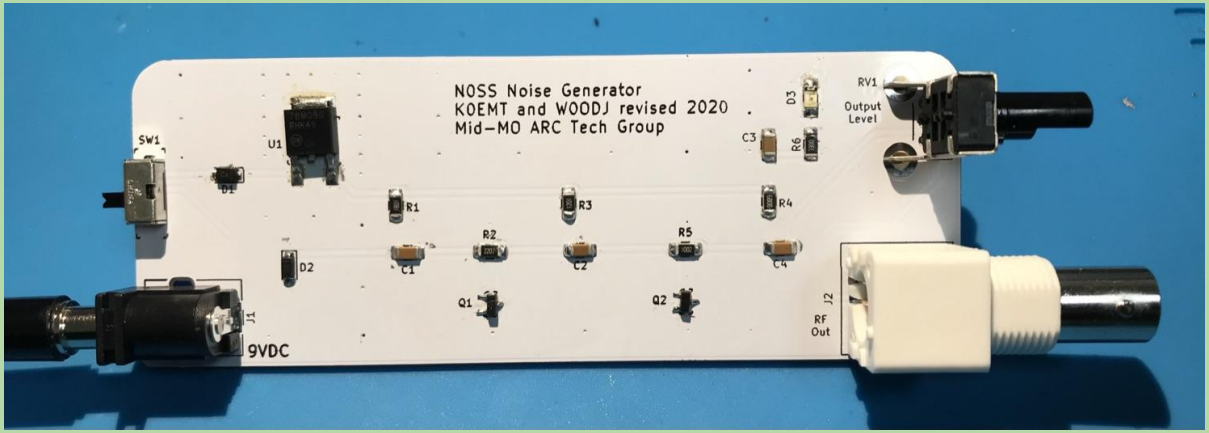
Antenna Transformer Board





RF Noise Generator Board



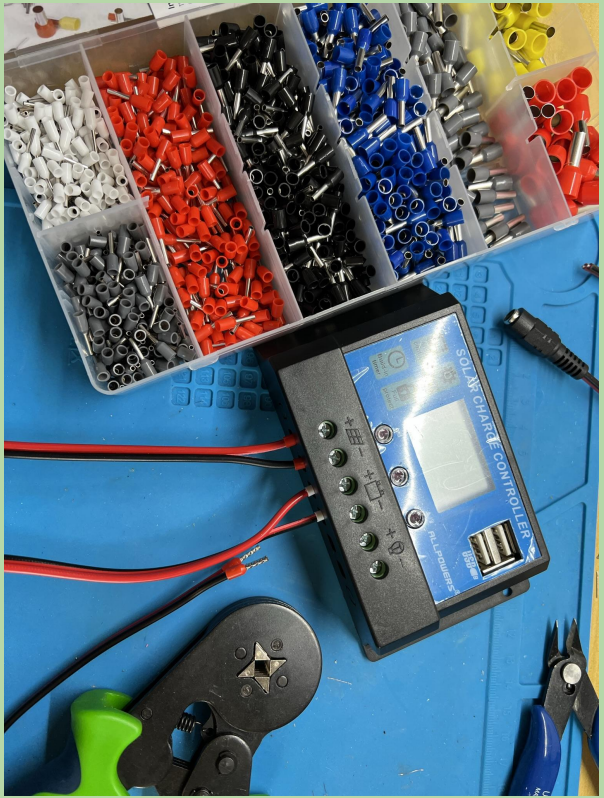


4STATE QRP GROUP

Solar Power

4STATE QRP GROUP

Feral Ferrules



4STATE QRP GROUP

DMR

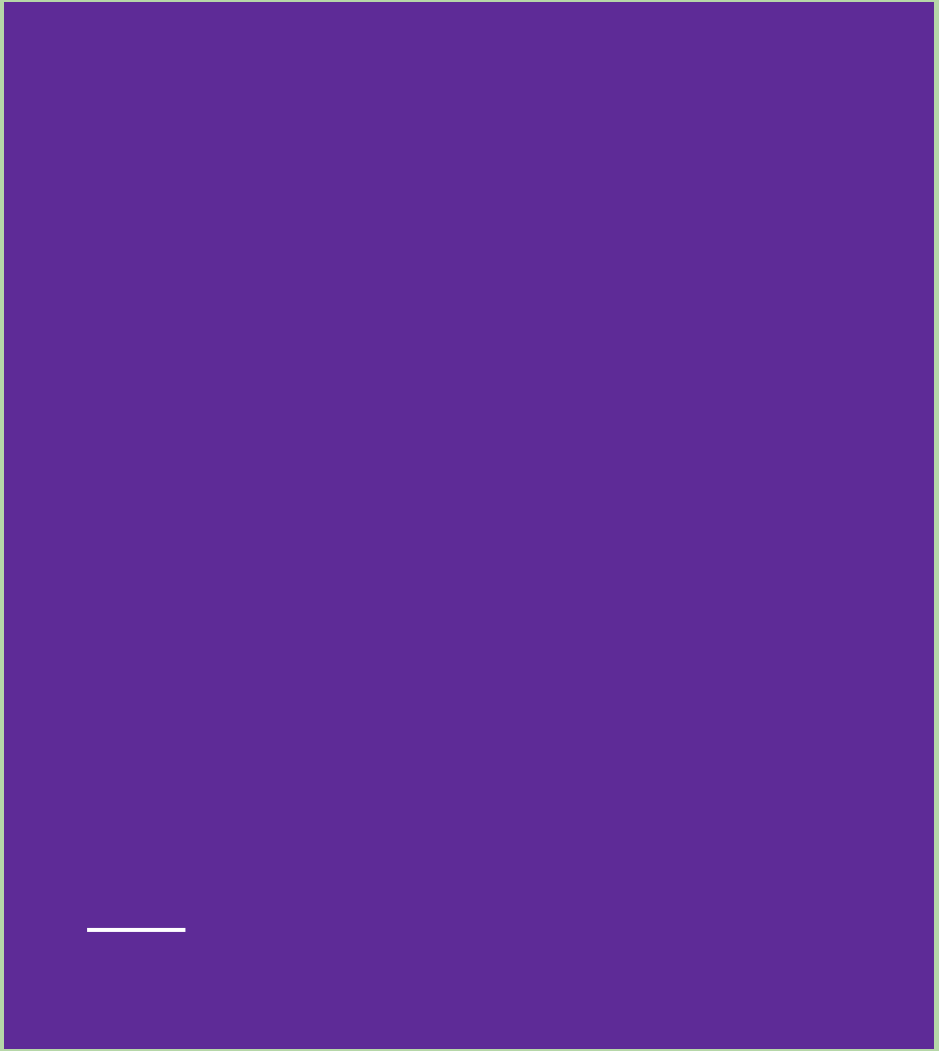
- 4SQRP has a subgroup https://4sqrp.groups.io/g/DigitalFM
- Talk group
  - Brandmeister TG **31654**
- Net – Wednesday night
  - @ 2100 Central Time
  - Bert, **N0YJ** NCS

Software Defined Radio (SDR)

- ICOM IC-7300/705
- Xeigu X6100
- RTL-SDR
- truSDX
- HermesLite

Software Development

I thought I was at a ham radio convention?!



On what or how might I code?

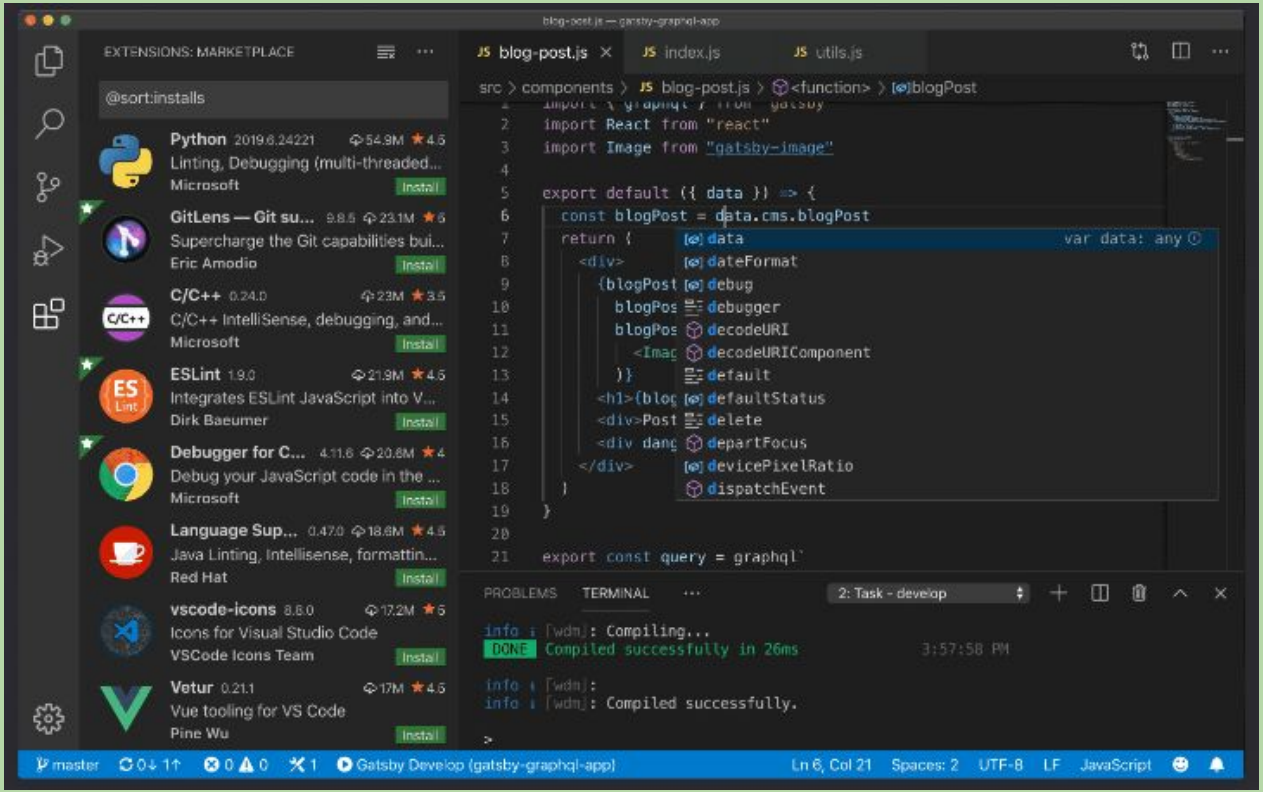
- Web page - morsecode.ninja
- Web App - like a morse code trainer
- Desktop App - logging apps, CW trainers, etc.
- Mobile App - SOTA Goat
- Embedded - Hack on the code in your K3NG win keyer
- Modify the matching algorithm in your N7DCC ATU
- Write a new filter for your SDR - Gnu Radio

What Programming Languages?

- HTML, CSS, and Javascript
- Python
- Kotlin & Java
- Swift
- Go
- Node.js
- C/C++ variants
- Shell scripts / command line

What IDE?

- What's an IDE?
- Visual Studio Code
- Android Studio
- Arduino
- XCode

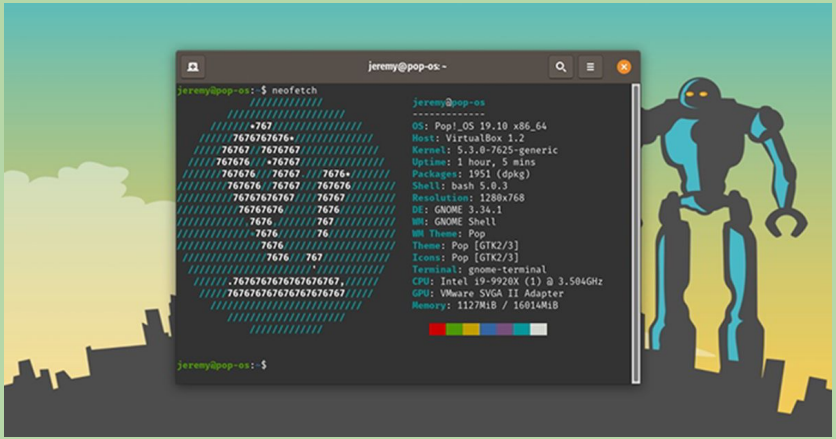


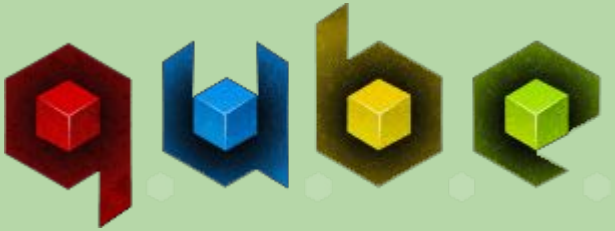
Tools

- Developer tools in browsers
- Many language or "stack" specific tools
- Package manager
- Code sharing with Git and GitHub (or BitBucket or GitLab)
  - POTA ADIF code
  - DMR contact list building code
- Containers
- “The cloud” or using somebody else’s server

Operating Systems

- Android and iOS
- MacOS Monterey
- Windows 11
- Linux (numerous variants)
  - Ubuntu
  - Pop!_OS, Linux Mint, CentOS, debian
  - Kali
- Qube – containerized and secure
- Chrome OS and Chrome OS Flex





4STATE QRP GROUP

How do I learn to use these things?

- YouTube
- Udemy
- Tons of free online tutorials
- The associated community
  - look for email lists, slack, discord, IRC

What's next?

For you?

So much ham radio, now what?

- Create a learning goal for the next 3 months
- Schedule time for it – daily practice
- Make it easy to pick back up / get into
- Achieve goal, repeat
- Post activity assessment

Read the Manual

Achieve your goals with WOOP!

- **Wish**
- **Outcome**
- **Obstacles**
- **Plan**

Community

Contact

Bryan Nehl

@k0emt

www.dbBear.com

k0emt@dbBear.com