

Ozark QRP Banner



The Official Newsletter of the Four State QRP Group WQ5RP

February 2024 Edition

In This Edition: Travails of an Itinerant QRPer - Mountains are Calling, The Skeleton Cone Antenna, The St. Louis Pocket Vertical, Goodbye to Noise Headaches, Free Power- Re-purposing your Battery Packs, Low Current 12 Volt Power supply, Cycle 25, THE RYBAKOV ANTENNA, A Third Hand, OzarkCon 2024, OzarkCon 2023 POTA Outing, World Peace Through Communication?, Winter Field Day, Reviving my old Vibroplex Bug and more.

The St. Louis QRP Society takes **First Place** (Missouri Club Category) in the 2023 Missouri QSO Party. SLQS had a final score of **519,465**; beating out the second place St. Louis Amateur Radio Club that had a score of **282,012**. FB job!

Zone Check: Find out your ITU Zone, CQ Zone and Grid Square Location where ever you are. <https://zone-check.eu/> Great for portable POTA/SOTA operations. Go to the Options tab in the upper right corner and select what information you need.

HF Small Transmitting Loop Compliance Distances - FCC Compliance Distances

This is good information for those who use mag loop antennas. <https://www.hamradioandvision.com/small-loop-compliance-distance>

A recent financial report predicts that **copper** prices will rise an estimated 75% in the next few years. This is due to demand and shortages from mining. If you are planning to buy coax or wire you may want to think about stocking up.



The T41 Kit run has sold out and we would like to thank everyone for their support!



Four States QRP Group Presents OzarkCon 2024

April 5 & 6, 2024



OzarkCon 2024
An ARRL
approved
Specialty
Operating
Convention

OzarkCon is held in the springtime of the year. Amateur Radio enthusiasts from around the U.S. and QTH's outside the U.S. gather in the Midwest for two days of QRP related activities.

Registration for OzarkCon 2024 is now open!

[2024 OzarkCon Registration \(rleepotter.com\)](https://rleepotter.com)



2023

New Kits and Great Plans for OzarkCon 2024

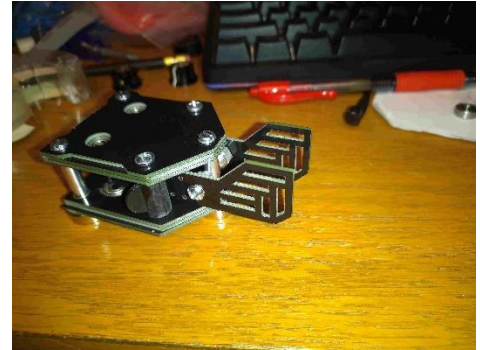
Keep an eye on the OzarkCon page (<https://ocon.rleepotter.com/index.php>) for exciting events coming in April.

There are some new kits in the development and testing stages. One new exciting kit is a small paddle. This is a prototype of what will be the Buildathon project. Double-paddle squeeze key with magnet feet and ball-bearing pivots. The 4State logo will be on the top. This should be a very successful kit.

There are a few kits that will be retired soon, so check the kit page and get your order in before they are gone.

<https://www.4sgrp.com/kitIndex.php>

The 4State Tuner Kit continues to be very popular among QRPer's.



The Board of Directors are now recruiting speakers for the forums. KØNEB, Joe will speak on "Pirate, Spy, and Clandestine Radio". KØFHG, Bob will discuss "Building 4State Kits". KØEMT, Bryan will give a talk on "POTA Outings". More are in the works. If you have something to present drop Johnny an email. jomatlock@gmail.com

Prizes are beginning to come in. As usual there will be prizes drawn all day. The Grand Prize(s) will be announced soon and will be exciting. Also, a T41K as a prize.

- On Friday, KØEMT will have a POTA Outing.
<https://www.dbbear.com/kOemt/operating/pota-kick-start/ozarkcon/index.html> for details.
- The plan is to extend the Swap Meet and Vendor Fair to both Friday and Saturday.
- Ocon university will once again be hosted by NMØS. Dave has been working on a few ideas and will announce the final subject soon.
- N4DR, Marc Pressman MD will have a QRP HF Transmitter Fox Hunt on Saturday evening after the last speaker and prize drawing.
- Gary, WØMNA & Martha, WØERI, & Joe, KØNEB will be hosting the Build-A-Thon, featuring a small PC board paddle.
- T41 discussions, Homebrew Contest, Wacky Key Contest and other subjects are planned, so stay tuned.

de WG5F & W5KKM prize chairs...

When I think about OzarkCon, I get excited about seeing old friends, meeting new ones. Building a kit, being educated and entertained by the great presentations. Working KØN on a dummy load from within the hotel. Eating some great food at the Friday evening banquet and enjoying the free box lunch at noon on Saturday. Looking at the swap tables, and all of the entrants in the home-brew contest... but frankly... I LOVE WINNING PRIZES.

At OzarkCon we have some of the best prizes and the winning percentages are remarkable. We give each registered participant two tickets for door prizes which not only allow you to win some very neat stuff before, during and at the end of the event, but also all previous door prize winners are added back into the drawing hopper for a chance at the major prizes.

This year - Is no exception on the quantity and quality of prizes. Major prizes will include an Elecraft KH1 (Edgewood package), 4SQRP T-41 5-Band SDR Transceiver Kit, Begali Peal iambic paddle, Bioenno LiPo Batteries w/chargers, books from K4IA and W8TEE/AC8GY, an AirBoss antenna Launcher, a slew of accessories from MFJ and the ST Louis QRP Society (including some MYSTERY BOXES!) Product certificates from Alpha Antenna, DX Engineering, Tayda Electronics, N3ZN Keys, N3FJP logging software, KB3IFH QSL, Ham Threads. Several individual donors have also indicated they will be sending some very nice items to give away. We'll also be providing a wide range of 4-States kits. If you love our kits, you will love your chances to win some at OzarkCon.

For those of you that are not able to attend, don't feel left out. If you register, you'll be entered into a special drawing for a major prize. If the winner for that prize is not in attendance, we'll ship it to you!

Last, but not least - since the total solar eclipse will be passing thru on Monday following Ozarkcon, we'll have viewing glasses from MyEclipseGlasses.

I look forward to more prizes being listed on the prize page in the weeks to come. If you know of a sponsor, please get them in touch with me so we can add them to our list. You can view all the prizes at: <https://ocon.rleepotter.com/prizes/index.php>

72,

-Ed WG5F & Karen W5KKM
OzarkCon Prize Chairs

OzarkCon 2023 POTA outing

K-1787 Table Rock State Park

[POTA Kick Start](#) pre-event learning resource and guide



OzarkCon Specifics

People Onsite

- KØEMT
 - ADØYM
 - N4DR
 - KØNEB
- KDØORT + KFØMDP
N9PUZ
N4EII



ADØYM

KØEMT and ADØYM were the event staff. Setting up antennas and stations in advance of the start time. Helping people utilize the operating stations. Kept a watchful eye on the weather and radar. Pulled the plug when weather was starting to look/feel eminent.



KØEMT

Buzzsaw on 40m

We've probably all experienced the buzzsaw on 40m. How about an actual **stump grinder** 15ft from your operating location! That's what Mike, ADØYM, and Bryan, KØEMT got to experience when they were prepping the site the morning of the event. The grounds person was pleasant, understood the situation and was able to complete the work before people started to arrive on site.

QSO

Total 95 contacts. We operated CW, Phone, and FT8

Everyone that was QRV got in a successful activation - FB

It was the first activation for N4DR and KØNEB - Congratulations!

Antennas

We utilized a variety of antennas

- Linked Dipole
- Linked Vertical 20/30/40
- Buddistick Pro w/AT-271 on its tripod (on 20m)
- Gabil GRA-7350T - table mount (on 30m)
- EFRW w/9:1 unun

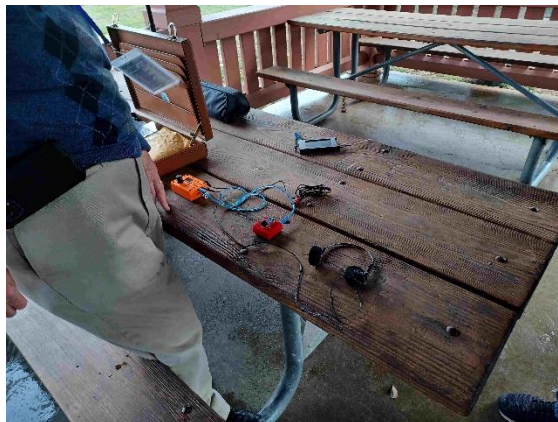


Wire Antennas

Rigs

Rigs that were onsite

- ICOM IC-705
- LNR MTR 5b
- Elecraft KX3
- Yaesu FT-818ND
- QRP Labs QDX
- truSDX
- Penntek TR-35 or TR-25?



Operating plan

- Each station alerted on POTA.app when on the air
- Each station operated on a different band

After Action and Lessons Learned

- Having a predefined safety plan that included the weather was a good thing. There was the threat of severe weather on the outing day. There was in fact a wide spread tornado event on this day.
- A spot on [QRP spots](#) with op names, park # during time of event would help our 4SQR community find us.
- More communication to the wider 4SQR community (hunters) especially with the iffy weather would have been good. Perhaps, a post to the main 4SQR email list.
- Will look into the possibility of having WQ5RP on the air.
- Band pass filters for each band/station would have been good. *We will* have band pass filters for 2024.
- Getting some antennas set up and ready ahead of time was a blessing
- BNC commonality is a good thing
- It was good to have a backup station(s), one was used!
- Having bathrooms nearby was nice.
- Great to have park staff support.

So plan to attend the POTA Event at OzarkCon in 2024. Bring your portable rig and antenna.

Go To <https://www.dbbear.com/k0emt/operating/pota-kick-start/ozarkcon/index.html> for information on the 2024 event.

de KØEMT

Travails of an Itinerant QRPer

Mountains are Calling

by

Ron Potter AG1P

I had been home two weeks and memories of the precious hour of operating from that hilltop park still danced in my head. I had received three other letters, but they didn't seem promising after the last outrageous success. Then mail dropped through the mail slot in the door. I walked over and picked up the two letters and a postcard. The letters were easy to deal with - a bill to be paid and a request for additional help from the local soup kitchen.

The postcard, however, was intriguing. It was addressed to me, including my callsign. For some unknown reason when I tried to look at the return address too closely, the letters blurred. On the back was written in impeccable script "QRP Nirvana", a set of GPS coordinates and a date two weeks in the future. My curiosity got the best of me, so I started my computer, opened Google Earth and input the coordinates. It showed the spot to be at the top of a 12,000 foot (3,600 meters) mountain peak in the California Sierra Nevada Mountains just south of Lake Tahoe. It sounded interesting but was it a scam? Did someone see my ad and is now playing with me? I decided to sleep on the information and make some sort of decision the next day.

The doorbell rang at 8:30 am. At the time I was standing in the kitchen waiting on the coffee pot that was taking its own sweet time making my morning brew. *Who in the world could that be?* I went into the foyer and when I opened the door, a FedEx delivery person was standing in front of me. "Are you Matt", he asked. As soon as I said "Yes" he said, "Sign here." He handed me a document envelope when I finished and said, "Have a great day."

I took the envelope and went to the office, grabbing a cup of coffee on my way. When I opened the it, a piece of paper the size of a postcard dropped out. One side was blank; the other side said "This is neither a prank nor a scam. You won't regret it", then listed the same GPS coordinates and date from the day before. I picked up the phone and called the FedEx number listed on the envelope, gave the agent who answered the tracking number and asked where it was picked up. The agent said it was picked up from a drop box in California but she couldn't make out the address. U thanked her and hung up. *Hmmm, worst case is I get a SOTA activation out of the trip.* I decided to go.

Two weeks later I was standing by my rental car in the trailhead parking lot. The car's GPS got me here without getting lost, better than if I tried to get here on my own. The air was crisp as the sun rose in the east and knowing it would take additional time to make the peak because of the altitude, I slung my go kit over my shoulder and started up the trail.

The trail was steep in places. I passed through the pines to the tree line. As I left the trees behind, scrub oak and juniper took over and a little higher up they were only scattered here and there around the mountain side. Another half hour and I was up to just rock. The air is thin above 10,000 and this old man had to stop to catch his breath a number of times. At one of the stops it hit me, there was a reason the word "tired" was hidden in the word "retired".

As I approached the top, I could see a patch of white in front of me. A couple more steps and it turned into a head covered with a white hood, and a somewhat familiar elderly face that was smiling. As I reached the flat platform of the peak, I realized the person sitting across from me was in the Lotus position used normally for Yoga and meditation. We nodded, acknowledging each other's presence.

He spoke to me, "Here we sit at the navel of the QRP airwaves. Airwaves emanate and are received here. This is the birthplace and the grave of all QRP radio waves around the planet. It is for that reason that no better propagation can be had elsewhere. That is why it is called QRP Nirvana. You can operate as low as 10 milliwatts and people all over the world will hear your call and answer. You only have a few hours before sunset so you need to set up and operate."

I quickly took off my pack and took out the parts of my 20 meter Hamstick dipole and set it up, facing it as directed by the old man. The antenna was resonant on the SOTA frequency. It took just a minute to connect it, my favorite QRP rig and a gel cell battery; getting me on the air in less than 10 minutes. I sent out a CQ and immediately had a response. It only took a few minutes for the responses to grow into a pile up. I swear I could feel all the radio waves rushing toward me, rushing in waves like breakers rushing up to the seashore. I was even getting 599 signal reports from high power stations many thousands of miles away that had no idea my little lightweight rig put out just 2 watts. I could not believe the intensity of signals on the band.

The old man who interrupted me; bringing me back to the present time and place. He reminded me that sunset was nearing and that I had better get started down the mountain. I quickly packed up my gear and grabbed my log which showed 397 contacts from the few hours of operation. I was amazed at the number. I turned to thank the old man but as I did, he faded away in front of my eyes, just like early morning fog fades away when sunlight hits it. In an instant I found myself alone atop the peak. *Did this really happen or am I back at the hotel dreaming. I can only hope some of the contacts will acknowledge the contact in the Logbook of the World (LOTW).* I shook off the astonishment and started quickly, but carefully, retracing my steps down the mountain. I wasn't halfway down when I thought I could smell coffee brewing and had a hankering for a repeat of the pasta dish I ate the night before at the restaurant next to my hotel.

It took me two days to make the drive home. All the while I could not get this last experience out of my mind. *Was that old man really there or was it my imagination...and did I really make all those contacts?* After breakfast, I sat down at my desk and opened email and LOTW. There were over a hundred reports to be acknowledged in LOTW. *It had really happened.* I let out a whoop; now believing what happened was real. I couldn't explain it; had no intentions of sharing it, but am accepting it as it is.

There was a pile of letters from my mailbox on the desk and my email inbox had 6 emails with the title "Best QRP Operating Locations." *There couldn't be any better operating location than the one I just came from, could there?* I thought about it for a few minutes. The two jaunts only temporarily dispatched the boredom but it would soon return. I was retired, had plenty of time on my hands and money was not a problem. *What the hell, why not,* I thought as I picked up the letter opener and opened the first letter.

The End

The Skeleton Cone Antenna - Revisited

de KCØPP

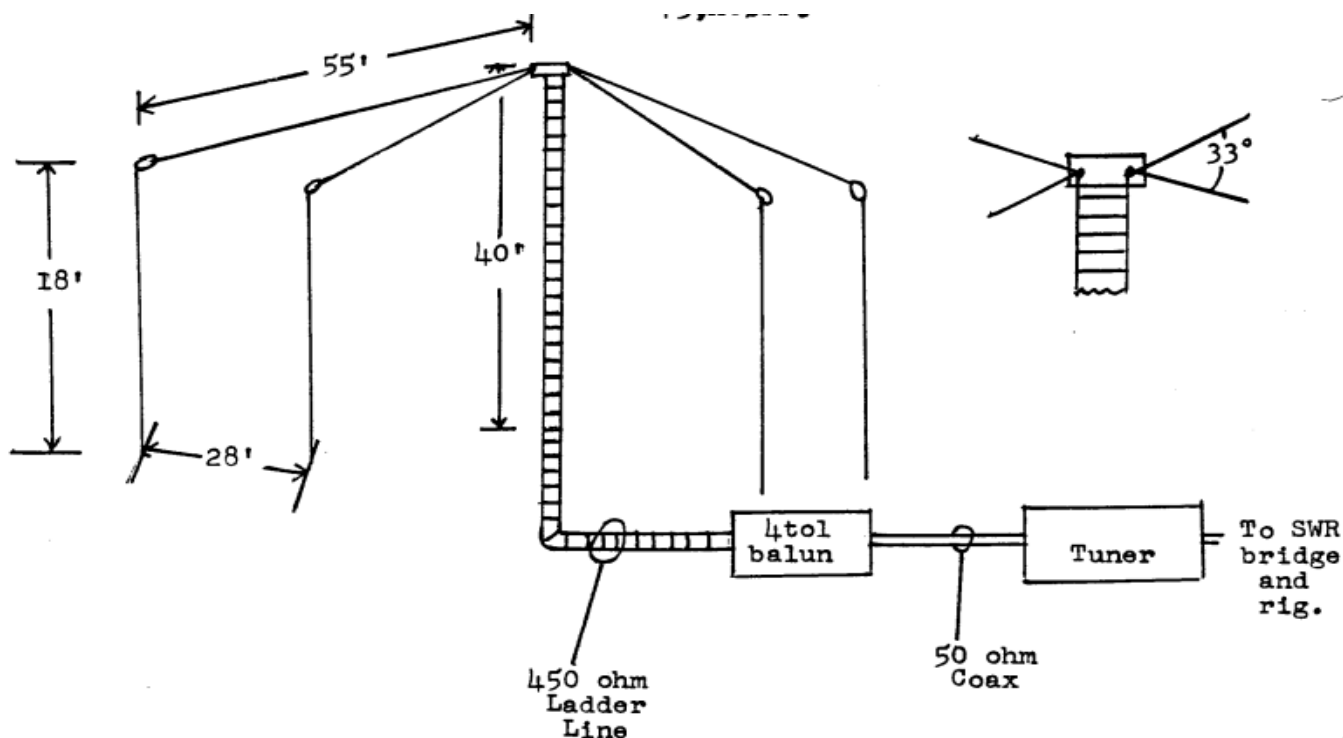
Looking for a good multiband HF antenna? Try this one on for size. You may recognize this antenna from the past. It has been published many times in 73 magazine in the 60's as well as G-QRP Sprat, SLQS Peanut Whistle and ARCI QRP Quarterly.

The antenna is a modified center fed Zepp with two wires on each side and fed with open wire feedline. It will require a 4:1 balun and ATU. Most any impedance will work, 300 to 600 ohms. However, TV twinlead is not recommended for permanent installations. I used 450 ohm ladder line and found it to work very well.

The center of the antenna should be about 35 to 40 feet above ground. The ends of the wires should be about 18 feet from the ground. Separate the wires about 33 degrees apart or 28 feet at the ends. Each wire is 55 feet long. This is a non-resonant broad-band balanced dipole. Don't be too critical with all of the angles, separations and heights but try to stay close to the design.

I have compared this antenna to Verticals, dipoles, longwires and slopers. My tests indicate it will be as good or better than these antennas. Some gain over a dipole has been claimed. 80 meters - 2.1db, 40-10 meters - 5 to 6 db as written by W6XF. The antenna will tune up on 160 meters but does not perform as well as a full size 160 meter dipole.

The antenna performs well and should fit in a normal size subdivision lot.



Goodbye to Noise Headaches

Learning to Love My KX3 All Over Again

Jeff Logullo, NØMII



There's quite a few SLQS members that own Elecraft KX3 and KX2 radios. And I dare say we're very happy with them. Lots of features in a small "grab and go" package. And they are renown for having excellent receive specs.

Now I'm the first to admit I'm not an RF engineer. Whenever reading rig reviews in QST I happily glance at the specs. "Sensitivity (MDS)" - okay, I get that one. "Noise figure" - mm, yeah, smaller should be better. But when I encounter "Blocking gain compression dynamic range" my eyes begin to cross. Skipping back to the review article, when I see under the heading "Receiver Performance" that "the receiver dynamic performance is top drawer" I smile and exhale.

Okay for specs... but recently I wondered if I was actually **using** the rig to its full potential. I spotted some posts on an email reflector mentioning the use of the attenuator on one of Elecraft's rigs. And I had been trading some Slack messages with Jim KKØU who told me he uses his radio with the AF gain fixed at 50 (!) and the RF gain backed way down, and then he turns the RF gain up as needed to hear signals.

I decided it was time to give my habits a reboot and make a fresh run at using my KX3.

In preparation for a recent contest, I dug through the bookshelf for my copy of Fred Cady KE7X's (SK) book *The Portable Elecraft KX3*. I knew the KX3 is an SDR-based radio, but I'd forgotten how different it is from conventional radios. It's a single conversion design - the incoming RF signal is converted in the RF mixer directly to audio. No IF!

Right before the receive mixer is the stage containing both the preamp and the attenuator. Here was my first opportunity to do things differently. I guess I always thought the attenuator was something you needed if you were one of those European hams with "strong broadcast station interference." I'd never suffered hearing KMOX on my rig, so it must not be for me, right?

Well! A chart in Cady's book showed that the attenuator would typically be set "On" for 160 and 80 meters, and "Sometimes On" for 40 and 30 meters. Other bands typically "Off." And finally, for "Very noisy band conditions" and "Very busy band, e.g., in contests" the attenuator could also be on.

Flipping to the preamp settings, the typical setting is "Off" for 17 meters and up, with "Sometimes" or "On" for higher bands. (There are several preamp options available in the menu, but I'll not go into them here.

Now all this time I'd been using my KX3 with the preamp on! And I'd never tried the attenuator before. So, I flipped to 40m, kicked the preamp off, engaged the attenuator, and heard... nothing.

Well, almost nothing. That steady rush/hiss/buzz of background noise was not there. In the back of my mind, I wondered if I was going to hear anything. But a quick spin of the dial told me that I would. As the contest moved along, I was impressed that even weak signals were quite audible. I began to notice

the AGC raising the signal levels, with the noise still way way down. I quickly realized how less fatiguing it would be operating the rig this way.

In my reading about the preamplifiers, one thing caught my eye, and here I'll quote from Cady's book: "The preamplifiers are before the S-meter circuits. Therefore, to indicate S-9 with a standard 50 μ V signal, the 20 dB preamplifier must be enabled." With the preamp off I suppose I'd be left to estimate the other guy's signal strength, rather than read it off the meter. As the contest wore on, I realized it would be a small price to pay. My ears were a LOT less fatigued with the significantly lower background noise level.

Now I'm still experimenting with the RF gain control. I realized I needed to take Jim's advice regarding this control with a grain of salt. Fundamentally he's right that reducing the RF gain can be a big win. On the other hand, his K3 differs from my KX3 in that the K3 is a double-conversion design, so it stands to reason that things could be different.

Says Cady: "The goal is to set the attenuator and preamplifier and adjust the RF gain control so that the noise on the band is only just audible and just flickers the S-meter." And he goes on with a step-by-step to accomplish this:

- Pick your band; tune to a vacant frequency
- Set RF gain fully clockwise (to -0)
- Choose preamp and/or attenuator setting so noise just flickers the S meter around S-1
- If band is noisy, turn RF gain counterclockwise (down) until the S-meter just stops flickering. An S-meter segment will remain on to remind you that the RF gain is reduced
- You can leave the RF gain settings like this and use the AF gain control to set a comfortable listening level

One final tidbit from Cady's book:

"Unlike Ye Olde Receiver design... the only circuitry in the KX3 that controls the RF signal levels are the preamplifier and the attenuator... the KX3's RF Gain control is actually an input scaling factor applied within the DSP itself. Reducing RF gain doesn't impact the strength of signals seen by the A-to-D converter. Gain ahead of the AGC can only be reduced by turning the preamp off, and (if necessary) turning the attenuator on."

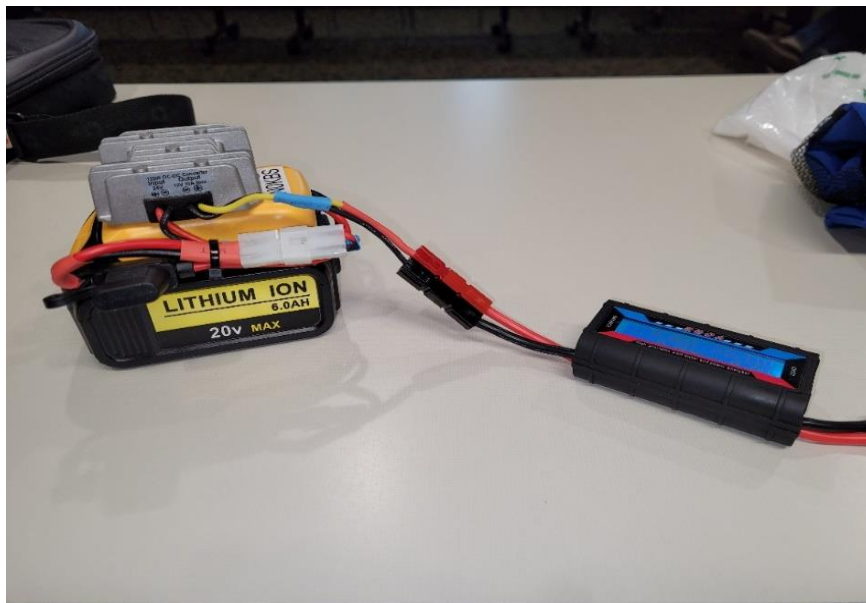
It's been rewarding to start this journey: starting over in learning how to enjoy my radio. Yes, I still have some sources of RFI here and there. I need to order some ferrites to squelch the under-counter LEDs in the kitchen. And I'm convinced my neighbor has a plasma tv screen! But overall, I've been able to reduce the noise I experience by simply learning how to use my rig's controls and settings more effectively.

No matter which radio is your "daily driver," I encourage you to experiment and explore the attenuator, preamp, and RF gain settings on your radio. You just might be surprised. I sure was!

Free Power, Re-Purposing Your Battery Packs For QRP Portable Power

de NØKBS

Bud, NØKBS has discovered a way to re-purpose those battery packs that you have sitting on the shelf from your battery powered tools. Most current tools use Lithium Ion batteries. Most of them are in the range of 18 - 20 Volts. Bud has discovered that Amazon sells adaptors to attach to the batteries and provide plus and minus wires as the output. However, the voltage is not useable for our 12 volt equipment. Again, Amazon to the rescue. They sell Buck modules to regulate the voltage down to 12 volts. Bud has tested the regulator, a 10 amp device, with a DC load and finds that the voltage is constant throughout the load range.



Many types of adaptors are available for different batteries. The modules are available in different voltages and currents from several sources such as Amazon and eBay.

Bud added the appropriate connectors and fuse. A volt and current meter were installed in-line.

Battery adaptor sample:

https://www.amazon.com/Adapter-Converter-Terminals-Connector-Robotics/dp/B0B4FS1NV1/ref=sr_1_10?crid=3RM66QDLNWAD0&keywords=power%2Btool%2Bbattery%2Badaptor&qid=1703205692&sprefix=power%2Btool%2Bbattery%2Badaptor%2Caps%2C93&sr=8-10&th=1

Buck/Boost Module sample:

https://www.amazon.com/MGGi-Converter-Regulator-Transformer-Waterproof/dp/B07MDZLT8H/ref=sr_1_17_sspa?crid=10PUVOEPTXEHU&keywords=12%2Bvolt%2Bbuck%2Bmodule&qid=1703205843&sprefix=12%2Bvolt%2Bbuck%2Bmodule%2Caps%2C101&sr=8-17-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9tdGY&th=1

Low Current 12 Volt DC Power Supply *for the QRPer* *Free, well almost* de KCØPP

You may have one or several power supply/chargers from old laptops in your junk box. Most of them are not 12 volts. Usually much higher, 19 volts or so. As shown in the previous article, there are buck/boost regulators available at reasonable prices from many sources such as Amazon and eBay.



DC Buck Converter 8v-40v to 12V 6a 72W Automatic Buck Boost Power Converter Regulator Waterproof Module Transformer for Golf cart

★★★★☆ ~ 71

\$20⁹⁹

FREE delivery **Sat, Jan 6** on \$35 of items shipped by Amazon

Or fastest delivery **Fri, Jan 5**

Only 19 left in stock - order soon

My supply is from Dell Model PA-1900-02D and provides 19.5 volts DC at 4.62 amps. So, a 5 to 6 amp regulator would be perfect.

A used power supply can be found at hamfests, garage sales, flea markets and eBay.

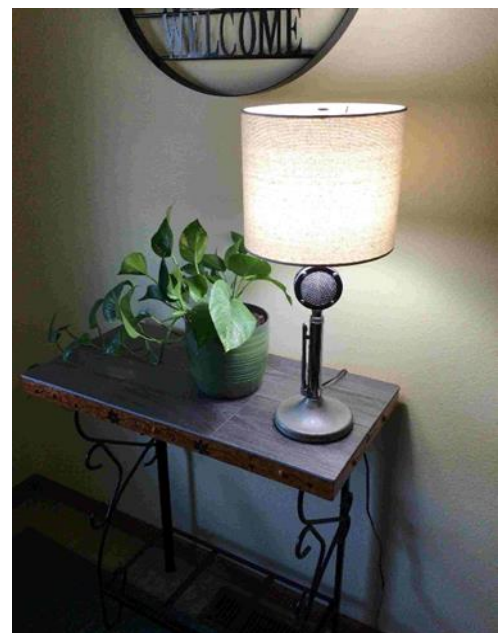
One word of caution; These are switching power supplies. Not all of them are clean. I have not found any issues with my Dell. But other supplies may cause interference so test them before you use them.



"What happens when friend gifts a classic microphone to an operator that is CW only?"

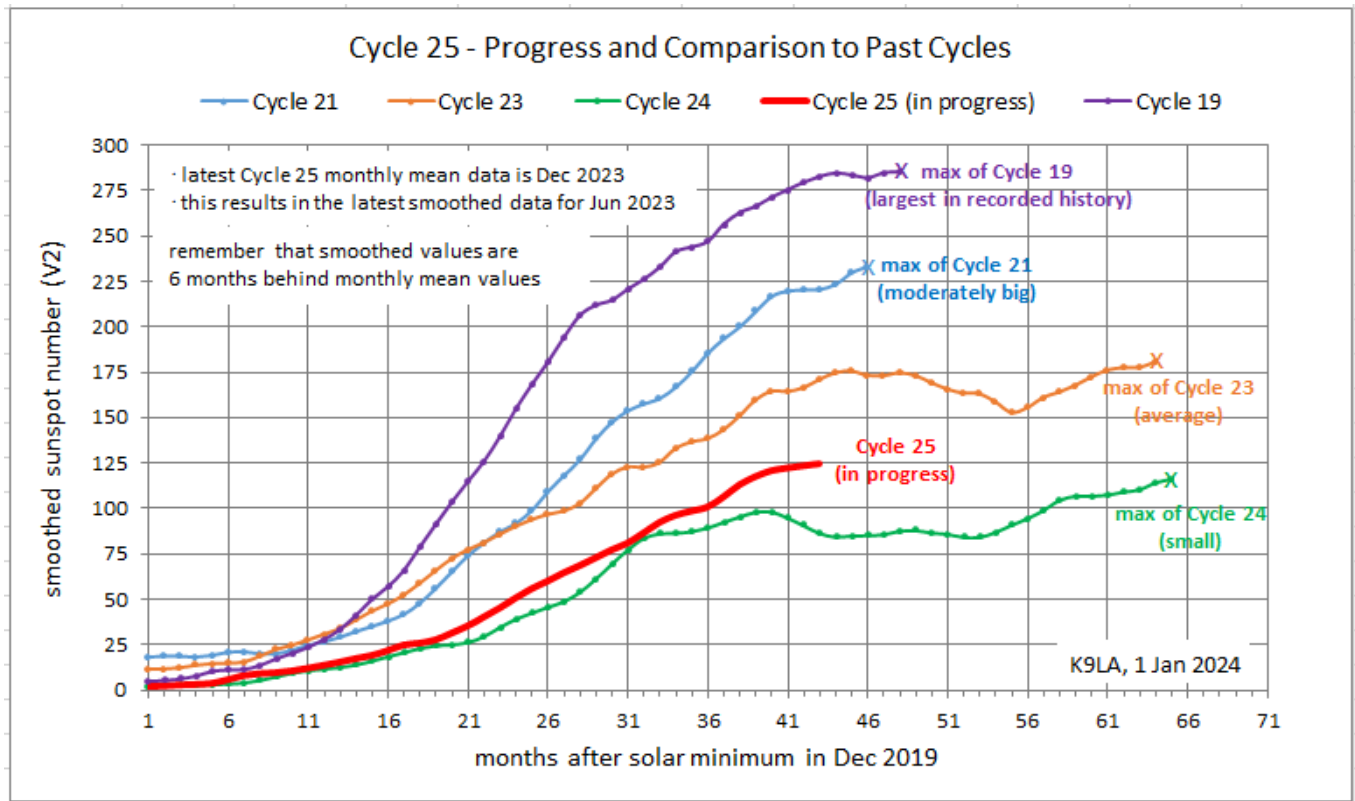
AC5K made a lamp from it! By the way, he also made the table top with a wood burned design around the sides that is probably not visible in the photo. This demonstrates the first rule of home brewing: NEVER throw anything away!"

73, Wes, AC5K



Cycle 25, How are we doing?

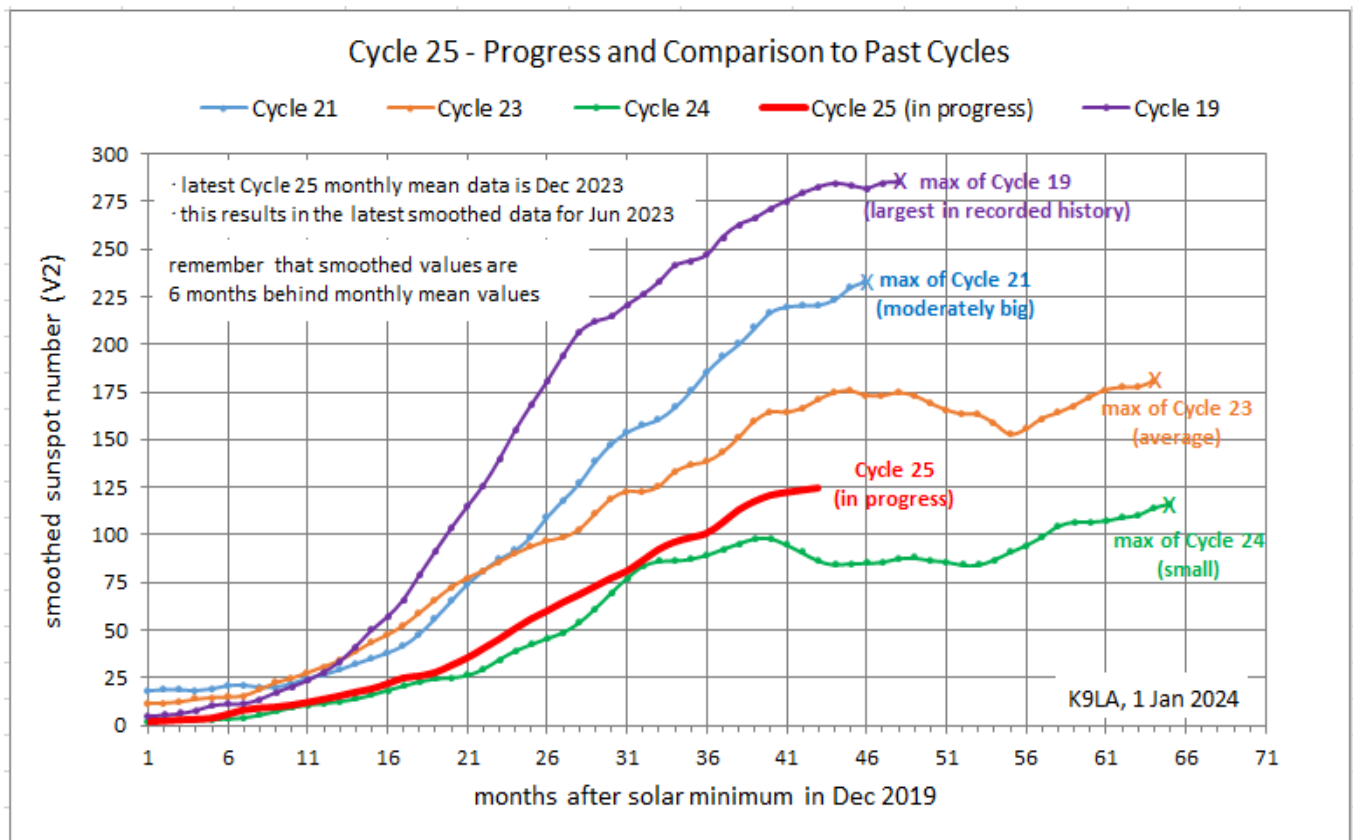
Here is the latest data on Cycle 25.



The good news is that Cycle 25 has surpassed the small Cycle 24 - but not by much. Will it get up to an average cycle? All we can do is wait and see. FYI - Cycle 24 was the smallest in our lifetimes and the fourth smallest in recorded history since Cycle 1 started in 1755.

The hemisphere data (sunspots emerging in the northern solar hemisphere versus emerging in the southern solar hemisphere) suggest Cycle 25 is only going to have one peak. That's because the two solar hemispheres appear to be working in concert and not one hemisphere working much harder than the other initially and then switching later in the cycle.

Get on the higher HF bands (15-meters, 12-meters and 10-meters) as much as you can. And keep an eye out for F2 openings on 6-meters. We've had some already, but they have been few and far between.



Carl Luetzelschwab K9LA

<https://www.k9la.us/>

Super Handy / Super Simple

A Third Hand-you can build

By Wes Spence, AC5K



In the category of "why didn't I think of that", here is a photo of something I built years ago and use very often. I thought the readers might find it useful too. It is made from two pieces of 2 x 6 wood screwed together and two clothes pins.

There are a couple of tricks to make this work better. Notice the two clothes pins are mounted 90 degrees from each other. You will find that greatly increases the flexibility of what you can hold with this. Also, try to find the longer clothes pins. They will work much better. You will find the larger and smaller holes in the clothes pins will give different holding pressure characteristics. Size the 2 x 6 wood to provide enough dead weight for whatever you want to hold. This contraption will hold circuit boards and about anything you find you need a "third hand" for. Work safely and have fun!

THE RYBAKOV ANTENNA

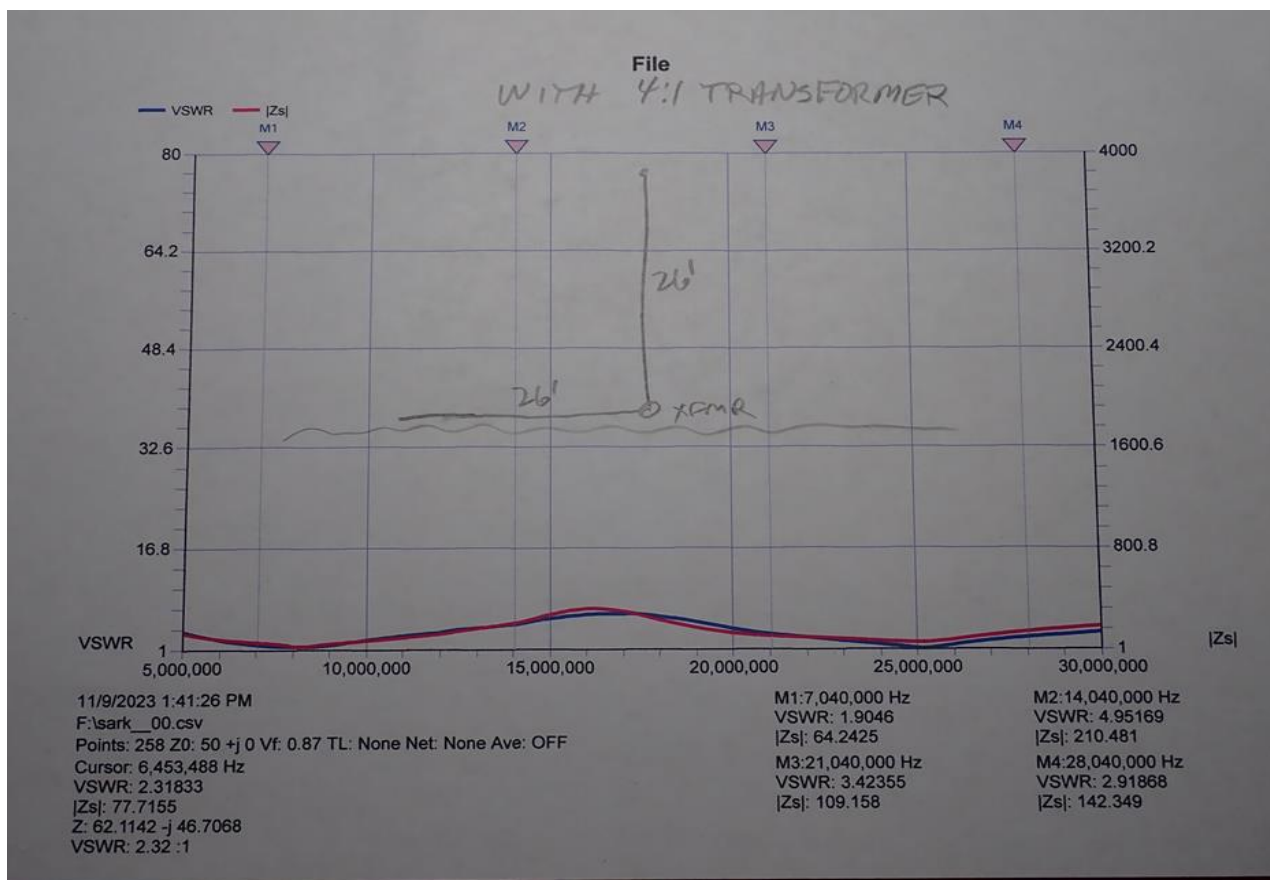
by: Larry Naumann nØsa

I recently came across an article on an antenna I had never heard of before, the Rybakov antenna. It seems the antenna lineage goes to an Italian guy who came up with the idea and used the Russian word for fishing pole. At least this is what the article stated. Basically, it is a vertical wire with a counterpoise hung on a pole.

Being intrigued by this particular design, I decided to build one and do a bit of testing. The radiating or vertical section is around 25 to 27 feet long and the counterpoise varied in length depending on the descriptions I found. The feedpoint uses a 4:1 UNUN. I settled on 26 feet for both elements. Instead of using a typical 4:1 UNUN, I went with an auto transformer wound in the same way I wind my EFHW transformers. I used the same ferrite core which has very low losses. The transformer is just 6 turns of wire center tapped for the feedpoint. This gives a 4:1 impedance transformation.

I then put up my 30 foot push up mast, not using the very top section. This put the feedpoint a couple of feet above ground. I then stretched out the counterpoise, pulling it tight to keep it off the ground. Pretty simple.

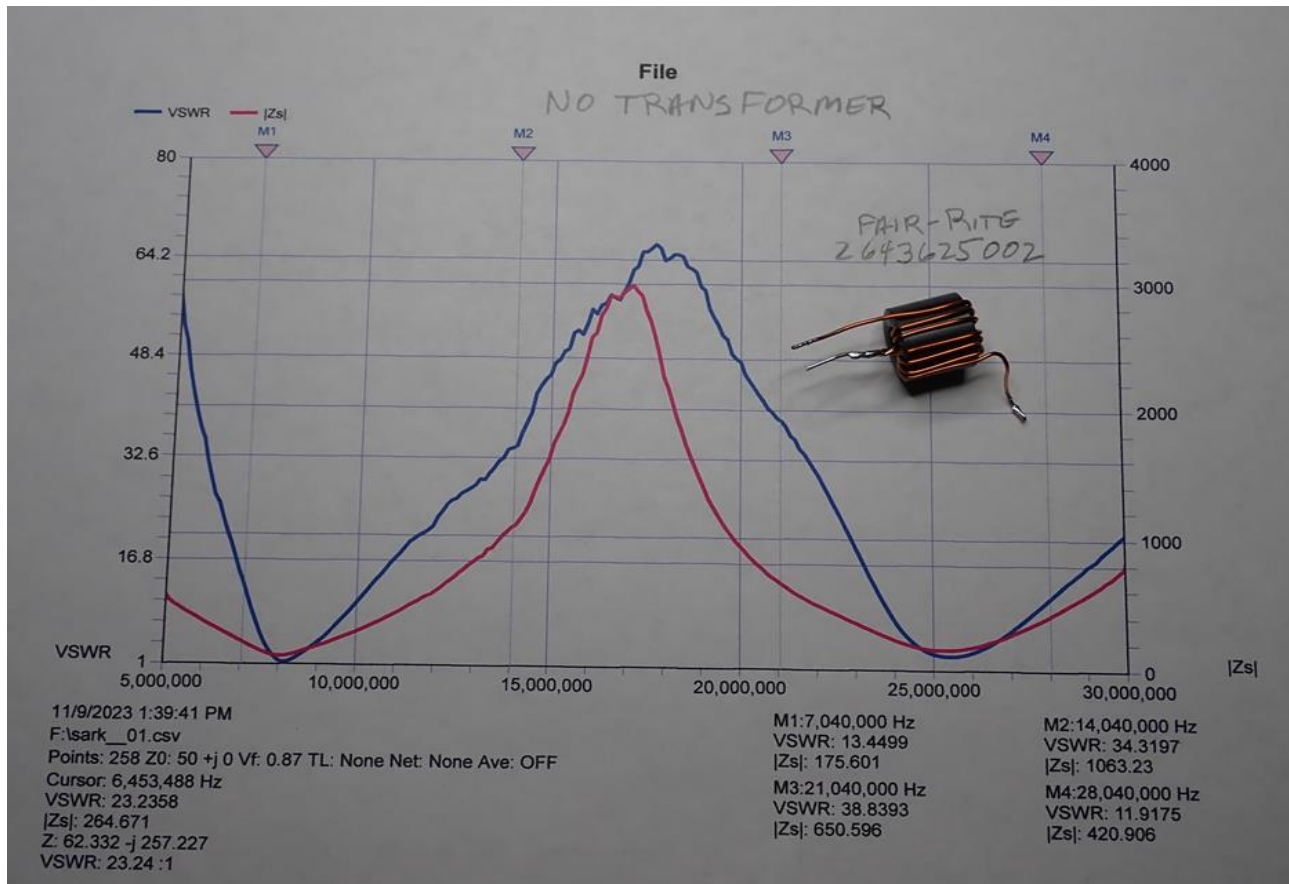
About now you may be thinking that this 26 foot length is a pretty standard length you see suggested to connect directly to a KX2 or KX3 along with a counterpoise thrown out for good measure. So this Rybakov antenna is really nothing too new or earth shattering.



I will state that I have never actually put it on the air other than doing some testing. I find that with the 4:1 transformer, the ATU in my KX3 can easily tune this thing up on all bands from 40 through 10 including the WARC bands.

I then did a bit of testing with my antenna analyzer. It seems to resonate at about 8 and 25Mhz, with the highest SWR only going to about 6.5:1 at 17 Mhz. This is all very good and makes for the easy matching.

The next thing I did was to remove the transformer and see how it acts if you would just connect the wires straight to your radio. The 8 and 25 Mhz resonant points are still there but the highest SWR is about 65:1. The transformer really tames this beast and is well worth the effort to install.



One day soon I will get this antenna up and running on a POTA outing, I imagine it will work well. Here are some SWR readings, with and without the transformer;

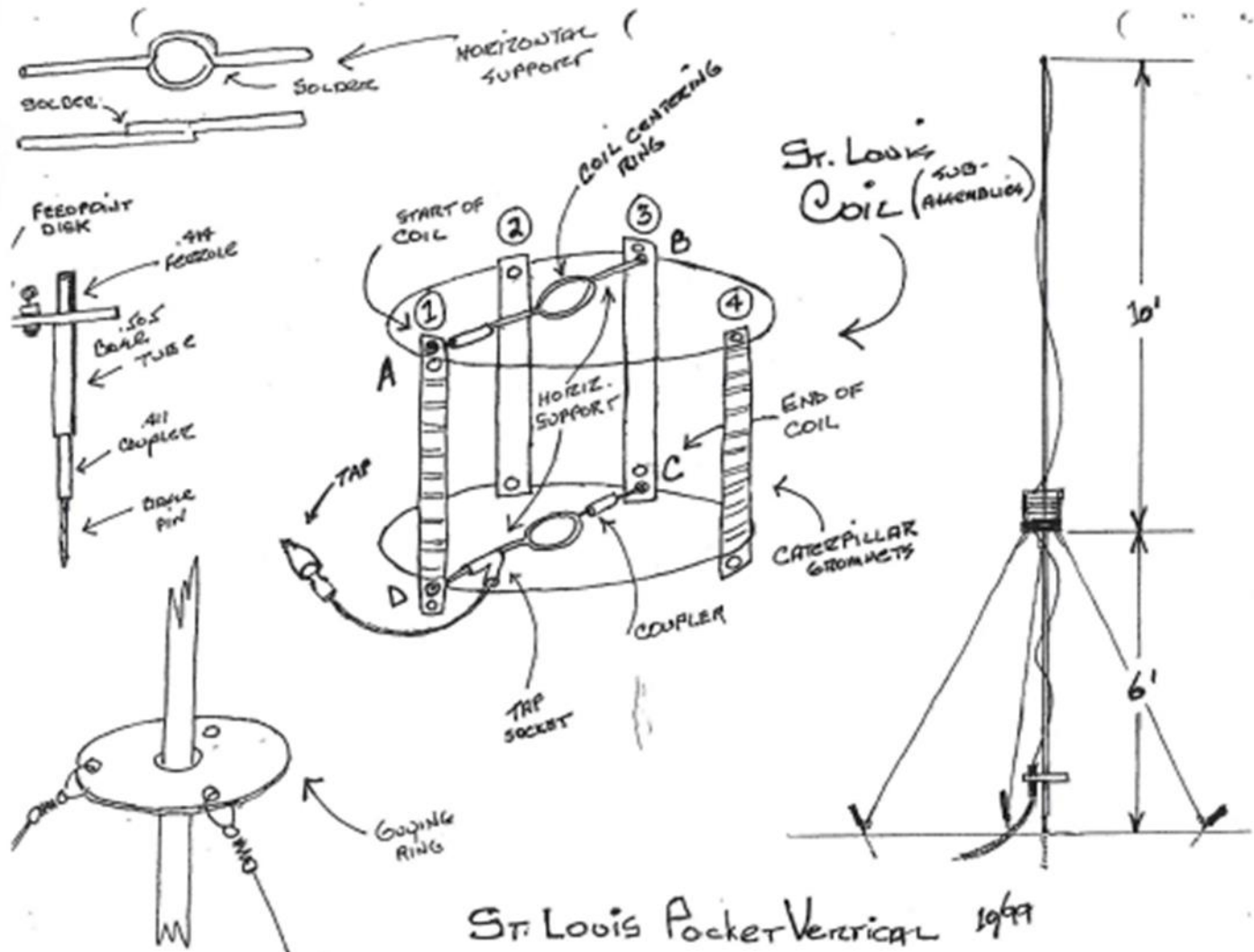
FREQ./ Mhz	SWR with xfmr	SWR without xfmr
7.04	1.90:1	13.40:1
14.04	4.95:1	34.30:1
21.04	3.42:1	38.83:1
28.04	2.91:1	11.91:1

As you can see, the transformer really tames this antenna. Considering the fact that you would be feeding this thing with coax, the losses on the line will be much lower with the lower SWRs.

The core is a Fair-Rite ferrite 2643625002 which can be obtained from Digikey and maybe Mouser. They are fairly cheap too. Efficiency should be in the 90% range.

The St. Louis Pocket Vertical - Revisited de NFØR

November 1999



The lengths of the vertical elements can vary. A wire or even a collapsible whip for the top element is perfect for portable and allows for easy fine tuning. These are available from many sources; eBay, Amazon, MFJ, etc.

World Peace Through Communication?

By: Wes Spence, AC5K

Note: This article is not necessarily intended to be a comment on any (of the many) current conflicts going on today. The following is a completely true story.



Do you remember what happened on September 1, 1983?

That was the tragic day that Korea Air Lines flight 007 was shot down by Soviet Union air forces when it went off course and flew into prohibited air space near Sakhalin Island. This was of course during the Cold War, when Soviet Union and US relations were really bad. If you were not an amateur radio operator in those days, the short story is that we did routinely have QSOs between Soviet Union amateurs and American amateurs. The Soviet amateurs were not "chatty", partially due to the obvious language barriers, but also perceived restrictions on the US side and very probable actual restrictions on the Soviet Union. I even remember hearing rumors that SSB QSOs with the Soviet Union were being used to train KGB agents in English, and also you should not tell them your weather, as that could be helpful if they want to bomb us. There were probably more rumors that I don't remember.

So, here I am sitting at my radio the night (local time) fairly soon after the airliner was shot down. All of the news programs were hyping the event, and there was scary political rhetoric going on between the US and the USSR. I clearly remember the band conditions "over the pole" were excellent that night, and I was listening to many Russian stations calling CQ on CW with no answers. I guess others over here were also listening and wondering what to say to someone that may decide to blow you up! I sat there listening to the CQs and thinking back to when I got my Novice license in the early 70s. If I remember correctly, there was some reference in my study guide relating to the reasons amateur radio exists, and one of those reasons made a reference to promotion of international understanding (or something like that). Even in 1983 I wasn't sure if that statement existed or was in my imagination, but I decided to "take the plunge" anyway and answer one of the Russian stations. It was a short QSO where honest signal reports and names were exchanged and otherwise a fairly typical exchange for those times, UNTIL the end. The Russian station sent "73 and peace". I almost fell out of my chair! I am about 90% sure if he had been heard sending that by his government, it would have gotten him in to significant trouble. I would have never sent that first. Not because I am disinterested in peace, but because I would not have wanted to put the Russian station in an awkward position where he may want to but couldn't answer. I, of course, sent "73 and peace" back to him and a final dit dit. I was sort of stunned after that QSO, and was left thinking: Perhaps we are not so different after all. Just sayin.....
dit dit

Winter Field Day - 2024

St. Louis QRP Society



The SLQS operated Winter Field Day again this year. A few members arrived early to secure the shelter and get a nice warm fire going in the fireplace. Others arrived shortly before the start time. The antennas were setup with just a light mist in the air. By the time we started there was a light rain and it was about 38 degrees.

We were in the Missouri Babler State Park, so not only did we work the contest as NØA, it is also a POTA site.

Four stations were on the air, 10 thru 40 meters. The antennas were end feds and verticals. The rigs were an FT-817, KX3, KX2 and a Discovery TX500.



Ten members and four guests attended. Everyone took turns warming themselves near the fire. KCØPP cooked some Missouri Tube Steaks for the group.



This is an annual event for the club and a fun time to operate. This was not a serious contest for the SLQS as is Field Day in June.

NØA's Contest Summary Report for WFD
Created by N3FJP's Winter Field Day Contest Log
Version 2.8.8 www.n3fjp.com

Total Contacts = 107
Total Points = 1,272

Operating Period: 2024/01/27 19:07 - 2024/01/27 21:47
Total op time (breaks > 30 min deducted): 0:14:00
Total op time (breaks > 60 min deducted): 2:40:00
Avg Qs/Hr (breaks > 30 min deducted): 458.6

Total Contacts by Band and Mode:

Band	CW	Phone	Dig	Total	%
----	--	-----	---	-----	---
40	45	0	0	45	42
20	34	0	0	34	32
15	18	0	0	18	17
10	8	0	0	8	7
2	0	1	0	1	1
70	0	1	0	1	1
---	---	-----	---	-----	---
Total	105	2	0	107	100



Country	Total	%
-----	-----	---
USA	99	93
Canada	7	7
Chile	1	1
Total = 3		

Total DX Miles (QSOs in USA not counted) = 13,624

Average miles per DX QSO = 1,703



Winter Field Day 2024

Certificate of Participation

presented to Amateur Radio Station

N0A

for their active and invaluable participation during the 2024 Winter Field Day Event. The WFDA, gratefully thanks you for your effort and recognizes your dedication to improving your operating skills, which may be crucial during an emergency event.

Contacts Logged: 0

Photo by Andrew Wells, KJ7OPR operating 1O in WY.

Marvin Turner, President
Winter Field Day Association

Thanks to WBØTUA and NØMII for organizing the event.

Paint, Powder, Polish and More: Reviving my old Vibroplex Bug

I acquired my Vibroplex Bug (SN 380779) way back in the '70s. It served me well for many years but went into storage for many more years while my ham radio involvement was on hold.

CW is my favored mode. I was up for some morse code magic after so long. Unfortunately, my old Vibroplex was in sore need of attention. This project's time had come.

Don - (W6BOW)
SKCC# 20085



Credits: Vibroplex Cleaning Part 1/5 by N2FQ Quinones

<https://youtu.be/3gZ-U4w3TqY>

Four State QRP Comfortable Nets

Meet each Wednesday night beginning at 20:00 Central Time. Add anything to the exchange that you wish, temp, rig, ant, etc.

Checking into all sessions is encouraged. We call it the "Clean Sweep".

8:00 pm Central time - 40 Meter Net on 7.122 +/- QRM ACØBQ/NCS

8:30 PM Central time - 80 Meter Net on 3.564 +- QRM ACØBQ/NCS

9:00 pm Central time - DMR Net on Talk Group 31654 NØYJ/NCS

NO dIGITAL Net currently.

Everyone is Welcome!

DMR Voice Net

Wednesday evening DMR Voice Net will be at (Thursday) 0300 UTC (9:00PM Central Time Wednesday/) Four States QRP has a Brandmeister DMR Talk Group (TG31654). Join us to discuss QRP, ask questions, or just ragchew.

The Wednesday net is a directed net but any other time you may use the Talk Group to chat with other QRPers. Net Control operator is Bert NØYJ.

For information and help, check out the DMR subgroup on 4sqrp.groups.io

<https://4sqrp.groups.io/g/DigitalFM>

Second Sunday Sprint

Occurs on the second Sunday of each month, 7 to 9 PM Central

Any mode, any band (except WARC & 60 mtrs) -

- Suggested frequencies: standard calling freq. plus 7122 and 3564 (CW), and 3985, 7285, and 14285 (SSB).
as well as the usual QRP watering holes.

QSO's with the same station on different bands are allowed. CW and SSB portions of a band count as two bands.

- Calling CQ is suggested to be "CQ 4S"
- Exchange is "RST, SPC, member number (power if non-member)"
- 5 Watts max CW, 10 Watts PEP max SSB.

The station with the most contacts each month will be emailed a certificate. Furthermore, the top three stations with the most SSS contacts during the year will also receive certificates via email.

Scores are submitted via the grpcontest.com/4sgrp website (compliments of W8DIZ).

For full details, please download the [complete rules \(PDF\) here](#).

For questions, please contact **Walter (K5EST)**:

SecondSundaySprint@4sgrp.com

Thursday Morning

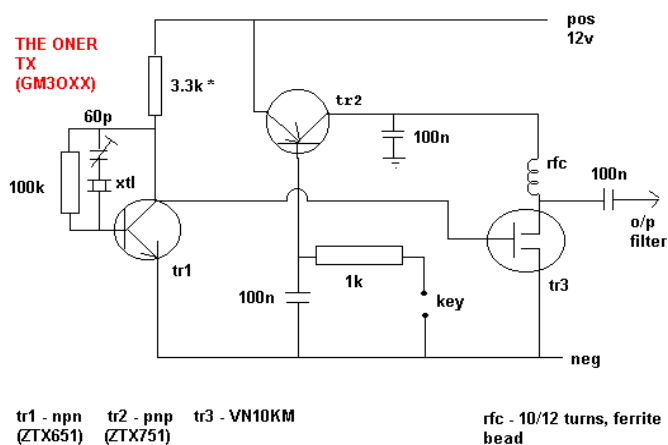
The Four State morning net has been convened for members who like to start the day on the air.

We meet each Thursday morning at 8:00 AM Central on 7122 kc. 7122 has become the Four State 40M hangout frequency, and often members can be found there on any morning.

Editor's Note:

Articles are needed to make every Banner issue successful. If you have something of interest, please send it to the editor at the email address below. You do not need to send a finished article. You can send some comments, notes, etc. and I can put it all together for you. Pictures are always of interest. I prefer articles in **Word** format, that works the best, but I will try to work with what you have as I can. Some of the items of interest would be outings and /or operating events by yourself or a group, construction whether equipment, antennas, accessories, QRP Field Day, SOTA, etc. Anything QRP is welcome.
de KCØPP

editorqrpbanner@gmail.com



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