

STARLITE

THE JOURNAL FOR THE STOURBRIDGE AND DISTRICT A.R.S.



**G6OI
G6SRS**



ISSUE: DECEMBER 2023



G4CVH

**STOURBRIDGE & DISTRICT AMATEUR RADIO SOCIETY
INCORPORATING
OLDSWINFORD HOSPITAL SCHOOL RADIO CLUB**

MEETINGS CURRENTLY HELD AT

**NORTON SOCIAL & SNOOKER CLUB
OSMASTON ROAD
NORTON
STOURBRIDGE
[8:00 TO 10:00 PM]**

VISITORS ALWAYS WELCOME

SEASONS GREETINGS

RSGB AFFILIATED SOCIETY

STARLITE

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Kidderminster
DY10 3ND

StARS Website URLs:-

www.g6oi.org.uk

StARS Facebook Page:-

<https://www.facebook.com/groups/stourbridge.ars/>

Forthcoming Meetings

December 4 th	Club Meeting at Norton Social Club. 8pm
December 11 th	Club Meeting at Norton Social Club. 8pm
December 18 th	Club Meeting at Norton Social Club. 8pm
December 25 th	Christmas Day - No Meeting
January 1 st 2024	New Year's Day – No Meeting
January 8 th 2024	Club Meeting at Norton Social Club. 8pm
January 15 th 2024	Club Meeting at Norton Social Club. 8pm
January 22 nd 2024	Club Meeting at Norton Social Club. 8pm
January 29 th 2024	Club Meeting at Norton Social Club. 8pm
February 5 th 2024	Club Meeting at Norton Social Club. 8pm
February 12 th 2024	Club Meeting at Norton Social Club. 8pm
February 19 th 2024	Club Meeting at Norton Social Club. 8pm
February 26 th 2024	Club Meeting at Norton Social Club. 8pm
March 4 th 2024	Club Meeting at Norton Social Club. 8pm

Once again, this month sees no news from the Society.

In this issue

QRP Aerial Tuner ... Geoff G0KVK

An Ultra-Simple 2metre Antenna ... W6NBC

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DX News



*What is in Santa's sack?
Could there be a new radio or accessory for you?*

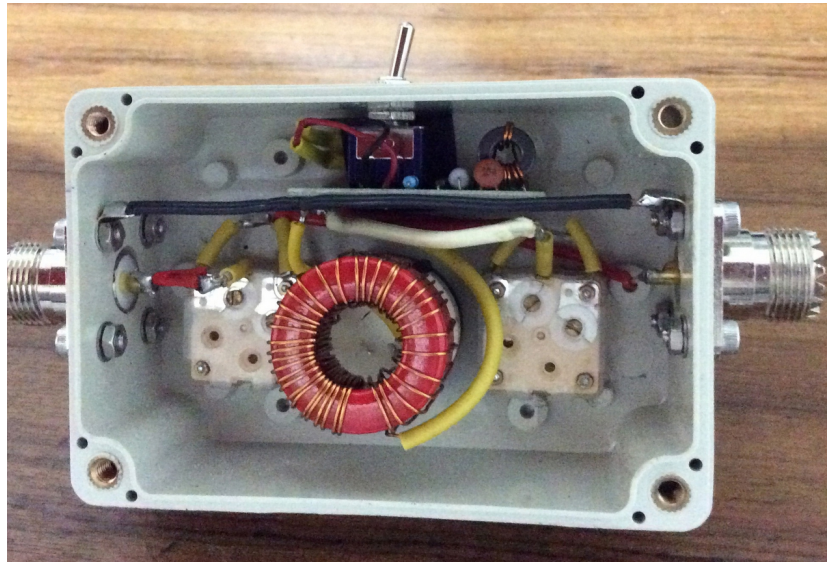
QRP Aerial Tuner

By Geoff Cooper G0KVK

This was a kit that I brought from Ebay. When it arrived, it was well packed and I checked all the parts were there.

On assembly there were a few problems. On winding the toroids, the copper wire was a bit too thick, so I used 0.75mm instead and that was fine.

With the kit came a marking out sheet. For the capacitors and inductor selector switch (this was sticky backed, but I Sellotaped it down, so I could drill the holes first). Fitting the capacitors was a bit of a fiddle due to the mouldings in the box supplied, which had to be cut away to allow the capacitors to lie flat. I used a Stanley knife to do this.



The next thing I built was the PCB. The mistake on this was the marking for the toroid was backwards (two turns on the primary and five turns on the secondary). Next was the main toroid; a lot easier with the thinner wire and fixed it to the selector switch.

The next job was to assemble everything. The problem was fitting the knobs with the capacitors shafts only about a 1/4 of an inch above the front panel. These had a key way in the shaft, which probably had a pulley fixed to it in its original job. So the knobs do not fit without modifying. The knobs have a brass insert, which I filed a slot in the insert, so it went over the capacitor shaft, then wound some thin wire around the brass insert, so that it would make a tight fit between the plastic knob and the brass insert.



I next fitted the marking sheet to the front panel. I tried it out by switching the switch to tune and adjusting the toroid switch and capacitors for minimum light on the led (gives minimal swr), then switch back and away you go.

Apart from the odd problems it was a nice thing to build and ideal for a first time constructor.

An Ultra-Simple 2-Metre Antenna

John Portune, W6NBC



You will get J-pole performance from this base station vertical antenna built with coat hangers and PVC pipe.

Amateur Radio operators have distinguished themselves by their ability to build equipment from junk and bits and pieces found around the house. No one embodies the homebrewing spirit more than my ham buddy, Ernie, W6DN, who sees a scrap box full of snips of wire, PVC pipe pieces, and fittings as something not to be tossed out, but as materials for a new antenna project.

Recently, Ernie and I, along with several other longtime hams, were ruminating about what constituted the archetypal homebrew project — it had to be functional, easy to make, and cost nearly nothing. Many good ideas were proposed, but the winner was a 2-meter base station vertical antenna made from a pair of coat hangers, a length of PVC pipe, four 8-32 screws, two ring terminals, and, of course, some RG-58 coax.

Performance

This little beauty can hold its own alongside anybody's J-pole (see Figure 1). Both are omnidirectional, vertically polarized, and have the same gain. Physically, the coat hanger construction, at a length of 16 inches, compared to the J-pole's 57 inches — is less likely to be noticed by the neighbors.

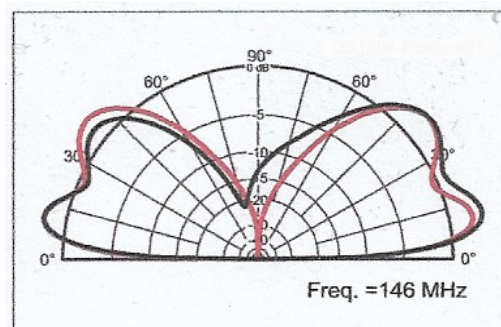


Figure 1 — Performance of the coat hanger vertical (red) compared to a J-pole (black) 5 feet above average soil.

The antenna has an SWR of roughly 1.8:1 at resonance (see Figure 2). However, the SWR stays close to 2:1 across the entire 2-meter band. Modern 2-meter rigs can handle this easily, and the losses are quite small at an SWR of 2:1. In the true spirit of homebrew simplicity, matching is not called for, but if you really want one, a small L-match or a gamma match will work.

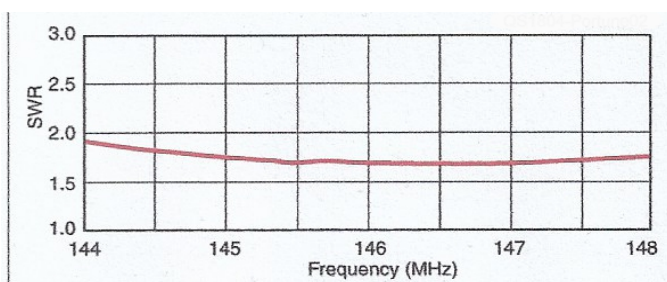


Figure 2 — The SWR of the coat hanger vertical is less than 2 across the 2-meter band.

Construction

Start by rummaging through your closet for two ordinary wire coat hangers — the cheap kind you get from the dry cleaners.

You'll need hangers that are 16 inches wide; the 18-inch kind because they cannot be tuned to 2 meters. Neither the coat hanger's finish nor its wire gauge are important. The hangers I used are 13-gauge (0.075 inches) and white powder coated. For indoor use, steel hangers and hardware are fine. For outdoors, weatherproofing and brass or stainless hardware are recommended.

Begin construction with the PVC mast (see Figure 3). I used $\frac{3}{4}$ -inch-diameter pipe, but $\frac{1}{2}$ -inch diameter is also okay. First, mark and punch the center hole positions according to the diagram shown in Figure 3. Next, drill an

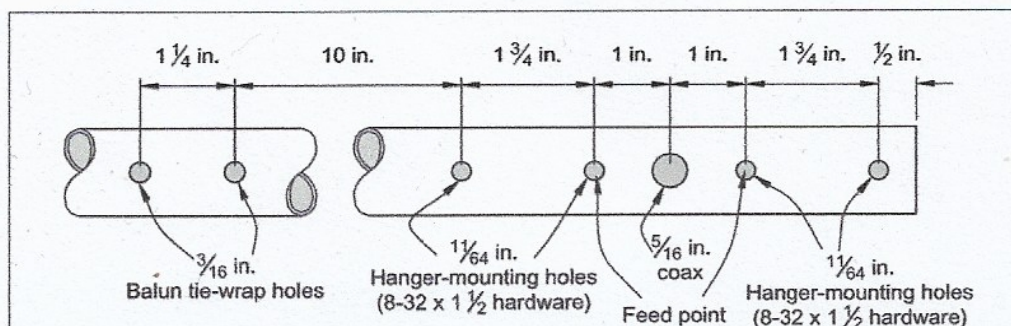


Figure 3 — Nominal positions of holes to be drilled on the PVC mast. The hanger-mounting holes may have to be shifted slightly to accommodate tuning.

$\frac{1}{64}$ -inch hole through both sides at each position. Finally, enlarge the balun tie-wrap holes to $\frac{3}{16}$ inches and the coax hole to $\frac{5}{16}$ inches.

Next, remove an inch of the coax jacket, unweave the braid, and twist the individual braid wires together.

Then, if you wish, add heat-shrink tubing for weatherproofing. However, do not put the ring terminals on yet - they won't fit through the holes in the mast.

Straighten the hooked ends of the hangers and bend small terminal loops parallel to the hanger body planes to accept 8-32 screws (see Figure 4).

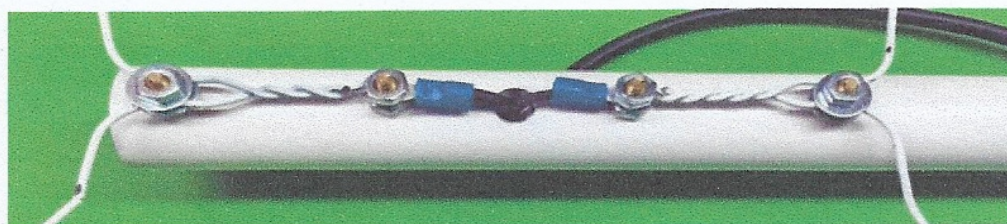


Figure 4 — Closeup of the feed point and hanger mounting.

Start with the wire

uncut. After assembly, shorten the wires to set the operating frequency of the antenna. Be sure to scrape off the paint after forming the terminal loops.

Install the four 8-32 $\times$ $\frac{1}{2}$ screws (see Figure 4). Pass the coax from the back through the $\frac{5}{16}$ -inch hole in the mast. Now add the ring terminals. Loop the coax down to the balun position and make five wraps around the pipe, securing them with a long tie-wrap through the $\frac{3}{16}$ -inch holes. The coax should be kept at least an inch away from the lower hanger, with the wraps forming a choke current balun. Finally, attach the coat hangers between washer pairs, as shown in Figure 4.

Tuning

With the antenna completely assembled, begin reducing the lengths of the wire ends in short increments until the antenna resonates at the desired frequency. Cut off roughly an inch each time, and bend a new loop. My wires ended up roughly 2 inches long, but yours may vary. If you can't reach the 2-meter band, your hangers are not the right size. The antenna can be fine-tuned by bending the horizontal portions of the hangers inward or outward. In the worst case, you might have to drill some new mounting holes, but this is

easy with PVC as a mast material.

Getting It Out There

This build was a great way for our group of hams and me to demonstrate homebrew fitting our original criteria - it really works, it was inexpensive, and it was easy to build.

A horizontally polarized version of this antenna is also quite practicable. Just add a PVC T-fitting at the top to mount the hangers. A multi-element beam antenna is also possible with additional coat hangers, pipe, and fittings.

Simple do-it-yourself projects like this are great for getting started with homebrewing and motivating new hams. It is also ideal as a radio club group project — just provide attendees with partly pre-cut materials and let them try it out.

Foundations of Amateur Radio

Why do we communicate?

The art of amateur radio is many things to many people. For me it's a technological challenge, a learning, a way to broaden my experience, a way to be technically active away from my consultancy. The place that amateur radio takes in your life might be the same, or it might be completely different, as varied as the people I've encountered since I became an amateur.

People from all walks of life with different experiences and vastly different stories. Truth be told, in the decade that I've been an amateur, I've spoken to and met people from more diverse backgrounds than in the forty years before that. I make that statement as a person who migrated across the globe twice, travelled through a dozen or so countries, stood on stage in front of thousands of people, taught countless classes and as a radio broadcaster interviewed people from all over the planet.

From paraplegic to quadriplegics, from people with terminal diseases to people struggling with their identity, from astronomers to astrologers, from train drivers to truck drivers, from mariners to motorcyclists, from working to retired, from healthy to hospitalised, from local to remote, from energetic to sedentary, from happy to sad, from connected to isolated and everything in between.

As a host of a weekly net for new and returning amateurs I've begun to notice that some people are falling away, either sitting on the side because they feel that they have nothing to contribute, or stopping communication altogether.

It occurred to me that for some people amateur radio is the only way that they connect to the world around them. It's the only way for them to meet people who are different, who walk a different path, who tell a different story. It's also sometimes the only thing that makes them get out of bed.

In a world where we're all busy, dealing with the realities of daily life, trying hard to figure out what our place is in that experience and trying hard not to lose your identity while you're attempting this, it's easy to overlook the amateur you didn't hear from for a week or a month.

I know that for several of my new friends, amateur radio kept them alive for longer and made them smile more often and made their life a little easier, even if several of them have become a Silent Key since I counted them as my friend.

When one of the main activities of our hobby is communication, it seems appropriate to take a moment to consider what that looks like from the other person's perspective. What might it be like to be acknowledged, to be validated as a human, to see them and their life, to speak with them, even if only briefly, and to take a moment out of our own busy existence and answer that CQ, or respond to a question, or smile with a fellow amateur.

There is another aspect to this, one which I've not actually seen in the amateur community. Perhaps I've been too busy to notice, but it appears that the venerable telephone circle, the idea that one person calls the next person on the list, who then calls the next and so on. If the last person doesn't get a call within a set time, they call the list backwards and discover who is not answering their phone. It's an effective way for people to regularly talk to each other and it's an excellent way to make sure that everyone is OK.

In our own community of amateurs we can do the very same thing. Hosting a net is one way, having a daily commuter chat is another, but when you do this, take a moment to consider who didn't check in and see what they're up to.

It's fascinating to me that we're a hobby that's primarily made of old men, yet we haven't actually embraced our own ageing process as part of the experience. Sure there is a need to encourage new people into the hobby, but that's not the entire story. We should be so lucky as to speak with our friends on a regular basis, to check-in with each other and to make sure that we're all getting our daily dose of RF.

So, ask yourself how the community around you is doing and how you might take a moment to check-in with those not so near, but just as dear to you.

I'm Onno VK6FLAB

5H3FM Zanzibar Island

5H3FM Zanzibar Island. Ferdy De Martin, HB9DSP will be active as 5H3FM from Zanzibar Island, IOTA AF - 032, Tanzania, 24 November - 5 December 2023.

He will operate on 20, 15, 10m, SSB, FT8.

QSL via LOTW preferred or via home call.

PZ5NH Suriname

Nobu, JA0JHQ will be active as PZ5NH from Suriname, 7 - 14 December 2023.

He will operate on HF Bands, CW, SSB, FT8.

QSL via home call direct or LOTW.

Address for direct QSL: Nobuaki Hosokawa, 8270 Fujimi, Fujimi-cho, Suwa-gun, Nagano, JAPAN, 399-0211.

XT2AW Burkina Faso

Harald, DF2WO will be active again as XT2AW from Burkina Faso, 6 - 19 December 2023.

He will operate on 160 - 6m Bands, CW, SSB, Digital modes and also QO-100 satellite.

QSL via M0OXO, OQRS.

9L5M Sierra Leone

Shabu Ramakrishan, M0KRI will be active as 9L5M from Sierra Leone, 23 November - 6 December 2023.

He will operate on 80 - 6m Bands, CW, SSB, FT8 and possibly QO-100.

QSL via G3SVK.

VK9CY Cocos Islands

VK9CY Team will be active from Cocos Keeling Islands, IOTA OC - 003, Australia, 29 November - 7 December 2023.

Team - YL2GM, EA5EL.

They will operate on 160 - 10m, CW, SSB, Digital modes.

QSL via YL2GN, ClubLog OQRS, LOTW.

Address for direct QSL: Ziedonis Knope, P.O.Box 55, Balvi, LV-4501, Latvia.

VP2VMM Anegada Island, British Virgin Islands

VP2VMM Team will be active from Anegada Island, British Virgin Islands, IOTA NA - 023, 4 - 12 December 2023.

Team - K2KW, AG9A, KD4D, W9RE.

They will operate on HF Bands, including activity in ARRL 10m Contest.

Outside the contest they will be active as VP2V/K2KW, VP2V/AG9A, VP2V/KD4D, VP2V/W9RE.

QSL via KU9C, LOTW, ClubLog OQRS.

V6EU Chuuk Island

V6EU Team will be active from Chuuk Island, IOTA OC - 011, Micronesia, 4 - 16 December 2023.

Team - DL2AWG, DK2AMM, DL2AMD, DF4GV.

They will operate on 160, 80, 40, 30, 20, 17, 15, 12, 10m and maybe 60m Bands, SSB, CW, RTTY, FT8.

QSL via DL2AWG.

T32TT Kiritimati Island

T32TT Team will be active from Kiritimati Island, IOTA OC - 024, Kiribati in December 2023.

Team - Members of the Rebel DX Group.

They will operate on HF Bands with focus on FT8 as from T22T.

QSL via ClubLog OQRS, LOTW.

4S7KKG Sri Lanka

Peter, DC0KK will be active again as 4S7KKG from Sri Lanka, IOTA AS - 003, until 30 March 2024.

He will operate on 20 - 6m, CW, Digital modes.

QSL via home call, LOTW, OQRS ClubLog.

Address for direct QSL: Peter Vossen, Vossberg 1, 33100 Paderborn-Dahl, Germany.

QTH Locator - MJ96xk.

HR5/F2JD Honduras

Gerard, F2JD will be again active as HR5/F2JD from Honduras, 25 November 2023 - 21 March 2024.

He will operate on HF Bands plus 6m, CW, SSB, Digital modes.

QTH - Copan Ruinas.

QSL via F6AJA.

Address for direct QSL: JEAN MICHEL DUTHILLEUL, 515 RUE DU PETIT HEM, 59870 BOUVIGNIES, France.

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