



Wythall Radio Club

Wythall Contest Group



G1WAC G4WAC G7WAC G0WRC M5W

g1wac@wythallradioclub.co.uk

<http://www.wythallradioclub.co.uk>

Wythall Radio Club meets from 8pm every Tuesday evening at Wythall House, Wythall Park, Silver Street, Wythall, B47 6LZ, near Birmingham.

Visitors are very welcome. Wythall Radio Club is affiliated to the Radio Society of Great Britain

Officers

Chairman: Vaughan M0VRR

Secretary: Chris G0EYO

Treasurer: David G0ICJ

Committee -

Martin G8VXX

Chris G6KMQ

Lee G0MTN Contest Liaison

Peter M5DUO Antenna maintenance.

Mike G4VPD

Mel M0MAJ

Martin G7WBX

Colin M0GJM QSL manager

Neil M0YMM IT manager

Tom G3PQP Homebrew Leader

Chairman's Message

Well it's that time of year again, hot wet windy cold weather, BBQ's and sporadic E's. The time of year that for a 70cm repeater keeper can be quite busy. Have you ever stopped and looked around at how many cheap little 433 MHz devices are about ? (and some not so little as some of you have already heard the 100ft crane tale!) well for me it's a bit like having an early warning system for a lift on 70 cm as wireless house alarms from streets away seem to be trying to get on the bands and access the repeater.... Thanks to ctcss (Continuous Tone-Coded Squelch System) most devices are kept out; anybody know who came up with the idea first ? Was it Motorola, General Electric or RCA ? Answers in person please at this years VHF NFD...

That's right VHF NFD (National Field Day) is on the weekend of 3rd and 4th of July, we always need operators, loggers and even an extra pair of ears. If you have never had a go operating a contest, this is a great weekend to have a go as there will be lots of old hands about to offer guidance and advice. Of course all this setting up and building radio stations in the great outdoors, while basking in the hot sun is hungry work; So Sherryn and I shall be firing up the club BBQ on Saturday night, with the first burgers going to Mark and Stewart for all their hard work in the club room, thanks guys. We have access to the field from Friday night so see you all at some point over the weekend...

Cheers
Vaughan M0VRR

Newsletter

July-August 2010

Club's Plug and Play Weekend Big Success

On May 8th and 9th the club set up its caravan in the field at the back of Wythall Park and so began a weekend of playing radio with members trying out their own and other member's antennas. Chairman

Vaughan M0VRR, came up with the idea and agreed to tow the caravan over for the weekend's activities. A variety of antennas were installed. Tom's G3PQP 20m C pole plus a 110ft doublet for HF bands and a long wire fed via an SGC230 tuner. The clubs FT847 and FT736 were brought up from the shack and Chris G6KMQ brought along his IC7700 to demonstrate and no doubt cast a shadow of envy amongst fellow members. Tom's L match ATU (as demonstrated at a recent homebrew evening) was also used. The caravan mast was extended another few metres by a grp pole and the doublet feed-point was



GB4VE

Special Event Station at Wythall Park on 8/9th
May 2010 run by Wythall Radio Club
QSL via bureau G4WAC



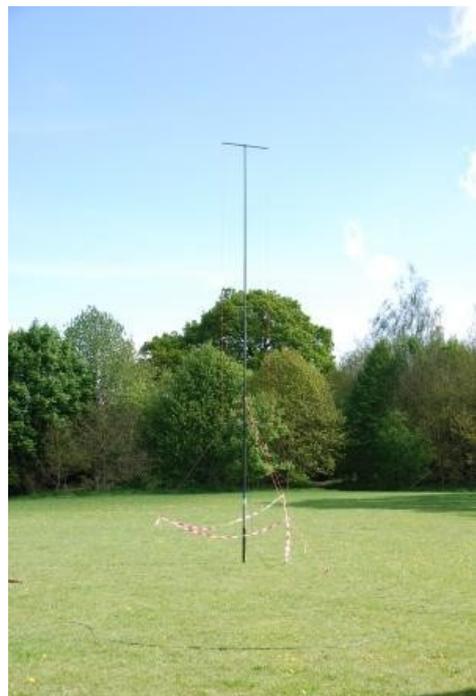
QQ Zone 24 - ITU Zone 07
2010 Reference BU-0003 Mainland Gt Britain IARU
Grid Locator IO92BJ, WAB SP 07



suspended from that. The ends of the doublet were slung up in trees at the side of the field. The top of the caravan mast looked a bit of a bodge but it all worked rather well. Mark 2E0MSW put up a 2m co-linear on a mast strapped to one of the goal posts so that they had 2m capability. Chris G0EYO registered the special call sign GB4VE as it was the 65th anniversary of VE day

and he decided to have a go at QRP using 35W from his mobile IC2725 via a roof rack mounted co-linear on the Saturday and his 3W FT817 for SSB contacts via his portable SOTA 2m beam on the Sunday. The SOTA beam gave a

higher than normal VSWR (1.8-1.9:1) which may account for the poor contacts he had on SSB. Jon M0JMM brought his portable package of FT897 and power pack plus GRP



Experimenter's 13.6Vd.c. Bench Supply

Another exciting project
from Barry's Bench

This bench PSU is very useful for experimenters requiring a 13.6 volt dc supply at a couple of amps. Tired of replacing blown fuses at a cost of 30p each in a conventional supply I wanted something that was resettable after a short circuit, so this circuit was devised.

THE CIRCUIT

Looking at the circuit diagram you can see it is a fairly conventional series pass regulator consisting of a BFY50 and a TIP3055. Under short circuit conditions or once the output voltage drops below the holding voltage of the relay (about 8 volts), DC supply to the series pass regulator is removed via RLY1 contact and will remain so until the fault is cleared and the PSU reset by the push button reset switch. The 2R2 resistor limits the current surge under short circuit conditions until the relay drops out (in a fraction of a second) thereby affording some protection to the series pass transistors, al-



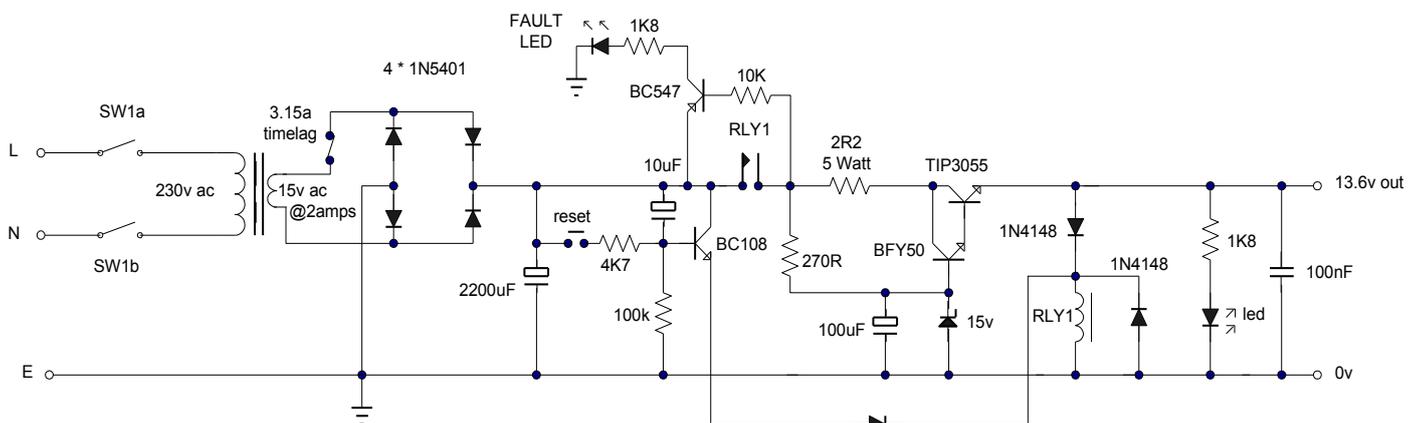
though they will survive okay without the 2R2 resistor (belt and braces job). On initial switch on, the BC108 in combination with the 10uF capacitor gives the relay a short energizing pulse to allow DC to the series pass transistors and thus maintaining the output

supply voltage. The mains transformer should have a secondary voltage of approximately 15 volts ac and a current rating of a couple of amps. This PSU has been in use for a number of years now and has performed flawlessly saving me a small fortune in fuses.

CONSTRUCTION

A small PCB was built for the smaller components, the TIP3055 is mounted on the aluminum chassis to act as a heatsink. Dead bug style construction would also be fine for this project, be sure to use an adequate heatsink for the TIP3055. For the relay, I used an automotive type (normally open, single contact closure) as I had a few in the junk box, however any relay with a 12v coil and a contact rating of at least 5 amps will be okay.

Barry M0DGQ



Plug and Play weekend ... Cont'd



20ft vertical antenna with 9:1 un-un and 20ft counterpoise to compare with the other antennas. Chris G0MLY and Dave G3YXM and their friend Mark G4FPH came along and built an 18m Spiderbeam pole with a top-loading coil suspended about 3m down. Then they put down some quarter-wave radials. A sort of top-loaded

Steve EI2GYB over from Ireland on a family visit. Many thanks to Vaughan for organising the weekend. We shall certainly have another one. There will be loads more pictures of the weekends fun and games on the club website

Chris G0EYO



vertical for 160m I suppose... might be good for DX but apparently wasn't much use on Sunday afternoon!

Lots of members came to the site and joined in the fun and activities over the weekend which included a bit of kite flying. In addition to those mentioned above we registered Martin G7WBX, Stewart 2E0NYC, David G0ICJ, Vic M0AEJ, Roy G0HDF, Martin G8VXX, Phil M6PCN and Mark M6ABD, apologies for anyone who has been missed out. A surprise visitor was



Shack Refurbished

Thanks to the very hard work put in by Stewart 2E0NYC and Mark 2E0MSW the shack and class room are looking very different now. Over several weekends these guys stripped everything out and painted the walls, ceilings and even the floor in the classroom. Mark made steps for the fire escape and a cover for the sump pump. As a consequence we have been able to fit all the tables in and can now comfortably teach up to 9 students. Not content with having done that they then cleaned up the radio shack and made a store area out of the little alcove by the training cupboard. There is still more to do. The area outside the shack needs a good coat of paint and the tunnel and top of the stairs is next to be painted. There are plans to install emergency lighting and also to fit loudspeakers and an amplifier either side of the white board for video presentations. Finally it is our intention to give the boiler room where we store most of our field day stuff a good clear out and tidy up. Well done guys the club owes you a lot.



Backpackers beware!!

Exploits on a Grassy Knoll

The RSGB Backpackers' Contests by Dave Pick G3YXM

It all started a few weeks ago when Chris G7DDN and myself were trying out a bit of bicycle mobile on 2m. The idea was to go for a ride, both starting from our respective homes and arriving at an appropriate meeting place, each having travelled a similar distance. It obviously had to be a pub... The Peacock, just off Icknield Street seemed to fit the bill and so we set off.

Some time later, having arrived at the Peacock puffing and panting, one thing was clear; it was at the top of a hill! After a much needed pint, we explored the area and discovered that there was a picnic site on the other side of the lane. It had a car park, some picnic benches, and a "grassy knoll" at the other end. This small hill stands about 40ft higher than the surrounding land and having checked out the Google Maps contours, Chris thought that it would be an ideal site from which to do a back-packer's contest. We could park the regulation 100 metres away from the lump, carry the gear to the top (which would give us a height advantage) and, most importantly, it was within easy reach of the pub!

On the day of the first 144MHz Backpackers' contest we were back, armed with a

12ft pole, a five element beam, an FT-817 and some batteries. The contest went surprisingly well; under flat conditions we worked a couple of GMs, made 36 contacts and scored 201,000 points, not bad for two and a half Watts! The results are out now and we came 5th out of 20 entrants in the 3W section. We had no real problems - except for difficulty reading the netbook PC screen when the sun shone, and no shelter, or chairs, or table...

For the second contest on June 13th we upped the game a little. I invested in a second-hand 9-element Tonna beam and Chris brought his Ten-Tec RF speech processor to give us a little extra talk power. We also came armed with a beach shelter, some chairs and a table. Mark G4FPH had heard our tales of amazing distances on QRP and decided to join us, or maybe it was just the promise of some beer and a curry afterwards that persuaded him?

This time we had more contacts, which was particularly surprising given the fact that we turned up an hour late having failed to notice that this leg started at 0900UTC rather than 1000UTC! Conditions on 2m were flat once-again. Best DX at 303km was TM7T in France (the GMs were probably put off

by bad weather "up north") and it looks as though we may have come about 7th in a bigger field of entries.

Problems this time were the late start, a dead battery rendering the speech processor inoperative after an hour or so, another battery issue which took us off air in the middle of a QSO (embarrassing!) beer spillage (what a waste!) and the fact that we *still* couldn't read the PC screen despite the shelter.

Having developed a taste for this lazy form of contesting we decided to have a crack at the 6m Backpackers contest, which luckily was scheduled for the following weekend. Less than a week to go and we didn't have even a 50MHz aerial so Mark decided to model a "Spiderbeam" type 3-element beam using EZ-NEC. Results on the computer screen looked encouraging but the only way to really find out if an aerial works is to build it.

The idea is very simple; two crossed poles and wire elements folded round the perimeter. I went off for a rummage in my garage and came up with the centre-piece from a broken "Cob Web" aerial and a couple of half-complete telescopic fishing poles, just the job! After an hour or so, the 50MHz Spiderbeam was finished and I gave Chris a test call on 50MHz. SWR was good and there (cont p5)

Training Report

Five of our students passed their Foundation Examination in May and received their M6 call-signs. Well done Eric M6EVW, Martin, M6MWD, Phil M6PCN, Mark M6ABD and Ian M6IDR. I am pleased to say all five plus Stuart M6TYE have entered the current Intermediate Course whose exam will be on July 5th, so hopefully they will not be M6's for long but become 2E0's. The new classroom layout has made teaching much easier and we can take up to 9 people on future courses.

Foundation Course

The club proposes to run a further Foundation Course which will run for 5 weeks over 8 sessions from 24th July until 26th August, mostly Monday evenings but with a couple of Saturdays. We are now looking for candidates for that course so if you know of someone who will be interested please get them to contact me Chris G0EYO on 07710 412 819 or



L-R: Martin M6MWD, Ian M6IDR, Phil M6PCN, Eric M6EVW and Mark M6ABD

g0eyo@blueyonder.co.uk. The cost will be £40 to cover exam, books and course materials plus membership of Wythall Club for one year. We have a subsidised fee of £25 for those under 18 or out of work and on benefits. This will be the

last Foundation course we run in 2010 as our Advanced Course starts early September and runs until end of November.

Advanced Course

Our Advanced course will run from Saturday 4th September for 15 sessions over 13 weeks with the examination being taken on Monday November 22nd. The sessions are mostly Monday evenings with a couple of Saturday mornings. With the numbers of students who have gone through our Intermediate courses this year we should not be short of candidates, Again if you know of

someone who is looking for a course or even just a venue to take the examination then get them to contact me at the details above.

Chris G0EYO

Club Diary

Saturday	3rd July	VHF NFD
Sunday	4th July	VHF NFD
Monday	5th July	Intermediate Course Exam
Tuesday	6th July	2m UKAC contest
Tuesday	13th July	Committee Meeting
Tuesday	20th July	Homebrew
Saturday	24th July	Foundation Course Session 1
Monday	26th July	Foundation Course Session 2
Tuesday	27th July	Natter / On air night
Monday	2nd August	Foundation Course Session 3
Tuesday	3rd August	2m UKAC contest
Saturday	7th August	Foundation Course Session 4
Monday	9th August	Foundation Course Session 5
Tuesday	10th August	Committee Meeting
Sat/Sun	14/15th Aug	Steam Rally Special Event at Bromsgrove
Monday	16th August	Foundation Course Session 6
Tuesday	17th August	Homebrew
Monday	23rd August	Foundation Course Session 7
Tuesday	24th August	Natter / On air night
Thursday	26th August	Foundation Exam Session Special Event Station at Landrover Show
Sat-Mon	28-30th Aug	Stoneleigh
Tuesday	31st August	Natter/ On Air night
Saturday	4th Sept	Advanced Course Session 1
Monday	6th Sept	Advanced Course Session 2
Tuesday	7th Sept	2m UKAC contest
Monday	13th Sept	Advanced Course Session 3
Tuesday	14th Sept	Committee Meeting
	18th/19th	
Sat/sun	Sept	Hanbury Steam Rally
Monday	20th Sept	Advanced Course Session 4

(Cont from P4) seemed to be a difference which way it was pointed, so it looked as if we had an aerial for the contest. Sunday 20th June dawned warm and sunny and we assembled at the Peacock just after 10.30 (local time) for the 11.00 start. The Spiderbeam went up very easily as it is extremely light, the batteries were all charged (we bought more than we needed this time!) and I'd remembered to bring a rug to throw over the beach shelter to keep the sun off the PC. Most importantly of all, the 6m band was wide open to South and East Europe. I had feared that a puny 2½ Watts would not be heard in amongst the racket of the 50MHz Trophy contest running at the same time, but amazingly we worked station after station. Yankee Tango this and Nine Alpha that, all the way across the SSB section. We had to switch the preamp off and the attenuator in on the 817 so that it could cope with all the 9++

signals. Best DX was Cyprus at over 3000km and the points score works out at about 9.5 million! It appears that the G4FPH Spiderbeam works very well. We did a few tests after the contest had finished using some of the many Beacons on the band and they showed a reasonable front-to-back ratio. In addition, its light weight and small turning circle make it a great portable aerial.

At the time of writing, there are only two entrants for the 50MHz Backpackers so we might even have won some kind of Trophy! (There were only 5 entrants last year) Whatever the result, it was a great way to spend a sunny Sunday afternoon, and we shall never doubt the effectiveness of a simple QRP station again!

Dave Pick G3YXM

(see pics on page 8 of the backpackers)

Club Secretary Wanted

At the May Committee Meeting I announced my intention to resign as Secretary of the club at the October AGM. I am doing this for a variety of reasons not all of which I wish to discuss publicly, but it is time the club recognised the dangers of having one person have so much responsibility for club activities, especially considering my age and general health. For the record I do the following for the club:

Secretary looking after committee meetings, agendas, minutes, club diary, keeping track of club inventory, keeping place tidy, emptying the bins, publicity via the website, and various reflectors
Social Secretary organising the Annual shooting competition, Xmas Party and Xmas Fox Hunt

Newsletter Editor, publishing a newsletter 6 times per annum

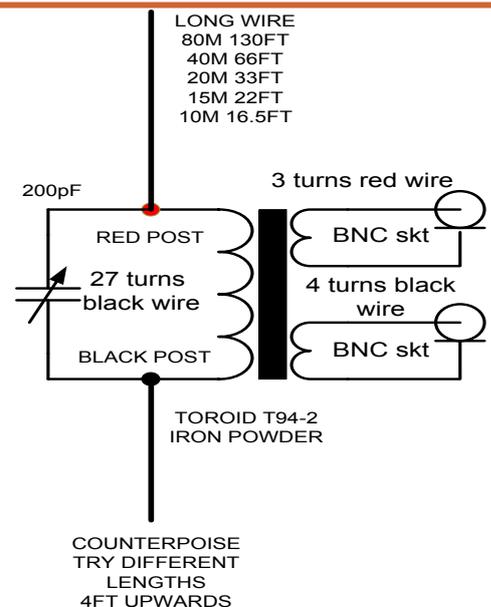
Traders Tables organiser and publicist for the Rally

Training Co-ordinator and instructor for the training courses

There is also the moral obligation to participate in everything the club puts on or does. I have no wish for my resignation to cause the club activities to come to a halt but I would like to give up the Secretary and Social Secretary duties, which would enable me to carry on, if the membership wish me to do so, with producing the newsletter, organising the traders tables and organising the clubs training activities. Eventually it would be nice if others could be found to undertake these duties as well.

I have been deeply involved in this club for past 25 years in a very active way, and frankly I feel I have achieved all I can do for this club. It seems to me that the spirit and excitement which spurred me and other to do what we have done to build this club up, is no longer present. This may be due to an ageing membership but we are recruiting younger members and it is very encouraging that two of them have taken the responsibility to refurbish the club shack. Clubs, like life, need to evolve from one generation to the next. There has to be a time for the old guard to leave. For me I think this is my time so this is my final year in the Secretary post.

So who wants to take it on? It's not too onerous but it does require a certain commitment and ability to organise oneself and others. Living within reasonable travelling distance of the of the club to have ready access to the shack as a key holder if anything goes wrong or needs sorting out would also be an advantage. –Chris G0EYO



Schematic of End Fed Half-wavelength Antenna described on page 7

Amateur Radio saves life at sea

Pacific Ocean: Three 14.300 MHz Amateur Radio 'Networks' respond to an urgent 'PAN PAN' call for emergency assistance from David KF7GWI, one of five crewmen aboard the (36) foot recreational vessel, "S/V Wind Child", enroute to the Marquesas Islands.

April 3, 2010 by Rex J. Weinheimer KC5AGO, Stonewall, Texas

The Intercontinental Traffic Network (INTERCON), the Maritime Mobile Service Network (MMSN), and the Pacific Seafarers Network (PACSEA) are three volunteer amateur radio "Networks" which sequentially conduct radio watches for up to eighteen hours per day, 365 days per year on HF 14.300 MHz USB; the HF radio frequency now designated worldwide as a "Center of Activity" for emergency communications in the 20 Meter Amateur Radio Band by the International Amateur Radio Union, Regions I, II, and III.

At approximately 10:09 AM EDT, on Thursday 04/01/2010 **David KF7GWI** amateur radio operator aboard the S/V Wind Child transmitted a "PAN PAN" on 14.300 MHz. The call was heard by "Network" member Bill KI4MMZ of Flagler Beach, FL. Immediately KI4MMZ established contact with KF7GWI and determined the vessels position as being in the Pacific Ocean at (09°-30'N x 126°-47'W), approximately 1,400 miles SW of San Diego, CA. KF7GWI reported a medical emergency with request for immediate assistance. At 12:45 UTC, a 57 y/o male crewmember had sustained a traumatic injury; an internal and external crushing to his throat, extreme laceration to the tongue, and a deep puncture wound to the back of the skull. The patient lost consciousness and had ceased respirations for a period. KI4MMZ quickly established a telephone patch with USCG Sector Alameda, CA and reported the details of the incident.



Within a matter of minutes, USCG Sector Alameda had a Flight Surgeon on the telephone with KI4MMZ. The Flight Surgeon

remotely assessed the patient's condition, asking pertinent questions and receiving responses as passed thru amateur radio "Network" relays with KF7GWI responding from S/V Wind Child.

The USCG determined that a Med-Evac Mission was necessary and swiftly set into motion a very complex plan to rescue the injured crewman and deliver him to a medical facility for treatment as soon as possible. The rescue event is ongoing and hopefully will be successfully concluded by Sunday night.



The amateur radio "Networks" established and maintained a recurring hourly communication schedule with the S/V Wind Child. Amateur radio operators from the "Networks" continued to procure the orderly flow of updated patient information and timely position reports which in turn were passed to the USCG and Flight Surgeon via telephone so that last minute plans could be adjusted.

The USCG and California Air National Guard, jointly communicating with the assistance of "Network" amateur radio operators providing the long-distance communications link to the S/V Wind Child, were successful in delivering the four Para-Jumpers, along with their inflatable boat, rescue, and survival gear to the S/V Wind Child. Per the "AMVERS" alert issued by the USCG, HF radio contact had earlier been established by "Network" radio operators with the M/V Cap Palmerston which had diverted her course and was headed to the S/V Wind Child to assist in the rescue.

The "Network's" hourly communication schedules were downgraded to a "listening watch" after the fact was made known that the Para-Jumpers were successfully aboard the S/V Wind Child.

The patient and the four Para-Jumpers were successfully transferred to the M/V Cap

Palmerston. The ship is currently headed to San Diego. On Easter Sunday, the M/V Cap Palmerston will rendezvous with a task group of (2) MH-130 Hercules fixed-wing tankers and (2) HH-60 Hawk helicopters approximately 500NM west of San Diego, CA.

The helicopters will pick-up the patient and the four Para-Jumpers, and then transport the patient back to San Diego, CA for further medical treatment.

We heartily applaud the professional efforts of the USCG, the Para-Jumpers, the California Air National Guard, the M/V Cap Palmerston, and the many amateur radio operators that assisted in, or stood silently ready to assist in this seamless and successful, combined agency rescue at sea. Kudos for David KF7GWI whom as late as January 5, 2010 received his amateur radio license especially for this voyage of S/V Wind Child; "David felt one person on board should have a license for just such an eventuality!"

Oh yes, one last note of interest, Satellite Telephone service was unobtainable at the scene of the incident.

For more information concerning the Ham Radio Networks that operate on 14.300 MHz, please visit <http://14300.net/> and <http://14300.net/windchild.html>

There are probably many instances each year where amateur radio has helped save someone's life and I reprinted the story here from Southgate's newstream to show what can actually be achieved and to let those of us who may be thinking of seeking planning permission for some mast or other that these are the sorts of experiences we need to pass on to those bl**dy planners

Chris
G0EYO



Build a simple multiband end fed half wave antenna (EFHWA)

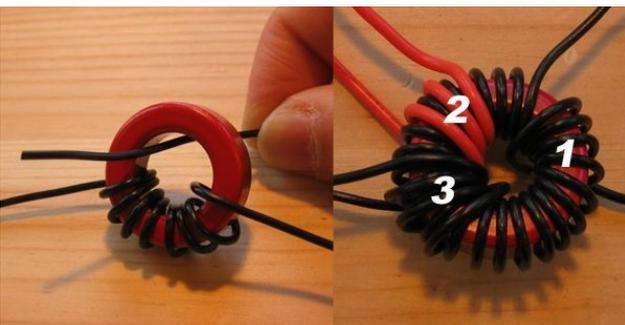
Diana Eng KC2UHB is a celebrity fashion designer who features on TV's Project Runway, but she is also a very savvy radio ham. I have watched a couple of her You Tube videos explaining ham radio topics and also making simple antennas. The following article may be of interest to those of us who like portable hf operation. I haven't tried it myself and would be interested to know how anyone gets on if they choose to do so.

For portable radio operation, I like End-Fed Half-Wavelength Antennas (EFHWA, pronounced "EF-WAH"). This type of antenna is similar to the common half-wavelength dipole, but with one significant advantage. A dipole has its feedpoint (where it connects to the radio) in the middle of the antenna, but an EFHWA's feedpoint is at one end. This makes it very convenient to throw the antenna up in a tree and connect the bottom of it to your radio. Here are instructions for making a multiband end-fed half-wavelength antenna that works on 17, 20, 30, and 40-meter bands.

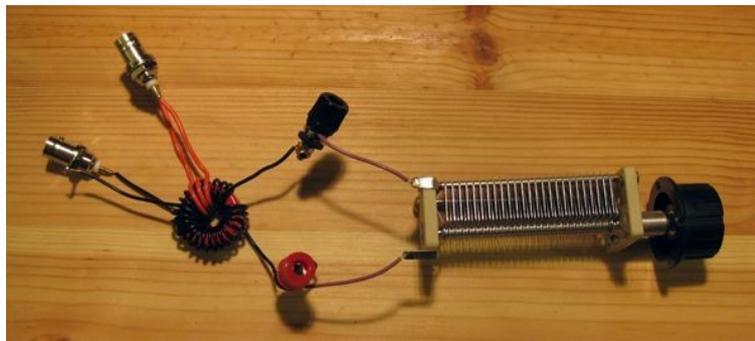
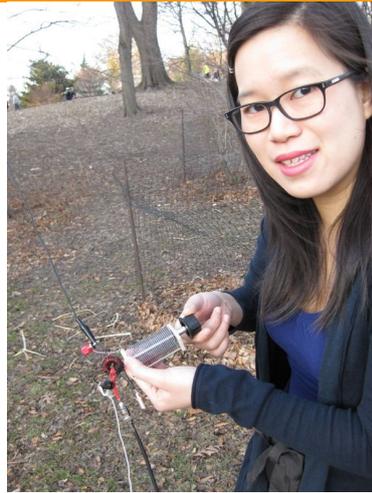
Materials

- A/B. Solid Core Wire (two colours, 24-gauge recommended)
- C. 5000-ohm resistor (recommended for testing)
- D. 2 Binding posts
- E. 2 BNC connectors
- F. T94-2 iron powder toroidal core
- G. 4 jumper wires with alligator clips (you may need more)
- H. Air variable capacitor, ~10-200pf (e.g. MFJ 282-2005)
- I. 200 feet of antenna wire. (e.g. from thewireman.com)
- J. Coaxial cable
- K. Radio (I use the Yaesu FT817)

Start by wrapping the wire around the toroid. Wrap the first wire around the toroid 27 times (I used a black wire for this). Make sure the first wire is wrapped evenly around the whole toroid. On top of the first wire, wrap a second one around the toroid three times (I used a red wire for this). Also on top of the first wire, wrap a third wire around the toroid four times (I used a black wire for this).



2.



Connect a binding post to each end of wire 1 (these are not polarized, so it doesn't matter which connector is connected to each wire). Connect wires 2 and 3 to the BNC connectors.

3. Solder two short pieces of wire to the terminals of the air variable capacitor.

4. Connect the air variable capacitor to the binding posts. Once again, these are not polarized, so it doesn't matter which binding post is connected to which terminal.

5. Cut your half-wavelength antenna wire(s). To determine the wire length, use the formula $468/\text{frequency}$. Choose a frequency that's in the middle of the band you wish to operate on. For example: The 20-meter band covers 14.0 to 14.35 MHz. 14.2 is a frequency approximately in the middle of the band, which gives a length of $468/14.2 = 33$ feet.

6. If you have an antenna analyzer, you can test the antenna at your workbench to check that everything is properly connected before going out into the field. Connect the 5000-ohm resistor across the binding posts. This will simulate the impedance of a vertical antenna. Connect the antenna analyzer to the red wire BNC connector. Adjust the air variable capacitor to get the SWR to be as low as possible at your desired operating frequency. This should be about 1:1 in the middle of the band, and 1.5:1 at the ends of the band. If you're not able to

get this, check your connections.

7. Now you're ready to go out into the field. Attach one end of your antenna wire to one of the binding posts, either directly or using a jumper wire. Using the technique of your choice, support the other end from a tree or other tall support. Be careful of power lines and other hazards!

8. Next, create the counterpoise. How to create a counterpoise for an EFHW antenna is hotly debated. Different sources tell you to make the counterpoise wire different lengths, some even say that you don't need a counterpoise. I decided to just use a few jumper wires chained together to create a counterpoise, with a total length of about four feet.

9. Connect the antenna analyzer or radio to the red BNC connector.

10. Tune the antenna by adjusting the air variable capacitor. If you don't have an analyzer, you should put your radio on the lowest possible power setting and transmit a CW tone while monitoring the SWR meter (following proper procedures for identifying your transmissions and avoiding causing interference to other stations).

You want to get the lowest SWR possible on your operating frequency. Make sure not to transmit when you're touching any part of the antenna or the matching network, or you could get an RF (Radio Frequency) burn.

11. If you couldn't get the SWR down to 1:1, try connecting the antenna tuner/radio to the other BNC connector and repeat the previous step. Your radio expects a 50-ohm impedance, but the impedance of an end-fed wire is much higher, on the order of thousands of ohms. The exact value can depend on many factors and will change depending on how and where you've hung the wire. The toroidal transformer's job is to reduce the impedance, and the two BNC connectors on it give you some flexibility in finding a good match in the field. The red connector has a turns ratio of 9:1 (27 to 3), which corresponds to an impedance reduction of 81:1. This would be ideal for an antenna with an impedance of ~4000 ohms. The black connector has a turns ratio of 6.75:1 (27 to 4), giving an impedance reduction of 45:1, ideal for an antenna impedance of ~2000 ohms. One of these options should be good enough for most configurations.

12. If you're still not able to get a good SWR, try adjusting the length of the counterpoise by adding and removing jumper wires, then repeat the previous two steps. When you've found a good length, you can replace the jumpers with a piece of antenna wire cut to the same length.

13. When you have your antenna tuned and working, put the tuner in a housing (like a Tupperware container).

(see page 5 for schematics)

Contest Group Report

World RadioSport Team Championship (WRTC) 2010

The amateur radio contesting Olympics, the World RadioSport Team Championship (WRTC), will be held during the IARU HF Championship contest over the weekend of July 10 / 11 from 1200Z for 24 hours. Two man teams from around the world will be competing with near identical antennas from a rural area near Moscow. Qualification for the WRTC has been very fierce in the major DX contests over the past couple of years.

Listen out for these callsigns on HF SSB / CW: R31A R31D R31N R31U R31X R32C R32F R32K R32O R32R R32W R32Z R33A R33G R33L R33M R33Q R33U R34C R34D R34O R34P R34W R34X R34Y R34Z R36C R36F R36K R36O R36W R36Y R36Z R37A R37G R37L R37M R37P R37Q R37U R38F R38K R38N R38O R38W R38X R39A R39D R39M R39R

There is also a special awards and prizes programme comprising special plaques, T-shirts and trophies for contacting the WRTC stations.

- The same WRTC-2010 station may be worked once on CW and once on SSB on each band (80, 40, 20, 15 and 10m). The WRTC stations will not operate on 160m. Each confirmed two-way CW or SSB QSO with a WRTC-2010 station counts 1 point.

- The WRTC Committee needs as many IARU contest logs as possible to create the QSO data base it will use to cross check the WRTC competitors' logs. We ask all stations working the IARU contest to please send

RSGB VHF Contests:

3-4 Jul.	1400-1400	VHF NFD	Open R L M FSO FSR	Special Rules for VHF NFD (VHFENFD)
4 Jul.	1100-1500	3rd 144MHz Backpackers	3B 10H	Countries and Locators (M4), Special Backpackers Rules (Backpacker)
18 Jul.	1000-1600	70MHz Trophy Contest	SF SO O	Post Codes and Countries (M1)
7 Aug.	1400-2000	144MHz Low Power Contest	SF SO O	Post Codes, Countries and Locators (M3), 25W max. transmit o/p power, (Low Power Contest)
8 Aug.	0800-1200	432MHz Low Power Contest	SF SO O	Post Codes, Countries and Locators (M3), 25W max. transmit o/p power, (Low Power Contest)
15 Aug.	1400-1600	70MHz Cumulatives #5	O SF	Cumulative contest (S5)
22 Aug.	1100-1500	4th 144MHz Backpackers	3B 10H	Post Codes, Countries and Locators (M3), Special Backpackers Rules (Backpacker)

RSGB HF Contests:

July	1900-2030.	80m Club Championships	5th – CW; 14th – SSB; 22nd – Data
July 18	0900-1600	Low Power Contest	3510-3580, 7000-7040kHz, RST+Serial+Power
July 24/25	1200-1200.	IOTA Contest	3.5-28MHz, RS(T)+Serial+Reference
August	1900-2030.	80m Club Sprint	12th – CW; 25th – SSB
August 1	0700-0830.	RoPoCo 2	3520-3570kHz, RST+Postcode Received

copies of their electronic, Cabrillo formatted logs to logs@wrtc2010.ru or upload them to <http://www.wrtc2010.ru/upload> no later than 18:00 UTC on Sunday, July 11, 2010 (Note: this is only six hours after the end of the contest). The subject field should contain your contest callsign, e.g., "Subject: RA5AA".

WRTC-2010 Certificate:

For making 50 QSO points with the WRTC-2010 stations in any combination of modes and bands.

WRTC-2010 Special Trophy:

For making QSOs with ALL WRTC-2010 Stations on CW, SSB or Mixed mode.

WRTC-2010 T-shirt:

EU: for making 180 QSO points with WRTC-2010 stations

WRTC-2010 plaques will be issued to the stations with the highest number of QSO points in the following categories in Single Op / Multi-Op CW, SSB and Mixed categories, and by continent.

VHF National Field Day 2010

VHF NFD is almost here again. It's the best chance we have to get a lot of club members together to help put on a contest station, but also relax, chat and catch up with each other in the pleasant surroundings of Wythall Park. The contest entry has been pre-registered, the rotators have been checked, and hopefully we're almost ready to go. The only additional element vital for success will be lots of visitors, operators and helpers from the club

membership – so please come along to join in the fun.

Saturday morning will be a busy time, putting together masts and antennas. For those that haven't been before, it's a good chance to pick up some ideas and learn something about portable operating. The contest starts at 3pm local time so there's a literal race against time to get ready. Normally we're ready with time to spare!

When the contest starts, club members will take it in turns to operate and log on the 3 bands we're active in this year, 50, 144, and 70 MHz. The last few years have seen Sporadic E propagation all around Europe (and beyond) on 6m and 2m. We've not tried 4m at Field Day for a few years, and in the meantime many more European countries have been given access to the band. It should be fun. We'll also be running an HF station. In previous year's there have been balloon antennas and various wire designs given an airing at the park.

On the Saturday evening, family and friends will arrive to enjoy a social evening and some food cooked on the field day barbecue. The station will shut down overnight, before restarting in the morning for the final hours.



Backpackers station

The next issue of the Wythall Radio Club Newsletter will be published at the beginning of Sept 2010

Editor: Chris Pettitt G0EYO, 23 Dark Lane, Hollywood, Birmingham, B47 5BS. Phone: 07710 412 819, E-mail: g0eyo@blueyonder.co.uk