newsletter

wythall radio club

"having fun with rf"

wythall contest group

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May-June 2016

Wythall Radio Club meets from 8pm every Tuesday and Friday 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. Contact g0eyo@blueyonder.co.uk

Wythall Hamfest, the best ever!

The Wythall Hamfest held on 20th March retained its position as the premier Radio Rally in the Midlands. This year the organisers were able to book four halls, Britannia, Park, Scout and Archery Hall and found space for the 33 traders who booked with us. This year Radio-World couldn't make it as they were in the middle of a shop move so we were delighted when Martin Lynch and Son said they would take their place. Footfall was almost the same as last year, some 500+ paying guests. Many club members (and sometimes their families) turned out to help, manning halls, taking money, car parking, bring and buy, club stand, helping traders load and unload, setting up and clearing away, etc etc. This made it a very successful day and the weather also looked down on us kindly. This year we also had a lecture stream and Roger G4ROJ (the kite man) gave his demonstration of hoisting an antenna aloft with a kite. The burger man did a roaring trade and his customers were delighted with his food judging by the queues at his van.

2017's event will take place on Sunday March 19th so make a note in your diary. We will try and make it even better than this year (and that won't be easy)

The Radio Club and Wythall Community Club.

The Wythall Community Club is a private club and WCC members pay an annual fee to join it so that they can purchase drinks at the bar. The Wythall Radio Club expects members who use the WCC facilities regularly when coming to the radio club on a Tuesday or Friday night, to join the WCC. This has been part of our constitution for some years and radio club members can join and pay their WCC subs through Ian M0IDR our treasurer.

New members to the radio club are given a little grace and visitors to the club or its courses can be signed in by any WCC member. Also, if you are a radio club member and never use the WCC facilities then no-one is going to bother you to join.

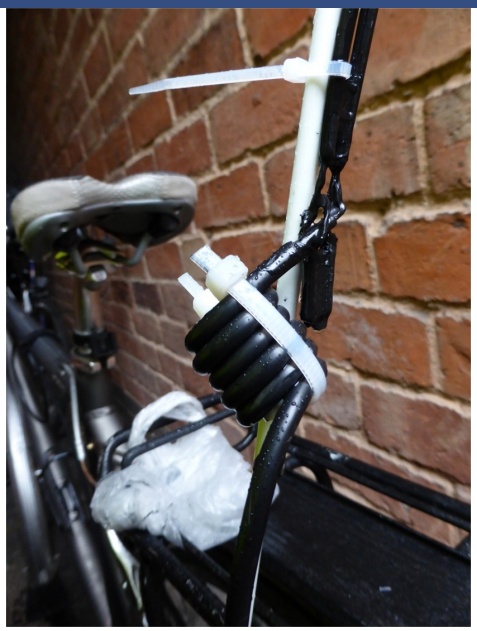
We need to support the WCC. Its profits fund the Wythall Community Association and without that income the WCA existence could be in jeopardy. No WCA no radio club.

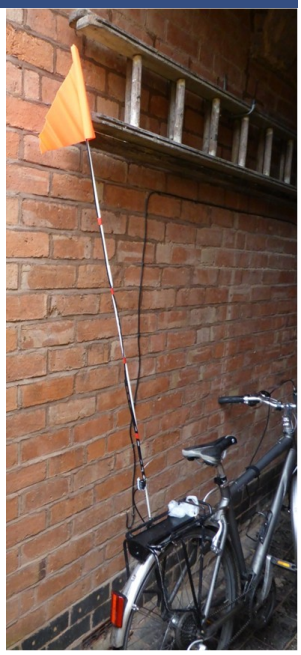
Chris G0EYO

Time for bicycle mobile??

With the summer approaching fast, time to dust off the push bike (if you don't use it year round) and rig it for 2m / 70cm bicycle mobile!

Here's an easy design I adapted from those available on the web. It's a j-pole for 2m (which also resonates on 70cm although it's not a very efficient antenna on that band). The antenna is taped to a 5 foot bike safety flag (£5 or thereabouts on the web when I bought mine - but make sure it is the 5 foot version you are buying!!). The safety flag comes with a metal slot in the base which enabled me to improvise a method of fixing it with a nut, bolt and washer near the rear axle, and to support it to the pannier rack higher up with some twisted wire. This permits easy attachment and removal. Not sure how you'd fix it on a mountain bike, but there must be a way!!





The j-pole is a half-wave radiator on 145.5 MHz with a quarter-wave matching stub. This is fed with 50Ω coax, wound 6 times round some small-bore plastic pipe

to form a choke. The radiator is just a random piece of coated multi-strand wire from the junk box, but I use ladder line for the stub. Some designs on the web suggest using ladder line for the whole thing, but this can make it a bit more costly. Multi-strand wire is also easier to roll-up if the j-pole is for portable work, not the bike!

I have used 300Ω and 450Ω for various j-poles and both work OK. However they have advantages and disadvantages. The 300Ω is smaller and so better if you are making a j-pole to roll-up and take portable, but its smaller size makes it more fiddly to work with, especially when you need to remove the covering to attach the feed point.

Calculate the length of the half-wave and matching stub (there is an on-line calculator on the excellent M0UKD web site, which also has some diagrams), but make everything slightly longer than you need so you can trim it to minimum swr little by little. An important tip: the conductors at one end of the ladder line need to be soldered together to form the stub. Do this before you measure and cut the ladder line, otherwise you will end up with a stub that is too short to start with!!!
Then solder the half-wave section to one of the ladder-line conductors. Fix the coax to the quarter-wave stub. This is where it's easier to use 450Ω for initial attempts, as getting the feed point at the correct place often requires temporary soldering then moving the coax a little and trying again before you solder it permanently!! Trim for minimum swr (this will be approximate when in use as it will be affected by the bike and cyclist). Then cover the exposed wire with tape or liquid tape.

I use a Yaesu VX-7 carried in a small clip-on bag on the handlebars, operated through a vox headset. It's recommended just to push the coax plug on to the antenna socket of the handheld, rather than fix it as one would normally. This is in case of an accident on the bike - that way (in theory) the plug will come out and you won't be fixed to the bike by coax!! I haven't tried out this theory!!
Although I cycle to work most days, I only use this set-up occasionally. It's safest on quieter roads. I sometimes use it if I'm out cycling in the countryside south of the city. One reason it's not used more often is that mounting and dismounting the bike with the safety flag antenna attached is quite a challenge!! I haven't yet developed legs long enough to clear a 5 foot pole!! Perhaps there is a solution if the flag base rotates. Attach a long piece of string or bungee, lay the pole flat, mount the bike, then pull string/bungee and tie off pole in upright position! But it's all in the spirit of amateur radio experimentation.

There are lots of designs for the j-pole on the web, as well as bicycle mobile. Good web sites to look at are:
M0UKD - the j-pole/slim jim calculator
http://m0ukd.com/
Dave Starkie's adventures on HF bicycle mobile!!
http://www.qrz.com/db/G4AKC
Bicycle mobile hams of America - has various links and articles
http://www.bmha-hams.org/

K6RIA - There is a technical discussion and practical design for a more efficient dual band 2m/70cm j-pole, which might be my project for this year! Also some other articles about j-poles.
http://www.k6ria.net/antenna/Emergency%20antennas.pdf

Chris G3YHF

Visual Impairment no bar to Foundation Licence

Wythall Radio Club near Birmingham have successfully helped David Simmons, a blind candidate, achieve his Foundation Licence in April. This was a first for us as a club but the RSGB who run our examination structure on behalf of Ofcom are keen to remove many of the obstacles that are in the way of any disabled candidate gaining a license, whilst at the same time keeping it a challenge for them. So we sought their help and assistance with David's training.

Clearly for a course that requires you to be able to read the book, course notes, exam reference data and the exam paper itself, being blind will present many problems. Not all blind students will wish or be able to read Braille, also, much of the material that needs to be read may not available in Braille format. Whilst in a class room situation we do have the advantage of being able to repeat the information on the slide and add further explanation, some blind candidates will elect for on-line training with the assistance of their partner or screen enlargement. The Foundation Now book has been transcribed into an audio tape by the RAIBC although it won't always be the most up to date version of the book.

When it comes to the Practical Assessments, we had to obtain prior approval for what it is reasonable for David to be able to do from the RSGB Exams Office and at least 28 days notice is required. This required discussion, investigation and agreement with David which took time. Eventually, Roger M0GWM and myself went and did the practical assessments with David at his home. David is a long time SWL and was clearly familiar with QSO culture and protocols ie RST, Q codes, and the phonetic alphabet. He has recently purchased a TS590SG with voice module and demonstrated to our satisfaction that he knew how to connect his equipment together safely. He struggled to set the set up in terms of modes of transmission and filtering but this will improve with familiarisation of the radio and perhaps using something like HRD to give him remote control of the radio through a screen he can super enlarge. We went through QSO's with him on 2m FM and 40m SSB. Although we would normally use a script with a sighted person, with David we established contact, QSY'd and exchange reports with each other. We did this on low power with his TS590 for HF and his voice activated Baofeng handy for 2m, with him in one room and the other operator in another room. Consdiering this was his first time on air he made very good QSO's.
To demonstrate VSWR we set up an adjustable 2m dipole in his living room and he connected his MFJ analyser to it and we got him to do the calculation as to what each element length needs to be for say 145.500MHz. We got him to adjust the analyser to establish the SWR with incorrect element lengths and correct element lengths and (although with difficulty) with the aid of a powerful magnifier he could just about read the SWR on the analyser. We were satisfied that he understood the concepts involved.

We tried a morse appreciation exercise. David was capable of understanding which were dots and dashes in a series of characters sent to him but of course could not translate those into a specific character, therefore we decided that getting him to send dots and dashes was of little point as he could not read them from a written text. We wrote up our experiences and submitted them to the RSGB exams office and the Exam Standards Manager, Ian G4EVK and they seemed satisfied with David's achievements and issued examination papers when requested.

Prior to all this we had already proven to RSGB Exams office that the student has the disability as a copy of David's Registered Blind pass was accepted by them without query.

Having established the extent of the candidate's disability we also had to ask RSGB for a reader for the examination. They have a new system in place to ensure that readers will work to a required standard which doesn't give the candidate an advantage in the way the reader puts the question. At Foundation and Intermediate level knowing that mH means milli-henry or kV means kilovolts is part of the knowledge being examined, so the reader has to say small m, capital H or small k, capital V. This requires good discipline by the reader and they are tested by the RSGB Examinations Standards Manager before they are approved as a reader. Each examination candidate is given the exam reference data booklet relevant to the exam they are taking. For a foundation exam this is a 4 page document containing cover, licence parameters for each band, band plans and notes for 2m and 20m plus a frequency to wavelength conversion chart and a frequency allocation table of other users on the VHF bands. The candidate is required to have learnt what is in this document and on what page and will ask the reader to look up the entry on the licence parameters page say, for example, for 430.0 to 431.0MHz to identify whether the allocation is primary or secondary. The reader cannot look at the question and then look up the answer in the exam reference data booklet for them. When seeking a suitable reader, we were asked by RSGB if we knew of anyone and our Chairwoman Anita, 2E0DUO volunteered her services as a reader for our side of Birmingham and Worcestershire. She was examined by Ian G4EVK and satisfied their criteria.

Examination papers have to be specially prepared for a disabled candidate, so for David none of the questions required a diagram to look at. Candidates are also given an extra 25% time to complete the examination because as you can appreciate, having to read out each question and answer takes much longer than someone reading it for themselves. Likewise the reader also has to complete the OMS on behalf of the candidate, overseen by the invigilators.

So you can see a fair amount of work goes into organising a course and exam for a disabled candidate but it is encouraging that the RSGB and RAIBC have found an acceptable way for clubs such as ours to be able to do this. David is keen to proceed with his Intermediate and Full Licences which I am sure he is capable of but I think we might need more than one reader for a 2 hour plus examination.

Chris G0EYO

Low Cost 100W 2m Amplifier

I bought one of these cheap (£25.00 - aliexpress) VHF broadband amplifier kits out of curiosity. Very pleased, 100W out for 2.5W in @ 2m.
They use a LDMOS fet primarily for use in 800 - 900MHz cell phone base stations, two fets in a single package.
Also, I used it as a test bed for some second hand MRF186's and MRF9180's. Ten MRF186's were purchased for £60.00 and eight MRF9180's for £44.00 (a higher power version of the MRF186) - all tested perfect. These present incredible value when compared with RD100HFF 12V fets.
originally I tried to purchase new fets (same price) from two different suppliers, however both suppliers messaged back saying " quality of goods bad " , probably fakes or below spec in other words, hence these reclaims were ordered.
They will work fine at HF, currently building a HF PA using the MRF9180 so I can relieve my HF set of its MRF150 PA.
The supply to the amp is 28V (shows different in photo due to the RF floating around - the led display didn't like it) and draws roughly 7 amps for 100W out.
The VHF amp should work ok at 4m and 6m with some tweaking of the push pull coax transmission line transformer.
The kit itself was missing some smd resistors (hence the standard resistors fitted) and no instructions are given, however it is a simple circuit so not too difficult to figure out. There is space on the board for a input T - pad attenuator to cater for different drive levels, at 2m it needs no more than 2.5W for full output so a 3dB pad was used here for my handheld.

Barry M0DGQ

Amateur Radio Present Ideas

I'm often asked, "What do you want for your Birthday / Christmas"? And I fail miserably in coming up with any ideas for the family. This year I managed to conjure up two ideas in various price brackets, a label printer for under £40 and a Dremel rotary hand tool for under £100. Both are amazing additions to any ham shack.

Brother P-Touch GL200. This label printer retails for under £40. Add some spare tape / consumables and you should be aiming well under £50 in total. You can label everything from your antenna switches, coax feeds and all your component boxes. Highly recommended.

Dremel 4000. If your family has the budget, encourage them to go all out for a Dremel rotary tool. I managed to convince Wendy to buy me the Dremel 4000 with every contraption available. The basic 4000 kit retails for under £100 (you may need to shop around) and I've invested in a right angle attachment, a flexible shaft and lots of different cutting disks (steel, wood and glass) and drills. Possibly the best tool I've had for a Ham Shack.

Callum M0MCX. .

The Lew Williams' Shield for Morse Activity

The month of May is traditionally when Wythall Radio Club celebrates Morse Code. For many years past club President Lew Williams taught morse in the classroom. Following his passing we decided to remember him and his passion for morse by having an activity month in an attempt to inspire as many members as possible to progress, to try, to play with, and to use morse code. The Lew Williams Shield is awarded to the club member who demonstrates the most progression with morse - so those relatively new to CW will be more in contention to the older hands.

In past years stories have been shared of nervous 'first CW QSOs' on HF, followed by relief and pride upon completion. Activity does not have to be 'on air' - the present club morse class through their dedication have been winners.

Morse in all of it's forms is eligible. Mark M0RKX shared recently his experiences of taking part in a CW contest with assistance from an IC7300 (other CW decoders are available.) Even using morse this way will start to permeate into your minds.

Please consider skeds between club members on HF or VHF. Rag chew or rubber stamp QSOs are all fine.

Contest QSOs are very short and can be one way of gaining confidence in making on air QSOs. These are some UK and international HF contests with CW in May:

Thursday 19 May - 8pm to 9.30pm local. 80m Club Championships CW
Sat / Sun 7/8 May - 1pm to 1pm - ARI (Italy) DX Contest - all modes
Sat / Sun 14/15 May - 1pm to 1pm - CQM (Russia) Contest - all modes
Sat / Sun 18 / 29 May - all weekend - CQ WPX - CW

John M6KET and I will be sending reminders through the month. Please share any comments, successes or challenges you have for the interest of the group. In June we'll have a club meeting to review what went on, and to award some certificates of merit and the prestigious Shield.

Rumour has it I may even appear on air myself...

Lee G0MTN
Previous winners are

Chris G0EYO 2012
John G4OJL 2013
John M6KET 2014
Alf G1MJO 2015

Lew Williams

Club Members do their bit for charity

Two club members have been in the news recently for their sponsored efforts for two un-related charities.

Mark Edmonds M0MSE whose day job is as a post man in Alcester, and renowned for his 22 inch long locks offered to have them all cut off, together whith his beard in aid of the Dr Hadwen Trust. The Trust is a medical research charity which does not involve tests on animals and this is in keeping with Mark and his wife's Susan's love of animals and their work with re-homing cats and other small animals at their home in Hollywood. Mark raised £1300+ in sponsorship from friends locally and customers of his round in Alcester and his long hair also went to the Little Princess Trust which provides wigs and hair pieces for children who lose theirs through cancer. Well done Mark.

Sylwia M3SSP took part in the Weston Park Pretty Muddy 5k Fun Run for Life in aid of Cancer Research UK, along with her work colleagues. Apparently last year the ladies had to be hosed down by local fireman to clean the mud off. Lucky ladies I say!. Sylwia individulally raised £300 and the group together raised £1000 in sponsorship. Well done all.

Easter Contest Results

Section	Position	Callsign	Total QSOs	Best 3 days	Multipliers	Score
All	1	G4TVR	104	70	34	2380
2/70 FM	2	2E0SDD	82	64	32	2048
All	3	M0IFT	100	66	31	2046
2/70 FM	4	G7IBO	82	57	31	1767
All	5	G7DDN	70	51	28	1428
All	6	M0LXQ	56	42	26	1092
2/70 FM	7	G0EYO	53	36	24	864
All	8	G4XLO	50	38	22	836
2/70 FM	9	2E0WTH	38	37	22	814
All	10	G3YHF	40	39	20	780
2/70 FM	11	G1MJO	35	35	19	665
All	12	G0NES	42	29	20	580
2/70 FM	13	2E0MEX	33	14	17	561
2/70 FM	14	M0AEJ	43	31	16	496
All	15	G4WAC	22	22	16	352
2/70 FM	16	2E0SDV	28	23	15	345
2/70 FM	17	M0IDR	17	17	17	289
2/70 FM	18	M6STJ	19	18	13	234
2/70 FM	19	M6FAB	24	21	11	231
2/70 FM	20	G7OKF	14	14	10	140
2/70 FM	21	M6RSC	12	12	8	96
2/70 FM	22	2E0XTV	7	7	7	49
All	23	M6KET	3	3	3	9

2m/70cms FM Section

1st: Steven 2E0SDD
2nd: David G7IBO
3rd: Chris G0EYO

ALL Section

1st: Simon G4TVR
2nd: Dave M0IFT
3rd: Chris G7DDN

The next issue of the Wythall Radio Club Newsletter will be published at the beginning of July 2016