



# Wythall Radio Club

## Wythall Contest Group

G1WAC G4WAC G7WAC G0WRC M5W



[g1wac@wythallradioclub.co.uk](mailto: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

## Newsletter

### Jan–Feb 2012

## It's all change at the top!

No sooner had the ink dried on the last newsletter than WRC imploded with an incident followed by the resignation of two committee members and the three officers. As a consequence an Extraordinary General Meeting was called and two members were expelled from the club and a new committee elected. This is the new line-up;

Chairman: Chris G0EYO

Treasurer: Ian M0IDR

Committee:

Peter M5DUO—Maintenance

Jim 2E0BLP

Michael G4VPD—Contests

Stuart 2E0NYC—Social

David G0ICJ—Asst Treasurer

Neil M0YYM \_ Shack IT

Jon M0JMM—Field events

Les M0COK—Field events

We also co-opted Steve 2E0SDD at the December committee meeting. The following members although not wishing to be on the committee are taking on duties for the club; Callum M0MCX and Chris G7DDN as explained later

Following the EGM a new members only reflector was set up on Yahoo and I am pleased to say that most of the current members have joined that. <http://uk.groups.yahoo.com/group/g4wac/>. In addition a new website has also been set up and rapidly developed into quite a sophisticated informative site that we can all be proud of <http://www.wythallradioclub.co.uk/>. I like the website strap line "Wythall Radio Club, having fund with RF". We also have a new Facebook page. "Wythall Radio Club".

Chris G7DDN has taken on the

responsibility of Programme Organiser and promises a full season of interesting talks and outings. He will also be preparing a joiners pack for new members and will be looking for ideas on that. He is also acting as liaison with our clothing supplier for the club's merchandise. And as if that was not enough Chris is also running our CW training classes on a Tuesday evening.

Callum M0MCX is looking after the website and also pushing the members into being active on Sunday nets as well as pushing digital modes for those who have not tried them. He will also be a keen member of the contests committee so we can look forward to some interesting field days and plug and play weekends.

We have the rally to look forward to in March next year and will expect, as always, members to come and help us out. This will be our 27<sup>th</sup> rally can you believe? We have already had some of our regular major traders book to be with us already so start saving for that new rig or antenna system. You will always get a good deal at the Wythall Rally.

Of course by the time you get this newsletter we will have had the Xmas Social and will be in the middle of the Wythall Xmas Contest and be wondering who the winner is.

Our training programme will continue, with a Foundation course early in the New Year, followed by a early summer In-

termediate course and an autumn Advanced Course. The training programme is the main method by which we attract new members to our club.

Newer members, have commenced a Thursday or Friday night on the air session from the club shack which has been really well attended. Not just by those operating but by others who just come for a social chat and a drink

Special events will figure large in the year calendar with Darren organising events at Keith Shakespeare's Vintage Fairs at Hanbury Jon M0JMM will be organising a Mills on Air, probably at Bromsgrove Avoncroft Museum. There are also likely to be events for the Queens Jubilee and the Wythall Carnival.

The EGM was a traumatic experience for us all and we have lost good people as a result of it, but the members have rallied together and demonstrated that we really can have fun playing with RF.

Chris G0EYO—Chairman



## Forthcoming Talks

### January 2012

17th—Visit from Dave Wilson, President of RSGB

31st - "My World of VHF" - Tim Kirby G4VXE (Practical Wireless's VHF Column Writer)

### February 2012

21st Club Merchandise Night by Peter Hall of P R Hall Embroidery

28th - "Garden Antennas for HF" - Callum M0MCX

### March 2012

27th - "A Beginner's Guide to Valves" - Barry M0DGQ

### April 2012

24th - "Field Day Disasters (and stuff that worked too!)" - Callum M0MCX

### May 2012

22nd "Instant Morse" Interactive Morse Demo by Steve White G3ZVW

### SPECIAL EVENT STATIONS

#### April 2012

7th "Easter Steam Fair", Hanbury

#### May 2012

12/13th "Mills on Air"

Other talks "in the pipeline" this year include a visit from Mark G4FPH to talk about VNA (Vector Network Analysis - I don't know what it means either!) and 2E0SDR giving a talk on Software Defined Radio. Dates to be finalised.

# 40m-80m Glowbug

Another exciting project  
from Barry's Bench

This valve CW QRP transmitter is simple to build and will not break the bank. Built to a budget, no parts were purchased, all components from the junk box and a simple aluminium box was used as a chassis.

V1 is configured as an Electron Coupled Oscillator ( ECO ), G2 is utilised as an anode for feedback through the crystal to G1. This arrangement allows a low level of feedback from G2 to G1 so very little xtal heating will occur, but also the pentode acts as a high gain amplifier by taking the signal output from the anode thus producing plenty of drive. A ECO is used as there are lots of EF80's in my junk box, sadly no triodes.

The keying circuit is novel and very effective, it is similar to a popular technique used in some Russian designs. No clicks or chirp is produced by this set ( see the photo of the output waveform, no sharp rising edge or overshoot and a gentle decay on the falling edge. This is a " dit " sent at a speed of 40wpm from a keyer ). Both valves are cut off when the key is up as the control grids are held at -65 Volts due to divider network R1, R2. When the key is pressed, C2 discharges ( via D1, R4 ) quickly compared to C1 so the oscillator starts before the power

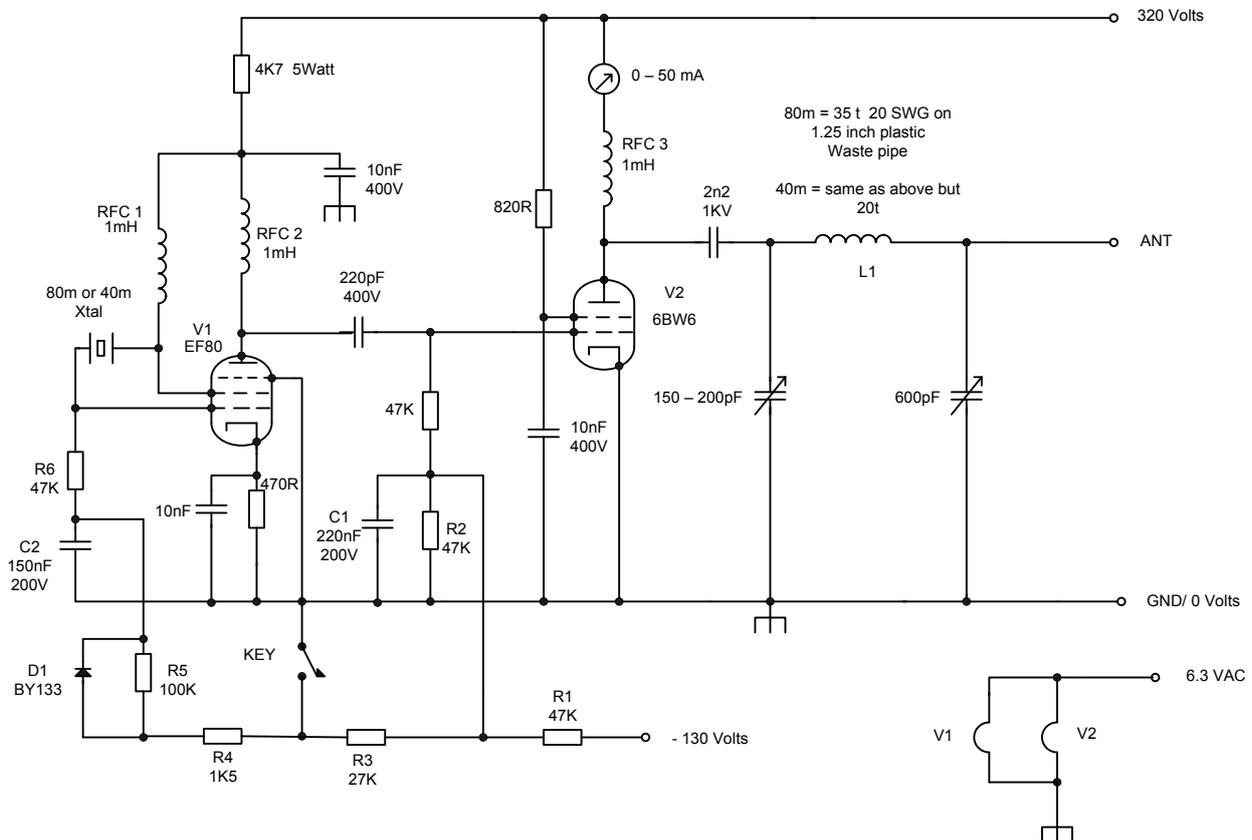
amplifier valve V2 gradually comes into operation as C1 discharges ( this takes a few tens of milliseconds ) thus eliminating any chirp.

When the key is released, C2 now takes longer to discharge than C1 as C2 now discharges via R5 ( diode D1 is now reverse biased ) as a result the power amplifier valve gradually shuts off ( again, we are talking milliseconds here ) before the oscillator ceases, thus eliminating any clicks. So, in summation: When the key is pressed the oscillator starts first then the PA gradually starts. When the key is released the PA gradually ceases then the oscillator stops. One more important point also takes place when keying. The power amplifier valve as already mentioned has its grid held at - 65

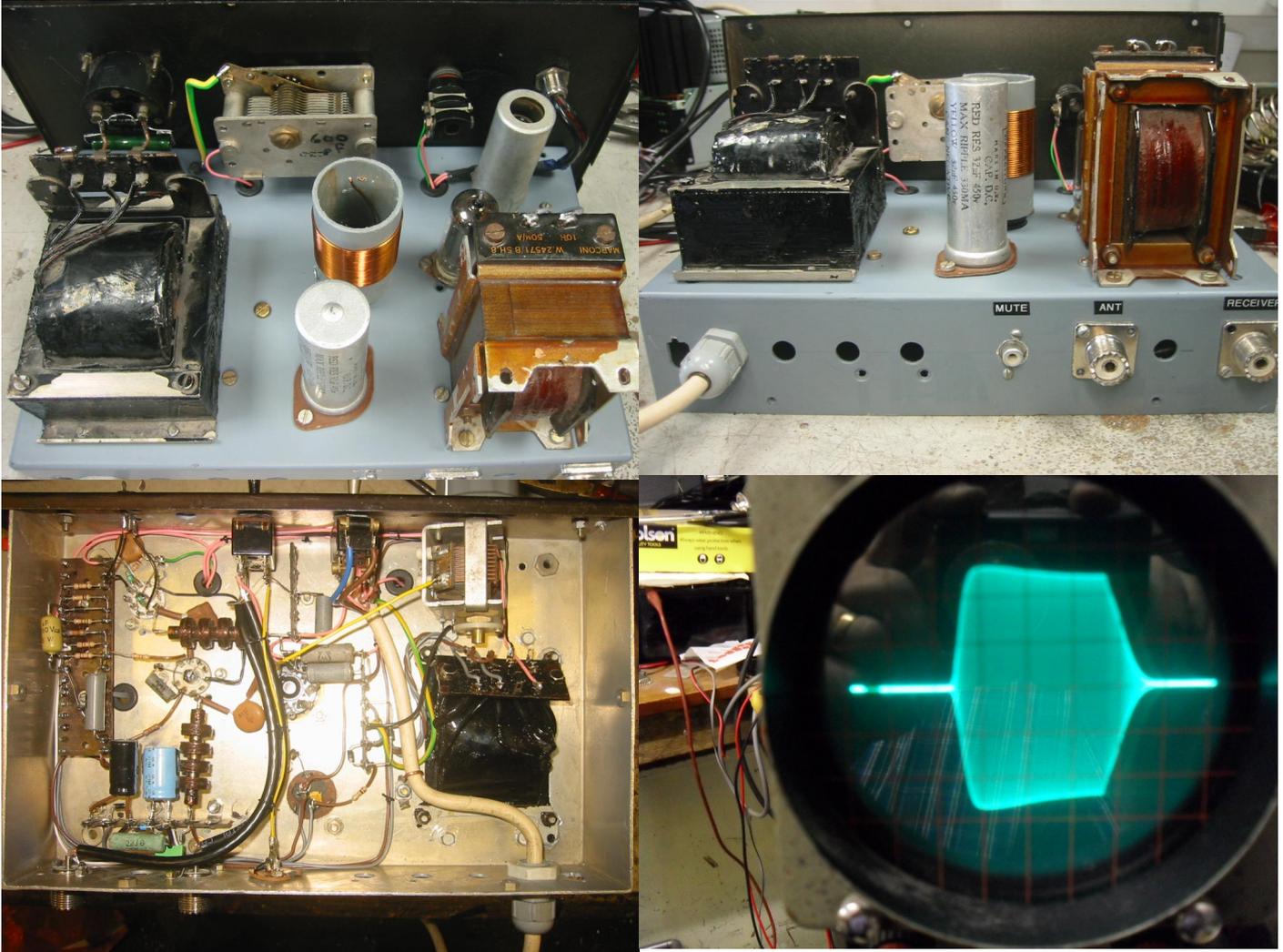


Volts in key up, however, when key down takes place its grid is taken to - 30 Volts as R3 is now in parallel with R2 in the bias divider network thus providing the correct bias voltage necessary for V2 in key down. Power output produced is approximately 5 Watts on 80m and 3 Watts at 40m. V2 has a small amount of standing current ( approx. 15mA ) in order to reduce drive requirements from the oscillator valve. A two pole change-over switch is used for antenna routing and

MODGQ



# 40m-80m Glowbug cont'd



receiver muting during TX.

M0DGQ

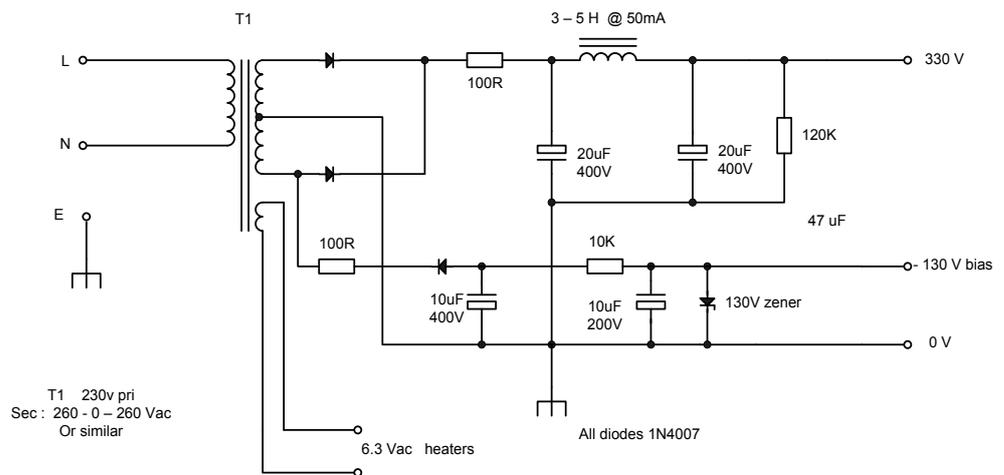
The power supply uses a mains transformer taken from a skipped broadcast set, the rest of the PSU components were from the junk box

As can be seen from the photographs this set is easy to construct. Virtually any small pentode / tetrode can be used in this set, EL84, EL82, 6V6 etc.

In use, simply plug in the relevant crystal and tank coil, tune anode tune capacitor for minimum anode current indicated by the meter then tune loading control for maximum RF out. Keep the anode current of V2 below 50mA.

I get a great buzz from running sets like this, 5 watts and from a valve, marvellous!

Barry M0DGQ



# A Winter's Tale... of building a transceiver!

For most of my time as a Radio Amateur, wintertime has been a mix of emotions for me. Gone are the long warm summer days, playing portable in the sun (or rain!) and usually gone with them is propagation on the higher HF bands.

However, in its place are the long dark nights and the chance to do some serious operating on the LF bands, 160m 80m and of course 40m. While the dark nights are not to everyone's taste, I have often seen them as an opportunity to both brush up on my CW skills and consider doing a little radio construction.

So it was that I happened on the Hendricks Kits website

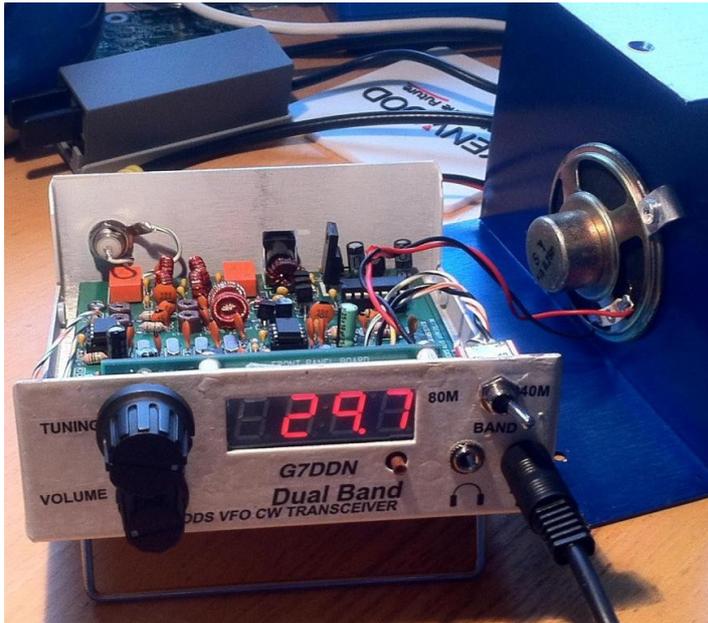
[www.qrpkits.com](http://www.qrpkits.com) and saw some of the rather nice looking projects there. I had heard of their PFR-3 Portable Field Radio kit and was tempted by that but decided to go for something I could use during the winter months. The "Weber Dual Band Transceiver" which is essentially similar to the PFR-3 but designed more for the table-top, fitted the bill and with winter in mind, I ordered the 80m/40m version.

What particularly appealed to me was the DDS VFO (no drifting around the band!) the digital display, sensitive superhet receiver, built in keyer and loudspeaker, 600Hz crystal filter and the promise of 5 full Watts out. It sounded good.

I parted with my cash (it was around the £175 mark!) and waited a couple of weeks and, lo and behold, the postman delivered it direct to me! No VAT, no import duty, no "Parcelforce", nothing! That was my first surprise.

The second surprise came when I opened the kit up to find that, while the aluminium case was pre-punched, it was not pre-painted or with legends attached. I don't know why I thought it would be really. Not a problem – I knew it would mean a trip to Hobbycraft in Shirley to get some project paint. Hendricks supplied transfers for the panel legends in the kit so that would be fine. There was even room on the transfers for me to print my own callsign on my laser printer. The final surprise was the size of the rig – much much smaller (and lighter) than I had imagined.

So construction began. There are 2 boards – a motherboard and a front panel board connected to it. The usual pattern of construction was followed, resistors, capacitors,



transistors, ICs etc. It was relatively straightforward to build. The DDS VFO involved some SMT parts but they were pre-installed so nothing to worry about there.

Coil winding is often the bane of home kit construction. Counting the turns is one issue, having fingers small enough to wind them is another. Luckily having built lots of kits over the years I have got my turns counting down to a fine art, but as the eyesight gets worse and the fingers less mobile, I do find trouble sometimes getting the enamelled copper wire through those little holes!

After a couple of snags and a bit of time waiting for metal paint to dry, I was able to get the radio inside its case with all tests showing good. But on power up, the radio was VERY quiet! The transmit section was fine, 6w out on 40m and 8w on 80m – a little *over* spec in fact. But why was the receiver so quiet, especially on 40m?

I trawled the circuit diagram and concluded that the toroidal transformer windings in the receiver front end must be at fault. I checked them for continuity and that was ok, so the next port of call was the Yahoo Group for this kit. It was there that I found that the

instructions are none too clear when it comes to the placement of the dual band input transformers. It turned out that I had followed the instructions correctly but that like many others, I had ended up with the 40m transformer where the 80m one should be and vice versa! No wonder the radio was quiet – the front end was being attenuated!

It was probably more fiddly to try and take the 2 toroids out and replace them than to build the rest of the kit. I even had to rewind the 80m toroid again! Once that was done though, the little radio sprang into life and wow, my final surprise! The little beast is very sensitive and pokey audio-wise too. I have heard everything on this radio that my Elecraft K3 can hear and that's most certainly NOT what I expected from a kit radio. (Yes the K3 is a kit radio as well, but not a soldering kit like this one!)

It's been on soak test for a week now and is holding up fine. I have put out a few CQs but the bands have been quiet at the times I have been able to get on so I am not too worried about that. The G-QRP Club Winter Sports Activity Session starts on 26<sup>th</sup> December, with QRP stations from all over Europe on air, so I can give it a good bashing then.

Meantime, I can thoroughly recommend the Hendricks Kit family, if you want to have a go at "rolling your own". As for me, I am so impressed with this little radio that I have ordered myself a 30m and 20m version ready for those warm summer days once again!

Chris G7DDN



## A simple AM radio kit for the grandson

When my grandson James was five, I bought him an AM radio kit from Bowood Electronics at the Wythall Rally. This little kit was only about £6 and comprised a PCB, a tuning cap, an AM radio chip and a few other components. But for some reason James's mother took exception to him using a soldering iron. Nearly three years later and I reckoned we could proceed with the project without informing his mom. The kit came in a little plastic bag and seemed to be complete. I decided to mount it all in a small



plastic business card box so you could still see the insides when it was complete. The heart of the circuit is the MK484 AM Radio IC which incorporates the RF amplifier, AGC and detector and has high sensitivity. It only has three leads and comes in a TO92 package. As you can see from the circuit it only requires a few extra components and you have a fully working radio. The supply only requires 1.5V and a battery is supposed to last 100 hours.

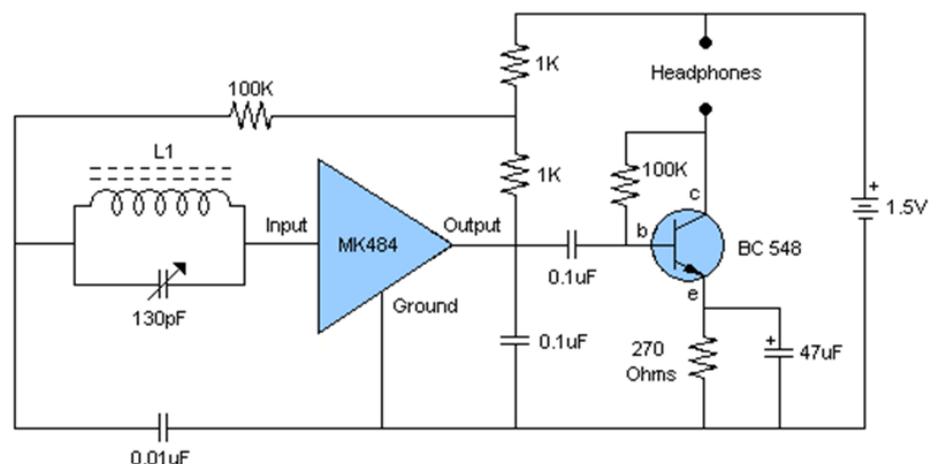
I started by doing some preparation work before letting James free with the soldering iron. Firstly I wound the supplied enamelled wire on the ferrite rod. The instructions called for 55 turns. Secondly I marked out the position of the ferrite rod, tuning cap, pcb, power switch and earphone socket on the plastic box and drilled those holes. I cut a couple of holes in the box so that the ferrite rod could fit in the box and secured it with a drop of araldite.

I placed the components on the pcb and let James solder them in position. I made up some wires for the power switch and audio socket and connected them to the pcb. I then soldered the wires from the battery holder onto the pcb. Then I took the tuning cap out of the box and mounted it onto the pcb and soldered it in place and connected



the ferrite rod to the pcb. I then put the tuning cap back into the box and connected the trailing wires to the power switch and audio socket. Insert the battery and secured the battery box to the mating plastic box and switched on to receive MW broadcast stations. Not very selective given our proximity to Droitwich but perfectly useable. Might be worth playing around with this am chip for other bands, or put another audio stage in for a small loudspeaker. Great fun.

Chris G0EYO



## Changes to RSGB QSL bureau

Currently non-members of the RSGB can receive cards via the QSL bureau for little more than the cost of a stamp and an envelope, simply by lodging stamped addressed envelopes with the appropriate QSL sub-manager. The QSL bureau costs the RSGB a significant amount of money to run each year and they have decided that they will end the free incoming QSL service for non-members and introduce a modest charge for it. With effect from 1<sup>st</sup> April 2012, non-members can receive incoming QSL cards for a charge of;

- £11.99 for 1 year
- £19.99 for 2 years
- £27.99 for 3 years

alternatively if paid by direct debit, for a flat fee of £7.99 per year.

Non-members can enrol for the new service or better still join the RSGB with all the benefits that it provides.

Those RSGB members who use multiple call-signs, such as Wythall Radio Club will have to take special action. There is no charge for having multiple call-signs but we have to advise the RSGB either by phone or on line via [www.rsgb.org/amend](http://www.rsgb.org/amend).

Not sure what is happening with regards to Special Event cards but I will try and find out. It is probably time Wythall Radio Club organised some new QSL cards. I will put it on the agenda for a future committee.

Chris G0EYO

# New Website and Reflector for the club

Following the EGM the club had to organise itself a new reflector and website. This was done quickly by Mike G4VPD who set up a g4wac Yahoo Group and Callum M0MCX and James M0YOM who set up a website. Yahoo groups are free to use and enable organisations and special interest groups to exchange messages and file and retrieve photographs and documents from a central source. Our g4wac Yahoo group is by invitation to WRC members only and as far as I can establish every WRC member has been invited to join. Out of 55 members who have computer facilities, only 7 have not joined the new reflector. The home page (see right) is a description of the club and shows a list of options on the left hand side of the page; these include, messages, files, photos, links, polls and a list of members who have joined the group and a calendar. The calendar is being kept up to date by Chris G7DDN and this is the place you would go to see what was happening for the next week, or month. In the files section you can access club documents such as the constitution, membership forms, expense reimbursement forms and policy, child protection policy and information technology use policy. There is a rolling full year programme of activities which will be constantly updated and committee meeting minutes, contest reports and the rules and logging software for the 2012 Xmas Contest. Finally there is a folder for our own club newsletters going back quite a few years and we have started putting the monthly RSGB club newsletter in a folder for members who are not recipients of RadCom to read if they wish. Another folder allows for various photo albums of club events to be set up and we would encourage members to upload any club event photos that they may have. There is even a chat room that members can use when working club nets or setting up QSO skeds.

The website [www.wythallradioclub.co.uk](http://www.wythallradioclub.co.uk) is also completely new and has been designed by Callum M0MCX with contributions from Chris G0EYO, James M0YOM. This also can be a more public facing treasury of club materials and information such as rally forms and training news, contests, club history, club events, plus, most important of all, an up-to-date rolling news programme of club activities and members experiences.

We hope that club members will make use of these sources of information and also contribute their own experiences to them.

Chris G0EYO



A screenshot of the Yahoo! Groups home page for the Wythall Radio Club. The page features a navigation menu on the left with options like Home, Messages, Pending, Spam?, Post, Attachments, Files, Photos, Links, Polls, Members, Pending, Calendar, Invite, and Management. The main content area includes a description of the club, its location in Wythall, and its activities. It also lists recent messages and a search bar.

A screenshot of the Yahoo! Groups files section for the Wythall Radio Club. It shows a list of files with columns for Name, Size, and Creator. The files include "Christmas Contest Rules and files relating to the G7OJO Trophy event", "Club Documents", "Club Programmes", "Committee Minutes", "Contest reports", "Moderators files do not use", "Newsletters", and "RSGB Newsletters".

A screenshot of the Wythall Radio Club website homepage. The header features the club's logo and the tagline "having fun with RF". Below the header is a navigation menu with links for Home, About, Contact, Contest, Events, Photos, Rally, Sitemap, Training, and Site Admin. The main content area is partially visible, showing a "Comments" section.

A screenshot of the "RECENT POSTS" section of the website. It lists several posts with their dates and authors. The posts include "Digital Mode - JT65 HF" by M0MCX, "Foundation Course 23rd January", "Hendricks QRP Winter Project", "Four Achieve M-Zero Status", "Xmas Social a great success", "Sending pictures with MFSK-16", "Email via RF", "Advanced Examinations", "Nov 2011 Club Newsletter", and "A guide to MMANA Part 1".

A screenshot of the "Digital Mode - JT65 HF" article. The article is dated December 16, 2011, and is written by M0MCX. It discusses the author's experience with JT65 HF, a digital mode used for EME work. The article includes a screenshot of a software interface showing a QSO log and a spectrum display. The author mentions that the mode is highly tolerant of interference and fading, and provides a link to a paper on the topic.

A screenshot of the "WHAT IS AMATEUR RADIO" section of the website. It provides a brief overview of amateur radio, mentioning that it has been around for over 100 years and offers opportunities for experimentation and communication. It also includes a "FOUNDATION COURSE" section, a "QRZ.com callsign" search box, and a "CLUB HISTORY" section.

# Training Successes

We are pleased to announce that all four of our candidates who took the Advanced course and exam with us in December, passed and gained their coveted M0 call-signs. Well done to them. The Advanced course is not a walk in the park and requires a lot of work and effort to slog your way through the 15 sessions of theory and practise and then face a 2 hour 62 question examination at the end of it. But it is achievable as our record at Wythall shows. It is almost 100% pass over the past 5 years. Our next course will be in September 2012. So very well done, Stu now M0NYP, Mark M0RKX, Paul S. M0TVU and Paul K. M0PYT



Mark M0RKX

**Distance learning for the Advanced exam**  
As reported in an earlier Newsletter, I have



Paul M0PYT



Paul M0TVU



Stu M0NYP

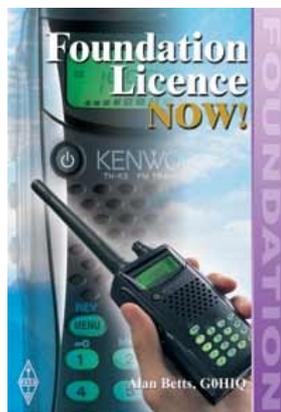
been acting as a Tutor for an Advanced Distance Learning course from June to December. I am pleased to say the students allocated to me all passed and have their new M0 call-signs. The Bath-based team are planning to do it all over again. There are over 40 names on the waiting list already, but there is room for more; the last course started with 64 students and eight tutors. The next virtual course will start at the end of January and head for the July exam. How does it work? Each week, students will receive guided reading instructions and revision questions to test recollection and/or understanding. Tutors will mark e-mailed answers and will provide worked solutions in return. Tutors will also provide points of clarification on request. The material is supplemented by additional exercises and video demonstrations on YouTube. This material has been a great help in running our own Advanced course this Autumn.

## Next Wythall Course

We are currently planning our next course which will be a foundation course starting on Monday 23rd January and running for seven weeks with an exam on Monday 5th March.

We have four people interested in this course and will probably limit the class size to six or seven. So if you know of anyone looking for a course get them to contact Chris G0EYO at [g0eyo@blueyonder.co.uk](mailto:g0eyo@blueyonder.co.uk). The cost of this course will be £40 to include the exam fee, course book and course materials as well as membership of Wythall Radio Club until the 2012 AGM in September or October. If you are under 18, or a full time student or unemployed and on benefits we have a reduced rate of £32.50.

Chris G0EYO



# Xmas Social a great success

After a break last year, Wythall Radio Club held its Xmas Social at Wythall House on Friday December 9<sup>th</sup>. As in previous years this was a great success with about 35 members and their family enjoying an American Supper together with some live music from Chris G7DDN plus skittles organised by Colin G6ZDQ. The whole event was put together very professionally by Stu 2E0NYC who had the added pleasure of also having heard that day that he was now M0NYP. The evening saw a super raffle of prizes generously donated by members as well as the famous stand up bingo, won this time by



Walter M0GRO. The skittle winners were Roger and Liz (friends of Colin G6ZDQ and Janett), after a play off between them and Peter G4LWF and Mo. The food was of a very high standard with competing (or is that complementary) curries from Barry M0DGQ and Steve 2E0SDD. One final challenge was sliding a £1 coin towards a 1 litre bottle of whiskey, the one nearest being the winner, who was Roger.



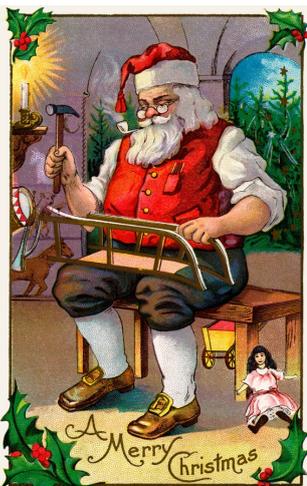
# Contest Corner

Start Date	Organisers	VHF Contests	Mode	Start (UTC)	Length
03-01-12	RSGB	144MHZ UKAC	Mixed	8pm	2.5 hrs
10-01-12	RSGB	432MHZ UKAC	Mixed	8pm	2.5 hrs
24-01-12	RSGB	50MHZ UKAC	mixed	8pm	2.5 hrs
31-01-12	RSGB	70MHZ UKAC	Mixed	8pm	2.5 hrs
05-02-12	RSGB	432MHZ AFS	Mixed	9am	4 hrs
26-02-12	RSGB	70MHZ CUMULATIVES #1	Mixed	10am	2 hrs
03-03-12	RSGB	144 + 432MHZ MARCH	Mixed	2pm	24 hrs
11-03-12	RSGB	70MHZ CUMULATIVES #2	Mixed	10am	2 hrs
HF Contests					
03-01-12	RSGB	80M CC CW	CW	8pm	1.5 hrs
09-01-12	RSGB	AFS CW Contest	CW	2pm	4 hrs
12-01-12	RSGB	80M CC SSB	SSB	8pm	1.5 hrs
20-01-12	RSGB	80M CC DATA	DATA	8pm	1.5 hrs
07-02-12	RSGB	80M CC SSB	SSb	8pm	1.5 hrs
12-02-12	RSGB	1 <sup>ST</sup> 1.8MHZ Contest CW -- 1810-1840kHz only; SSB -- 1850-	Mixed	9pm	4 hrs
16-02-12	RSGB	80M CC DATA	DATA	8pm	1.5 hrs
24-02-12	RSGB	80M CC CW	CW	8pm	1.5 hrs
07-03-12	RSGB	80M CC DATA	DATA	8pm	1.5 hrs
12-03-12	RSGB	Commonwealth Contest	Mixed	10am	24 hrs
16-03-12	RSGB	80M CC CW	CW	8pm	1.5 hrs
24-03-12	RSGB	80M CC SSB	SSB	8pm	1.5 hrs

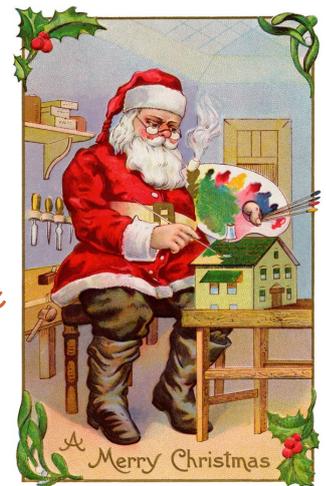
WRC came 4<sup>th</sup> in the 1.8MHz club calls contest. Well done to all those who participated from the club shack and from home. Excellent result. Final results for the 144MHz UKAC contest were that WRC finished 14<sup>th</sup> from 78 clubs, again excellent & well done all. Final results for 50 / 70/ 432MHz UKAC contests are still pending, but we shall finish in the top 20 if not much higher. More entries = higher scores, so give the contests a go from home when you can, just a few contacts/points makes a BIG difference the the overall club scores.

Mike G4VPD

## Seasons Greetings Everyone!



*The Officers and Committee of  
Wythall Radio Club wish all the  
members and their families a Very  
Merry Xmas and a Happy New Year*



The next issue of the Wythall Radio Club Newsletter will be published at the beginning of March 2012

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