

newsletter

"having fun with rf"

wythall radio club

wythall contest group

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Jan—Feb 2017

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

Club's Xmas Party

The club held its annual Xmas Party in the Britannia Room of Wythall House on Saturday 10th December and about 40 members and their friends and families attended. It followed the usual format, American supper, Irish Bingo, a raffle and the whisky roll. The latter was won (again) by Steven 2E0SDD and the Irish Bingo prize money went to Roy G0HDF. An excellent spread of food was provided by the members including a lamb tagine and a Spanish chicken dish which Ian thought was a curry. Excellent music accompanied the evening and the photos show that everyone had a great time.

Members also donated a number of raffle prizes and there were plenty of winners. Ian tells me that with the money collected from the bingo, raffle and donations the whole event only cost the club £15. The whole evening was again organised by Stuart M0MYP, who did a marvellous job and took the fantastic photos. Thanks to everyone who made this such a success.

Chris G0EYO



INSIDE THIS NEWSLETTER;

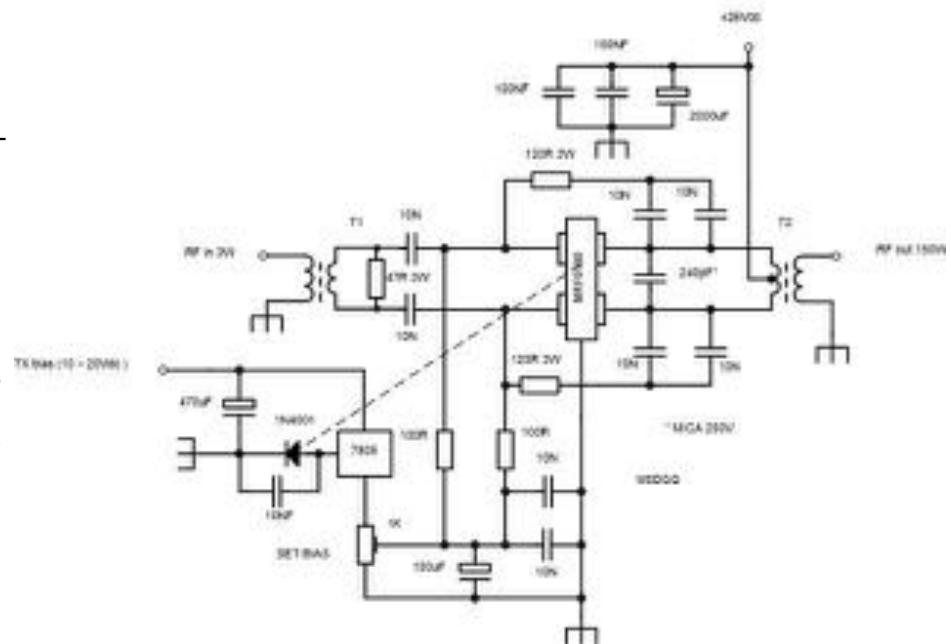
150w HF Linear from Barry M0DGQ; Results and pictures from Xmas Fox Hunt 2016; Update on Callum's Lightning Strike experience; New QTH for next year's IOTA?; Nigel G4NRR's exploits with a Focke-Wulf 190A; Jamie's 2E0SDV GB16YOTA event; Results from 2m AFS contest;

150W HF Broadband Power Amplifier

Described here is a broadband HF PA with a power output of approximately 150W. The amplifier utilises a MRF9180 LDMOS device which is designed for use in cell phone base stations operating around at 880MHz. The device itself contains two matched mos fets in a single package. Currently these devices are available from Aliexpress at very reasonable prices. I bought ten of these (second hand mounted on the remains of a small pcb) for \$8.00 each, roughly £5.00. New ones are available but I am very wary of fake devices on the market.

These devices exhibit high power gain, over 18dB at HF, so a drive level of 3W is all that is required to produce just over 150W out. The device rated power output is 170W however I keep the output to 150W for long term reliability. One thing I did find is not to run it with any more than 26Vdc, I tried 29Vdc to my expense! The amplifier is a straight forward class AB push pull amplifier using transmission line transformers. The fets are biased for a total standing current of 800mA. The transformers are made using some brass tubing and ferrite rings - see photos.

MRF9180 HF PA

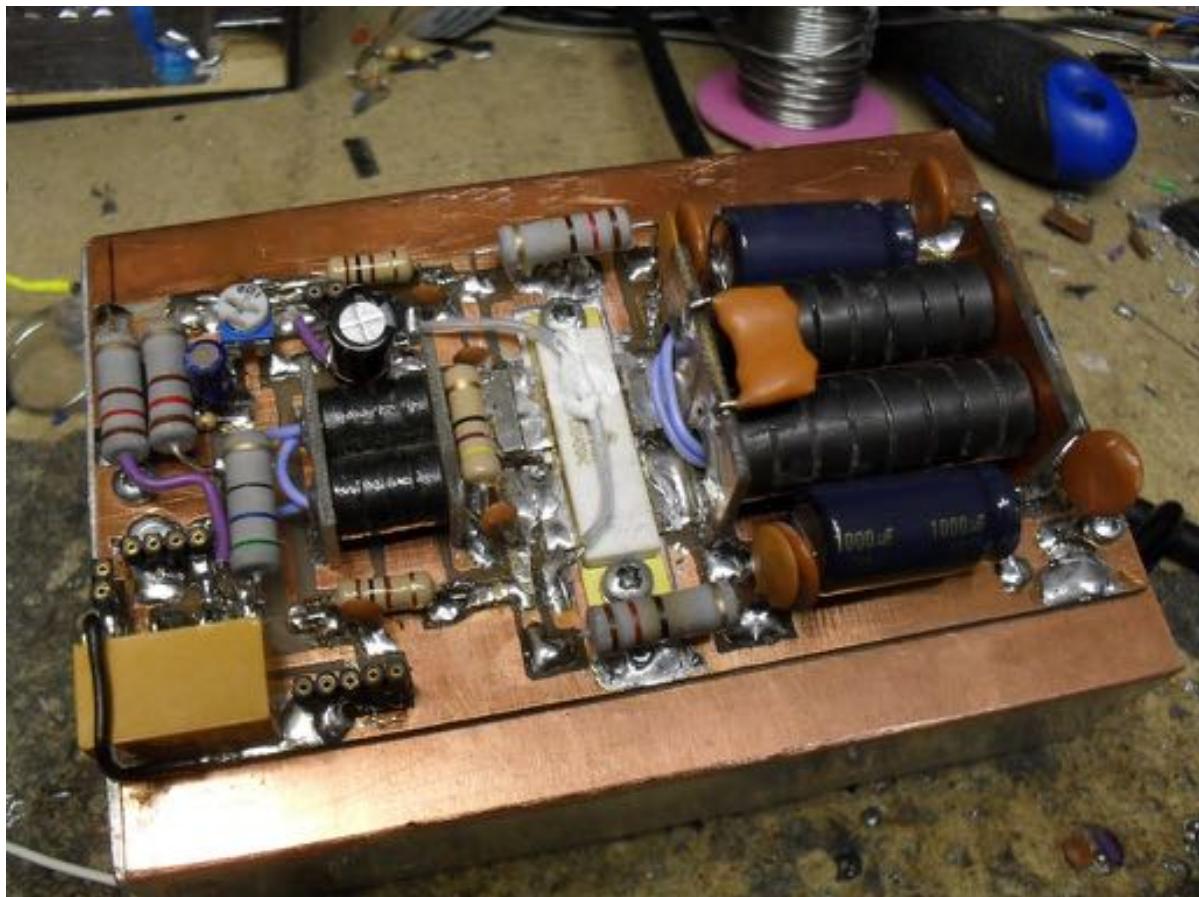


A large amount of negative feedback is applied in order to keep the amplifier stable and not oscillate at vhf/uhf. At 26Vdc linearity is good, The spectro-

scope shows third order products 34dB down on the two tones.

The output transformer is made from FT50-43 ferrite rings with brass tubing through the middle of the rings and two pcb end-plates. I used a scrap telescopic aerial for the tubing. The secondary consists of two turns of ptfe covered wire. The input transformer is made in the same fashion but FT37-43 rings are used and the primary consists of two turns of ordinary equipment wire.

A copper heat spreader is used between the MRF9180 and the aluminium heat sink, this greatly improves the heat distribution and keeps



150W HF Broadband Power Amplifier cont'd



the device within its safe operating area. A silicon diode in the ground leg of the 5V regulator is thermally coupled to the MRF9180 for bias temperature compensation.

At full output the amplifier draws a little under ten amps with a supply of 26Vdc. The relay and 3W resistors at the front end of the PA are a attenuator and input routing relay - this is so the 10W

drive signal from the preceding PA can be routed to the input of this PA or to the harmonic filter/output of the set in which this PA is now fitted.

Barry M0DGQ.

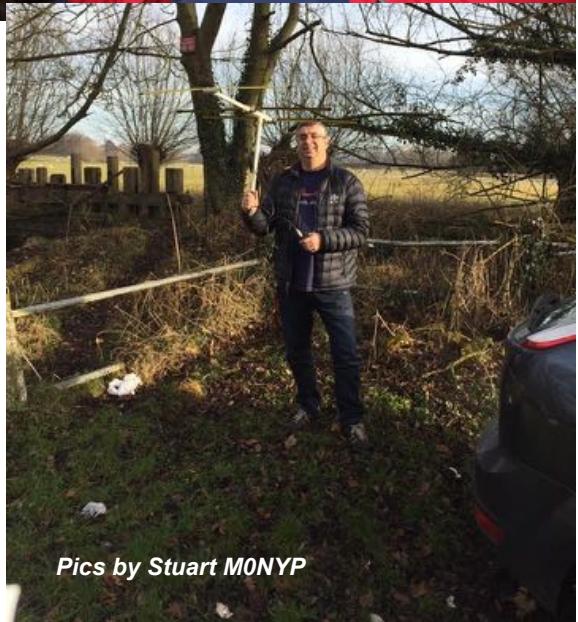


2016 Xmas Fox Hunt



The club held its annual foxhunt on Tuesday 27th December and five teams took part. The winners were Jon M0JMM and Phil 2E0WTH

Pics: left; Peter M5DUO and David G7IBO.
Right top; Winners Jon and Phil.
Bottom left; Steve and Stacey
Bottom right; Jon with his winning antenna.



Pics by Stuart M0NYP



M0MCX Lightning Strike Update

I wrote a decent article for the club newsletter this week about lightning and my specific experience with the stuff. After proof-reading it, it occurred to me that RadCom might like publishing it because it added some value and seemed to be easy to read. It turns out they want an exclusive on the article which will be published next year so without referring to that article, I'll write a different one for the club newsletter. Here we go again..

So it's been around 3-months since the bolt of lightning decided to ground itself at M0MCX QTH which took out basically everything of any value that was plugged into the mains. Strangely, some gear that wasn't plugged in also went pop but LV, my insurance company, didn't hesitate to replace that too.

Talking about insurance, it's worth mentioning that I was dreading making this claim. Being at the mercy of a very large corporate organisation is something we've all got used to over the years. Waiting in line for a call-centre operator to answer the phone isn't a strength of mine. It was therefore a delight to be allocated a named claim-handler at LV called Jo. She was empathetic and very understanding and encouraging. I could email or call her directly and the whole business became very simple to conduct. All I needed to do was supply her with a one-line statement, perhaps a photo of the suspect gear and she would quickly determine whether to replace, repair or send a cheque. My views were always taken into consideration and none of the decisions were made against me. Actually in the end, no equipment was repaired. It was up to me what I did with the old gear.

For some very old equipment that I'd bought cheap on eBay, I didn't make a claim. If you do the maths yourself you'll

Welded PL259 onto Tuner



see why. For instance, an old multi-mode 2m SSB/FM rig on a new-for-old policy will easily rack your insurance claim up another £1,000 or so. There's a limit to any claim. As it is, I reached the heady heights of nearly 25% of our £100k house contents policy. I don't know the formula, but I can guess I wasn't too far off receiving a red light conversation. I got to keep / dispose of the old "trash". All

was either sold for peanuts with full-disclosure, given away or taken to the tip. Part of this old trash was my rather tasty AT-4K Palstar tuner. It's a beast and although it's totally dead, it can probably be repaired. The relay and the meter PCBs are fried. I may need to buy a few spare parts. It would be a shame to dispatch this big tuner to the magic-smoke department. When fixed, I'll wire that back up to my low-bands loop. On the other hand, it may be uneconomical to repair and I'll have to get another one.

As I type this, Rob Hicks has just completed a round-trip to ML & Sons for me to pick up my new gear and I hope to be on-air again by Christmas. I made the difficult decision to have the old TS-990s repaired at my cost which may be a big mistake. The repair bill was high and ML & Sons will obviously not warranty their work which I totally understand. However I now have the dilemma of being in receipt of two Kenwood TS-990s. I probably need some therapy...

Whilst my bunker was clear, I took the opportunity to re-decorate and re-route all new coax and control cables in electrical trunking. It's been a bigger job than I imagined, particularly when working full-time. I'm being pretty OCD about the whole thing, even to the point of correctly measuring the lengths of the mains leads I'll need and re-fitting new plugs after shortening them. My ambition is to be able to vacuum the carpet without finding a mouse nest amongst all the cables. Everything will be off the floor. It's a like a brand-new build to be



Where lightning leaked magic smoke from USB sound interface against skirt board

frank.

Still to-do is the actual coax runs to the outside where I'm installing a 6-way RatPak remote coax switch. I have another run up to the loft. This is a more problematic route and I'm currently considering my options.

So what about the future? How can I protect myself from this again at a realistic cost? The problem with this topic is that in the UK, we're not hit by lightning that often. Lee told me he's only heard of two other amateur radio operators that have had a full strike in all his years. I have yet to come across anyone myself. If you balance the cost versus the risk, you'll kind of wonder if it's all worth while. The options are limited and with much of the UK on household wiring called PME (which actually bonds the neutral and earth together at the consumer unit), it's not straightforward to just ground your aerials which is the ideal solution. You may remember that the club had a fascinating talk a couple of years ago by Gerard Mack. He explained why grounding your station was a complete nightmare with modern wiring.

I am wondering though, whether it might be worth grounding only the aluminium and steel poles that connect to the various T&K brackets. I notice that the gas ejection marks on the coax, where I had a barrel connector, showed that some energy did enter these poles from the coax. Luckily for me, it wasn't strong enough to turn any latent moisture to steam in the brick-work else I may have lost the side of the house. This may be a quick win though and I will discuss this with Gerard Mack whether to build a

While out cycling I came across an ideal location for the Club's 2017 IOTA entry.

This island is easily reached by wading across the 4 feet of duck-pond water that separates it from the mainland. It's small size makes it ideal for entry into the QRP section of the contest! It is uninhabited, apart from some ducks, so no problems with neighbours complaining about QRM. There is a small roofed structure on the island (just visible in the photo) that will make a good operating area. It is not tidal (unless it rains) - and is unlikely to suffer any storm surges! There are plenty of trees nearby for hanging antennas. Oh - and the best bit - just out of picture to the left is the pub!! If you want to check out this possible QTH, it's in Lower Quinton, south of Stratford.

Chris G3YHF

(Ed. Would it qualify as an IOTA island?)



This Ham Quiz is a bit of fun for Club members. Some clues are straightforward, and others are cryptic! One clue is an anagram. There aren't any prizes, so feel free to use internet or other sources if you have puzzled for a while and still can't figure out an answer (there is an anagram solver on the internet)!! - Chris G3YHF

1. M3+3 and M6+3 have this in common (10, 7)
2. Mode of transmission that is usually channelised (2)
3. This man copies 100%! (5)
4. dah-di-dah-di/dah-dah-di-dah (2)
5. A valve across the Atlantic! (6, 4)
6. 'A diffident rose wore ad' reorganised was what John G3VRF recently talked about! (8, 7, 5)
7. Headphone connector used by sailors? (4, 4)
8. Commonly used type of multi-band wire antenna (4)
9. It's above VHF... (3)
10. and it's above that!! (3)

Answers on page 9

M0MCX Lightning Strike Update cont'd

separate ground - or connect these poles to the consumer unit ground.

However, regardless of the grounding situation, what I do understand is that you must not under any circumstance, disconnect your aerial when you can actually hear the thunder. I was coming home from the office to do precisely this. I wonder what shape I would have been had the lightning struck when I was innocently grasping the offending PL259?

Next time, I'll have the concluding part to this story for you but in the meantime, here's some fun lightning strike data for you:

The average bolt of lightning is 6 miles long. Lightning is about an inch in diameter. Almost all lightning strikes from the sky to the ground - although it can be the other way around. The longest lightning strike was just recently measured this year at 199 miles long in the USA.

Did you know that lightning starts out as many connected sister filaments looking for ground but the human eye can not detect the combined multiple "sisters". As the lightning propagates and devel-



ops, each of the sister filaments seek a ground. Only when one of the filaments touches down does the lightning strike occur. Instantly, the sister filaments die off and you only see the main strike.

Take care - and stop worrying :)

Callum M0MCX.

Focke Wulf 190A-8 Warbird Project



I have a friend in Sweden whom I have known since 1982, after I first met his father at the TT races in the Isle of Man. Carl-Olof is now a retired airline captain who worked for "Scandinavian Air Systems" (SAS) His beautiful daughter is now also an airline captain. Carl-Olof (his christian name), has visited various club flying sites with me over the years and he sometimes "has a go" at flying a model using a buddy lead.

He is NO model pilot, and I am NO airline pilot, but we appreciate each other's skills.... and a good pint !! His Son-in Law is also an airline pilot and happens to have a 25% share in this full size, rebuilt, WWII Focke-Wulf 190A-8 currently being prepared for it's first test flight since 1944as I type.

the level of the undercarriage doors and catching on the ground !! This is easily cured by removing the original, weak, soft, internal springs and replacing them with better quality external springs which become coil bound just at the limit of the linkage travel. AND, by removing 8mm from the lower edges of the undercarriage doors.

As two of the plastic retainers that hold the control

linkages onto the servo horns, fell off when static testing, I replaced them ALL with similar metal screwed rod fittings that were further secured with "loctite". The rudder, elevator, and aileron horn linkages were all moved to the inner holes on each servo arm to reduce the control surface movements, and also reduce the loadings on the servo motors. The Flaps mechanism was carefully adjusted to give the correct 60 degrees of down movement at maximum servo leverage.

The retractable undercarriage mechanism was also carefully adjusted to maximise the servo leverage at each end of the retract cycle. The Ailerons were adjusted to give 3 millimetres UP on each wing at the neutral position to provide "wash-out" at each wing tip and provide a

mechanical "aileron differential" to prevent adverse yaw !! All control rods, wires, and linkages were lightly lubricated with PTFE oil, as well as the wheel axles.

As I wanted to use the same "Overlander" 2200 Mah 60C 3S Lipo's, which power my Mk XXIV Spitfire, I had to fabricate a "miralite" plywood tray to secure the battery under the fuselage hatch. This meant turning the rudder servo around to provide

clearance for the servo arm, and mounting the tray between the servo mounting plate and the motor mounting plate at a 30 degree downwards angle, towards the cockpit. This was glued in place using epoxy, which also stiffened up the motor mount and the front part of the fuselage.

The standard propeller and spinner components were all carefully balanced, painted, and re-balanced again. The standard 1000 Kv motor, propeller, and the Ripmax 40 amp Electronic Speed controller (ESC) were carefully tested to check the maximum current and voltage



drop at various speed settings.

The standard 10" x 6" scale profile, three blade propeller draws 30 amps at full power on a freshly charged 3S Lipo. At half throttle (cruise power) the motor only draws about 14 amps. A larger 11" x 6" similar three blade propeller draws 33 amps at full power and 16 amps at half power.

Most of the existing detail stickers were removed, in order to re-spray the camouflage and hand paint the detail, matching the camouflage paint was a nightmare !! I wish the manufacturers would use standard colours or market their own,... But as most wartime aircraft differed as to the exact shades of camouflage used due to paint availability, so it's quite difficult to get it completely wrong !!



Earlier this year, I acquired an ST Models, electric powered "foamie" version of the FW 190A from "Totem Hobbies", with a view to re-creating the same aircraft, but to one tenth scale. Although it was an allegedly RTF (ready to fly) model, I had to double-check and re-adjust almost everything, especially all the control fittings and control movements.

The ST Models FW190A, as supplied by Ripmax, fly reasonably well but are very sensitive, and have a tendency to rip the undercarriage out of the wings when landing. This is due to the soft sprung undercarriage legs compressing below



You will see from the pictures, it's a pretty close match to the full size version.

My Leccie "Swedish" version has had six flights to date, with no damage. Each flight had a test flight plan to optimise all the mechanical and transmitter rates, exponential and mixing adjustments, AND make it easy to land when using full flaps, so far so good !!

It's aerobatics are also most pleasing and realistic to fly, with no nasty vices. The

Focke Wulf 190A-8 Warbird Project cont'd



Addendum:
December 2016

My model FW 190 A-8 has now had over 45 flights to date. It is quite predictable and most realistic to fly. So realistic that I now avoid

This was due to the fittings being glued with "super glue" instant adhesive in the "as purchased" state. The fix was to strip down both undercarriage assemblies and the glued areas were roughed up and re-bonded using slow setting "ARALDITE" epoxy adhesive, then repainted. Both undercarriage legs now work much better with external springs fitted, and the wheel fairings cut back a further 2mm to provide more clearance from the grass when landing !!

No further modifications or adjustments to my FW 190 are envisaged, other than to set up the Multiplex training "stick" and the dual control "buddy" transmitter with this, and my Spitfire XXIV, so my Swedish pal may experience flying them both on his next visit.

The above "dual-control" flights were carried out in November 2016, and can be seen on the following "Youtube" link.

["Swedish" FW 190 A-8 at Wrayford Field - YouTube](#)

FW 190A now flies in a similar manner to my **much modified** "Durafly" Mk XXIV Spitfire. They both use the same "Overlander" 3S, 60C, 2200Mah Lipo batteries, which supply more voltage for longer periods, than standard 25C Lipo's without them becoming too hot due to the high currents used . They are also 15 grammes heavier ,which is preferred to using lead to achieve the optimum C of G !!

For those interested in reading more about this particular aircraft please read the following link:

<http://www.forcedlandingcollection.se/LWe/LW141-Fw190.html>

flying the model in cloudy, dull conditions, because the accurate camouflage is simply too good, which makes the model very difficult to see !!

The plane is aerodynamically quite neutral in all control axis', and it has the ability to perform all aerobatic manoeuvres flown by the original aircraft. Landings using full flaps are rock steady with 25% power ON until the final flare before touchdown.

I did have a problem with a plastic undercarriage fittings twisting on the carbon fibre coated, steel undercarriage legs after the first few landings. but nothing was broken in the single "nose over" on landing when a wheel dropped into a small "rabbit digging" on the grass flying patch.

During 2015, the full size FW 190 A-8 remained un-flown due to a technical problem with the undercarriage and the electrical wiring. This has now been rectified and engine runs and taxiing tests were completed in November 2016. It is now hoped to complete a full schedule of test flights with the aircraft, late in 2016.

Nigel G4NRR

Jon and Giles play with a big balloon



Couple of pictures to wet your appetite for the next issue when we are promised an article on Jon M0JMM and



Giles G0NXA experiences in launching a weather balloon with a video down link.

144 MHz AFS 2016

After a break in 2015, the club mounted a new campaign in the 2016 2 Meter Affiliated Societies' Contest (AFS) which ran from 1000 to 1600z on Sunday 4th December. G4WAC was fired up by Jamie 2E0SDV, Phil 2E0WTH, Ian M0IDR and Chris G7DDN, and other club entrants were Mark M0LXQ, Mike G4VPD, Chris G3YHF, Dave G3YXM, and Warwick G4WMH.

The tropo forecast for the day (see map) suggested there would be some enhancement, and this duly arrived with improved propagation to the east and south. This enabled some QSOs with French stations whose own 2m contest overlapped the first hour of the AFS, although not as many as we hoped. However, contacts were also made with DL, ON and PA. These dx contacts each added 300km plus to the lucky stations' scores, an important benefit as scoring in this contest is 1 point per kilometer. Best dx from our operators was Mike G4VPD working DD7DAC at 672kms. Most contacts were ssb, although I had a couple of cw qso's.

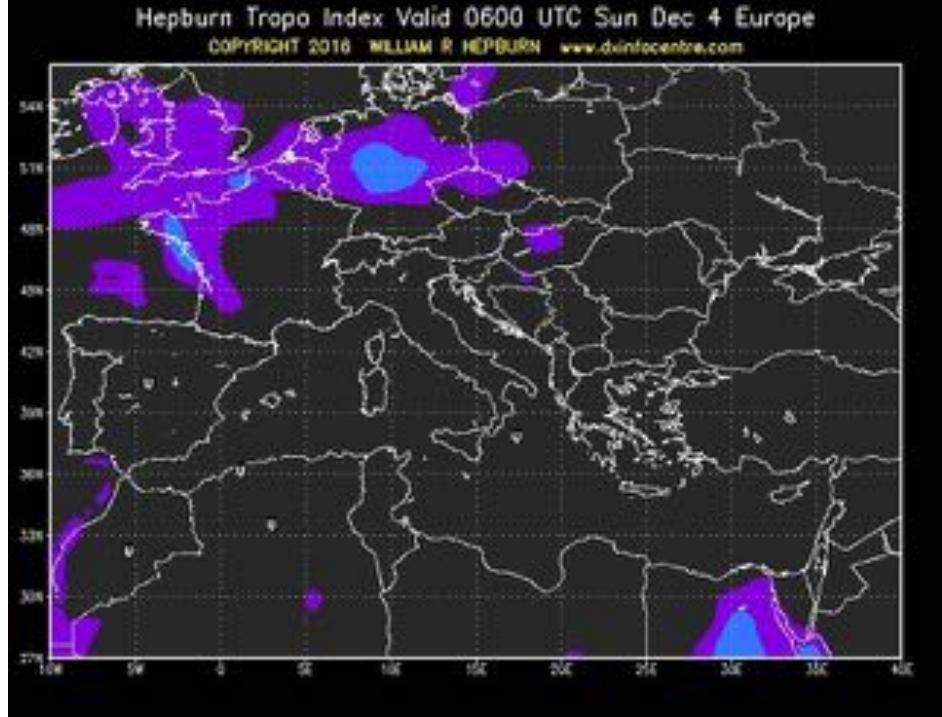
The operators' views!

What did the operators think? Here are some of the comments from the Club's reflector:

Jamie (one of the G4WAC team): "Had fun today despite a few issues and ending up running barefoot. We wound the mast all the way up which helped a little!" Proximity to other club stations also caused some problems, with the G4WAC team having problems avoiding Mike G4VPD's rf!! But everytime I listened, they seemed to be operating within a few khz of each other at the bottom end of the band!!

Mike had a frustrating time in the last minutes of the contest trying to copy details from a PA station!! "Pretty sure my last contact just before the finish will fall by the wayside. It was a good scorer too - PA1BVM in JO21 - but certain I got the serial number incorrect due to QSB and splatter. Oh well!!"

Meanwhile Mark M0LXQ had less local QRM to deal with, but had to rely on the 'Armstrong method' to turn his borrowed 3 element SOTA beam on its fishing pole mast (4 meters high)!! Nevertheless, he generated a valuable score for the Club: "I managed 22 QSOs, 2,828 km in total. My best DX was M0BAA/P on the Isle of Sheppey (225kms). Probably a little bit less than I hoped for, but a big difference



over the collinear obviously. My analyser did tell me I had a 4.5 dB feed line loss so that's something to think about in future contests assuming it's accurate. But fun was had and for my VHF-unfriendly location, I'm happy with that!" Although he didn't enter, Les M0IOI - with only a co-linear - gave several of us some valuable points: "I only have a co-linear on the side of the house so didn't think it was worth trying the contest, but had a listen out of curiosity. Having heard such strong signals I just tried to make a few contacts and was very surprised to actually complete the QSOs."

How did we do?

49 clubs participated, and several (including ours) had enough entrants to have both A and B teams (The contest adjudicator allocates the 4 highest scoring entries from each club to the club's A team, and then the next four highest to the B team, and so on). Our A team came 16th out of 61, and the B team was 38th - no mean feat considering we only had 2 stations in this team!

Our A team result compares with 16th out of 43 in 2012, the last time we had enough stations to make a full A team entry, but not quite up to the highpoints of the late 2000s when we were often in single figures - and once achieved 2nd! However there was a lot less competition then. The 2 meter AFS - as with other

VHF/UHF contests - has become very popular, with RSGB reporting 557 active stations compared to 397 in 2015. Finally, the tropo must have smiled on my QTH as I was the leading station running 25 watts or less to a single antenna! There are awards for the leading foundation and intermediate licensee operating from a fixed location, so let's see if we can target these awards next year! Thanks to all stations who participated - including club members who came on to give us those valuable additional points! Full results are [here](#).

What's next?

During 2017, Mike G4VPD and I will be activating the club station G4WAC for the 2m and 70cms UKAC contests from 2000 - 2230 on the first and second Tuesdays of the month - when we are able. We welcome additional operators/ loggers, especially from members who would like to get some vhf/uhf contesting experience and might consider entering AFS or one of the other vhf contests in 2017. Let us know via the reflector if you'd like to be part of the team. UKAC is another club based contest, so if you are not at the Club on one of these Tuesdays please think about entering from home! Details on the [VHFCC web site](#).

Chris G3YHF

Jamie and Kieran do GB16YOTA from G3BJ QTH

Youngsters on the air, or YOTA for short is a group of young radio enthusiasts in IARU Region 1. Most of the participants are aged under 25 years of age. Each year there is a week long YOTA camp hosted by a different country each time, and there is December YOTA month.

This is where a lot of the young radio amateurs in IARU region 1 activate a special xxxYOTA, xxx/YOTA or xxx/YOA call sign for the whole month. Back in October I was talking with Don Beattie G3BJ about doing some contesting from his station.

This is when I thought about YOTA month. I suggested that we apply for the GB16YOTA call sign and put in an effort as the CDXC club. Soon later we went through the application process and were allowed one of the days applied for.



Jamie 2E0SDV on right; Kieran 2E0NCN on left

By this time I had spoken to new member Kieran 2E0NCN and he said he would love to join in with the activity. So after speaking with Don again we made the plans for me and Kieran to both operate the call sign. A weight taken off my shoulders as there was a second operator.

Now to fast forward to the 10th December. Kieran and I had both agreed to meet up in Shrewsbury on route to G3BJ. So after a short train ride and a catch up on the train we made it and Don was there to greet us on the platform. When we arrived at Don's QTH we were warmly welcomed by both him and Hillary, where we sat down for a cup of coffee and a chat about our plans for the weekend. We would activate the Young Ham-

sters call sign MX0YHC on the night of the 10th before the NoV for GB16YOTA started. Just over 200 QSO's were made before midnight. Mostly CW.

As soon as midnight (00:00z Sunday 11th) was upon us we fired up with GB16YOTA. Both 40 and 80m had some nice signals bouncing around and I kicked off the day with a small run of CW on 40 into the US. Mostly East coast but some interesting calls did pop up. Whilst I was running on 40m CW Kieran was activating 80m SSB. To our surprise the

we made it to over 2000 QSO's and 96 DXCC entities by the end of our activation.

In my opinion, (Jamie 2E0SDV), I had a very good weekend. Conditions were agreeable and great equipment made a very enjoyable 24 hours. We had achieved one of our targets which was to get 2000 contacts and came very very close to DXCC. But despite only achieving one of our goals I had fun. The Hospitality from Don and Hillary was amazing and something I hope I can offer to

other young amateurs in the future.

(Kieran 2E0NCN) Personally I had an amazing weekend at Dons station. It was one of the best stations I have used since OE2YOTA earlier in 2016. The biggest difference was the receive capability at Don's QTH was far more superior to what we had in Austria. Hospitality was amazing and that was down to Don and Hillary making

us feel welcome. I had a really fun weekend.

Jamie 2E0SDV

(originally written for CDXC)

bands were in good shape. And stayed that way for the entire weekend. The only real problem we encountered was going to bed. Yes! It sounds a daft problem but we over slept and missed the morning VK, JA and pacific opening on 20m. We were slightly annoyed with ourselves, but that of course made us even more determined to get on and bring up the QSO numbers.

After some nice pile ups through the day, and heading into evening time we started to take more notice of the QSO count and DXCC score. We were at about 1700 Q's and close to 83 DXCC from memory. We had set DXCC as one of our challenges so Kieran focussed on chasing the new ones whilst I stayed focussed on the numbers. And as a team

Answers to quiz on page 5

Foundation licence. 2. FM. 3. Roger. 4. CQ. 5. Vacuum tube. 6. Software defined radio (anag.). 7. Jack plug. 8. G5RV. 9. UHF. 10. SHF

Training Report

In August this year, the RSGB approached me to see if Wythall Radio Club would like to participate in a Training project which was to be conducted in the utmost secrecy. I was asked to put together a team of 6 people who could spare a few hours to carry out a proof of concept test for on-line examinations. If I could those participating would be asked to sign a confidentiality agreement. I sounded out training team colleagues to see who would wish to participate and availability. Finally our team consisted of myself and Roger M0GWM who would act as invigilators plus Ian M0IDR, Dave G3YXM, John G3VRF, Peter G4LWF and Dave M0IFT who would actually take the on-line examination.

Dave Wilson RSGB Quality Manager (and ex -President) acted as liaison and oversaw the project in our shack one Wednesday afternoon. David explained that there we were one of two groups. We were to be the group who trialled the examination in an approved exam centre under normal invigilation conditions. There was a second group who would do it away from an exam centre under webcam monitored conditions. The on-line examination was provided by a third party which hosted the bespoke software. Candidates had to be pre-registered and were sent user names and log in codes which could be used on their own laptops or those owned by the club. Clearly in our case we needed a good internet connection.

The software is clever in as much as it prevents you accessing any other files on the laptop so you cannot look up answers to questions whilst doing the exam. The exam data reference book is also available on screen. We did the tests, answering the questions, trying to fool the software, seeing the problems and any weaknesses. We fed our experiences back to Dave on the day and later via e mails.

In December the RSGB issued a press release saying that a pilot project will be started for Advanced on-line examinations at approved examinations venues running from mid-March 2017. We assume that as the project develops both Foundation and Intermediate examinations will be included and for those venues which have no online facilities paper

examinations will still be available. We don't know if and when webcam monitored on-line examinations in non-registered exam venues will be piloted. Watch this space.

Advanced Course

Of the eight people who started the Advanced class in September, five took the exam on the 12th December. At the time of writing we know of three who passed (one with distinction) and await news of the others.

Roger and I spent time reviewing the course and decided on a slightly different approach for the next Advanced course which will be in the Autumn of 2017. Despite us stressing this point, most candidates under-estimate the amount of commitment in time they need to make in order to do the Advanced course. Not only are there 15 two hourly sessions but there is homework, practical work, a lot of stuff to read and mock exams to take. It is quite a technical examination and it does require students to acquire some mathematical skills.

As lecturers it is important that we have some idea if what we are telling the class is being understood. We would normally do this by answering queries from the class but unfortunately people are often reluctant to ask questions of the lecturers. We give them homework to do but often this is not done so this is another example of where we don't know what they understand and what they don't.



Roger and I think we perhaps, need to incentivise students to do the homework by keeping a register of what is handed in and the marks. We think that some kind of refundable bounty of say £30 could be set up so that those who fail to do the homework on a regular basis would forgo the bounty which we would donate to a radio related charity each year. Something like this is already done with the Bath Based Distance Learning programme.

We will also look at setting homework or quizzes on-line via the same software system we use for our on-line Foundation course. We recognise that the course even over 15 weeks, is quite intensive with usually two power point lectures per evening. We might extend the number of Saturdays (currently one) so that we can introduce more practical examples of the concepts we are talking about. We also want to look into the possibility of streaming lectures for those who cannot attend every session.

Finally although it has been our practise to give students copies of the slides as handouts at each session, we notice that very few students actually write notes upon them so in future we will include the slides as PDF's rather than PowerPoint so the student can print them off at home if they wish. We may still give out a sheet of bullet points for each lecture session to help with revision.

Foundation Course

We will be running a class-room based Foundation Course starting on Monday 16th January for 7 weeks with the examination on Monday 27th February. We are going to incorporate the practical assessments, which have previously been done on a single Saturday morning into the Monday evening sessions so as to break up the power point lecturing which can be a bit tiring for some. We have 4 people interested and will be seeking to find another 2 or 3 to complete the class. Following the class-room course we will run an on-line course for those who can't come to us on a Monday with a Saturday practical session and examination for those who are local..

Chris G0EYO

The next issue of the Wythall Radio Club Newsletter will be published at the beginning of Mar 2017