

**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

## The Wythall Radio Club Xmas Party

The club held its Annual Xmas Party in the Britannia Room on Saturday 12th December and about 40 members and their families attended. It followed the usual format of an "American Supper" with skittles, stand up bingo, a raffle and tossing a £1 coin to win a bottle of Whiskey. Stuart M0NYP was main organiser and Master of Ceremonies and Chris G7DDN provided the accompanying music and led the Xmas singing.

Members were generous in the donation of raffle prizes which varied in value from a good malt whiskey to a box of chocolate biscuits.

We collected £76 for the raffle tickets; £40 for the bingo tickets which was split between the club and the winner who was Stuart's wife Rachel

The skittles competition was split into ladies and gentlemen with wine bottles as prizes and the joint winners with equal scores were Mike G4VPD and Roy M0HDF. Amanda, Stuart's sister won the ladies skittles prize.

The winner of the bottle of whiskey in the £1 coin tossing competition was Mike G4VPD and we collected £27 from this competition. I think someone on every table won a raffle prize and some tables won two or three prizes.



With the income from the raffle, bingo and whiskey roll the total event only cost the club £27 to put on.

Thanks to everyone who came along; there were lots of nice things to eat and thanks of course to all those helped make it happen on the night, be it laying out the food, selling bingo and raffle tickets and organising and setting up the

skittles competition (thanks to Roy M0HDF for risking life and limb in skittles pit.). And of course, Chris for the music and Stuart as organiser. Although there were fewer members present this year, everyone who came enjoyed themselves.

**Chris G0EYO**



# In the Workshop with Ian M0IDR MFJ VHF/UHF Antenna Analyser

The next casualty to be shown my soldering iron is one of the popular MFJ Antenna Analysers. Made in America and housed in a sub-



stantial wrap around aluminium housing, this particular model covers UHF and that turned out to be it's Achilles heel.

The connection to the outside world (the antenna feeder) is made by via a 'N' type socket which are vulnerable to damage especially when mistaken for a SO239

socket. When a PL259 plug is inserted, or attempted, the rather delicate gold plated female solder pin is destroyed. The models that only cover HF have a SO239 socket and therefore more robust.

MFJ do include an 'N' to SO239 adapter which they suggest is kept in place permanently except when using at UHF frequencies.

Very often though this coupler is snaffled for other purposes and being small can be easily mislaid in the melee of setting up a field day station.

The socket on this analyser was damaged and needed to be replaced and to gain access

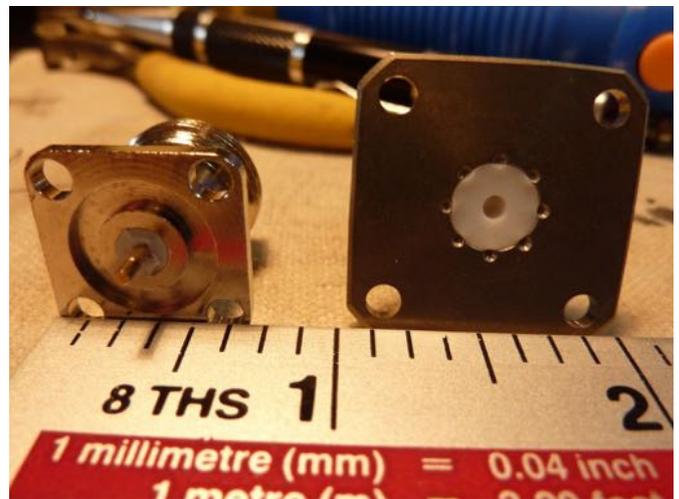
quite a bit of dismantling had to be done. The wire to the BNC frequency counter socket had to be unsoldered and quite a few screws and stand-off pillars had to be removed, together with the battery holder

before the pcb's could be wriggled free.

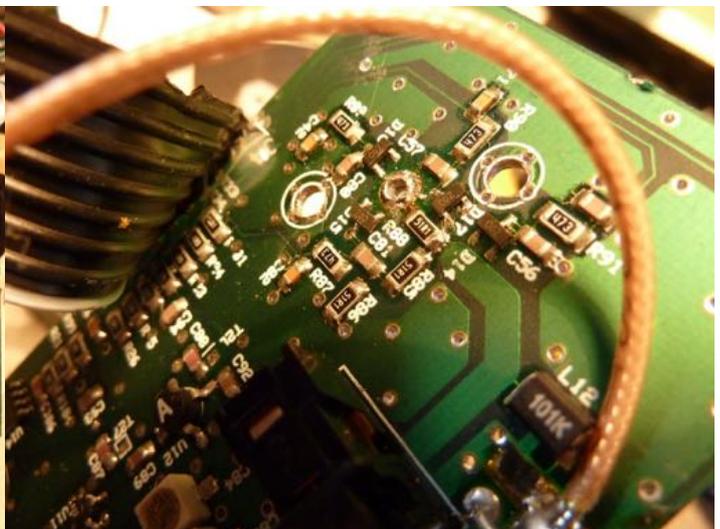
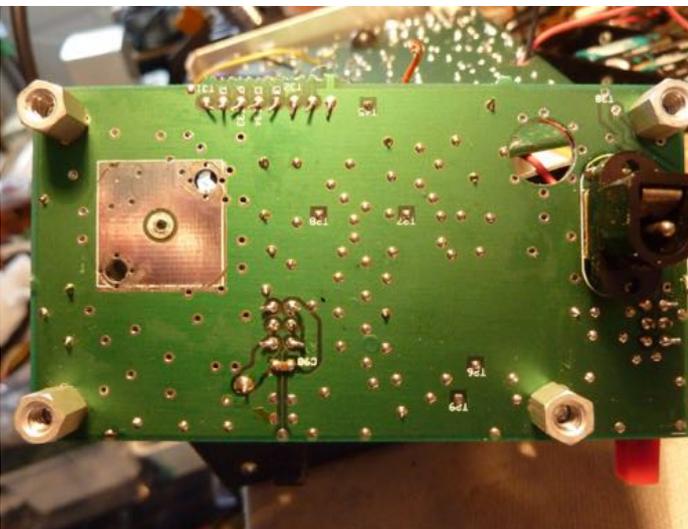
There is one main double sided pcb to which is attached by solid ribbon cable a daughter board, again double sided. This latter board carries the socket in question. A further solid ribbon cable from the

main board conveys data to the LCD screen and more wires connect the twin meters and battery holder. I say solid ribbon cable because (by today's standards) it is very substantial and is allows for very little movement. Both ribbon cables are soldered at both ends and make access to the daughter board very difficult.

Chris G0EYO had advised that the "N" type socket had a smaller base plate than standard but it might be possible to extract the damaged pin and use the pin from a new standard socket. With the unit on its side and the daughter board carefully positioned, it was clear that the



base plate was indeed smaller being 16mm square against 25mm for the standard.



## MFJ VHF/UHF Antenna Analyser

A trawl of the internet only produced the larger type and so I carefully unsoldered the centre pin and freed the damaged socket. A reasonably hard push on the centre pin freed it from its surround and I did the same on a new socket. The centre pin came out undamaged, so the question is now *will it fit in the old socket?*

Yes it will and a careful tightening of a "N" type plug seated the new pin perfectly in the old socket. Thank you to Chris for both of those tips, but out of interest I called MFJ in the States and was put through to Charlene in sales. "No honey, we don't sell those outside of the States any more due to postage and customs duties" Ah well... how a \$1.59 item can attract customs duty and cost \$20 to post is a mystery but there we are. She went on to advise "Honey, it is a standard part and should be available in your sweet little Country"

OK so moving on... we have a socket ready to be put back on the Daughter board and soldered in. Two screws with shake proof nuts completed the mechanical fix but there was a fair bit of surface mount in close vicinity of the pin to be soldered. Out came my ancient Antex 25 watt chisel bit iron and this did a fine job without risking any damage. Re-assembling was straightforward and a quick solder re-attached the wire to the BNC socket.

Batteries back in and good to go! Since doing the repair a trader from ebay has advised that he has a couple of these small based N type sockets.....they are available but rare he says! Ah well, swopping the pin works perfectly well.

**Ian M0IDR**

## Shack Refurbishment

The committee decided in November to proceed with a major refurbishment of the radio room in preparation for a re-organisation of the radio equipment and to allow for the provision of seating along the back wall for visitors. Additional electrical points were also planned and a tidying up of all the many cables that go into the radio room. Ian M0IDR undertook to lead this work and soon got together a small working party of willing volunteers

The end of the advanced training course in early December and not having a fixed date for the next classroom course meant that we had a period of opportunity to carry out this work without too much disruption to other club activities. To clear out the radio room required that we make space elsewhere and the first thing to get sorted was the store (where the boiler is).

The equipment in the store was identified and classed as club keep, club sell off and club return to owners. Some bigger items were found space elsewhere on the site temporarily until they could be moved to a more permanent home. Space was also made by tidying up the many coaxial cable, some of which are redundant, that are routed through the store. This gave us access to the top shelf for storing items that will be sold on the club stand at the next rally in March.

Eventually the radio room was cleared completely and the walls were given a couple of coats of paint. However it soon became apparent that the floor, which had

suffered a couple of floods over the past 10 years was rotten in quite a few places so that was taken out and disposed of.

The radio room original floor is just terracotta tiles on soil so are constantly damp. The working party decided that a new floor of decking boards on tannellised joists sitting on the tiles would be the best approach. This work is planned to be done in early January. On advice from Paul Johnston of House and Parks we will also put in a drain in the corner of the shack and feed it into the cellar sump in the classroom. This will be done in the summer months and will involve cutting a channel out of the classroom floor and backfilling.

A radio room isolating switch and RCD and extra power points above the top shelf are also planned to be done at the same time by Roger M0GWM. Lee G0MTN is in charge of the radio layout and he plans to have two positions; one for 4m and 6m using the FT847, 2m, 70cm and 23cm using the IC910 and one for HF using the TS590 connected to the doublet and SGC tuner as well as the HF beam. New computers and screens are also planned for the radio room. It is our wish that the positions are fully equipped and ready to operate without having to hunt around for morse keys and headphones etc.

**Chris G0EYO**



# On the Workbench with Ian M0IDR Kenwood AT230 Tuner



An oldie but goodie, receiving good reviews when released. But not this one-lacklustre in matching performance. But why?

As you can see, a substantial unit, giving plenty of options and 9 bands, with really substantial capacitors and inductors. What could go wrong?

Located beneath the substantial torroid and some lovely silvered wire inductors, lies a 4 wafer rotary switch.

Indeed this unit contains two rotary switches, a two wafer one to select the antenna for direct connection (bypass) or matched positions.

The other switch is a 4 wafer 9 way "shorting" switch so when the switch is rotated, the connections are selected and previous ones are shorted together rather than just selected as would be

when a ceramic one would have far more in keeping with the quality of the rest of the unit.

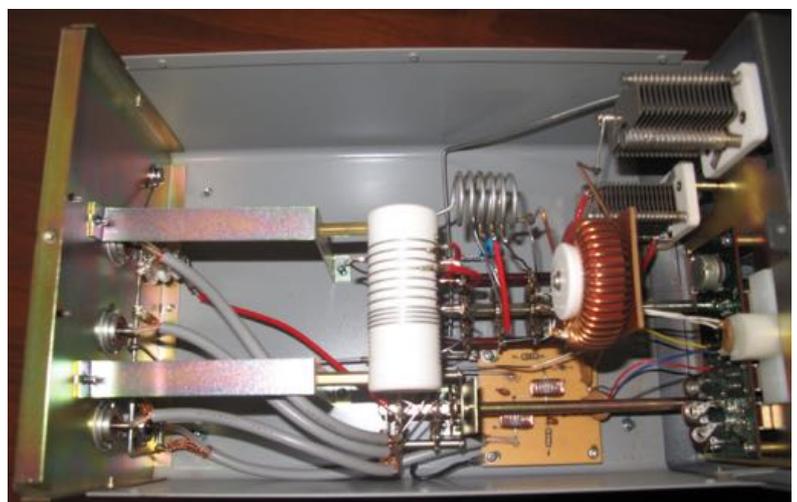
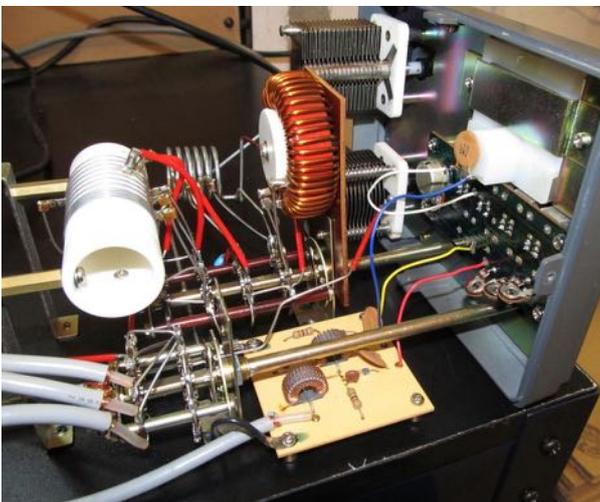
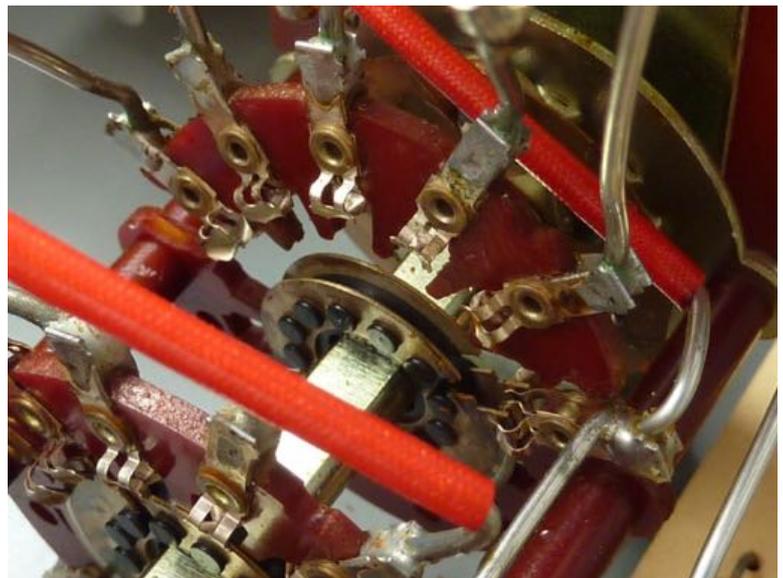
Basically what had happened was that the wafer had split into two halves, so no selection of inductor was being made by the first wafer. No wonder it didn't work. Sadly this unit had been dropped by the courier

normal. This method is good practice as leaving a connection to an inductor "open" is a recipe for large voltages to appear at the open terminal with flashover and other RF issues.

So well done to Kenwood for avoiding RF nasties but Boo Hiss for using such a seemingly cheap paxolin switch

and I suspect, although not certain, that the switch was damaged by the impact. The picture shows the internal arrangement and you will see the torroid mounted on a vertical paxolin panel is wired directly to the wafer that got damaged. The wire is very substantial and the torroid was loose and so I suspect that the force of the torroid moving snapped the switch wafer, the silvered wire used is far stronger than the paxolin wafer switch and it gave out at the weakest points, a mounting hole on one side and a contact fixing rivet at the other. A couple of other things noticed were a slight stress line on the paxolin panel through the fixing screw aperture and that the cone shaped ceramic mount for the torroid was too deep to hold it securely.

Some research soon established it



## On the Workbench with Ian M0IDR Kenwood AT230 Tuner

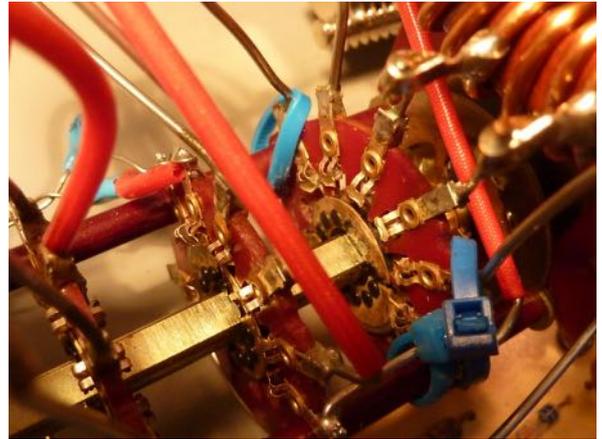
would be near impossible to source a replacement switch or wafer. Carefully aligning the switch and gluing the two halves back together was not really an option as there was too little paxolin to glue. The other idea was to use cable ties to keep the switch wafer together. Not very neat, most certainly, but would it work and if not, it would be totally reversible.

The idea was to use either the switch wafer fixings or the very substantial silvered wire to wrap a thin cable tie around and steady the broken wafer. In order to gain as much access as possible, the bottom panel was removed and this is where things started to get interesting. You would think that after removing the screws holding all the bits and bobs to the base, it would lift away. Well it was fixed very firmly at the front in the centre. Careful manipulation eventually broke the seal

and it seemed as if it had been glued. There was also traces of a dried on liquid on the panel, so had the unit been repaired before? Dreaded superglue perhaps? With the switch easier to access, it took only a few moments to align and fix the wafer in place and it seems on the face of it that the switch action is restored.

Time will tell, the best solution would of course be to replace the damaged wafer, but the only likely source is from a working unit which I guess defeats the object. Always hopeful, with the Rally season kicking off soon, you never know what you might find... a scrap AT230 with a perfect switch would be nice!

Ian M0IDR



## 2015 Xmas Fox Hunt well supported



and have driven around in all sorts of weather, rain, snow, frozen roads, waterlogged roads and blazing sun. This year it was a very wet fox hunt.

Five teams participated;  
The DUO's Peter and Anita  
Stewart M0NYP  
John M0JMM, Phil 2E0WTH and  
Dave M0IFT  
Steve 2E0SDD and Stacey M6STJ  
David G7IBO and Juliet M6RSC

The winners of the 2015 M0GJM DF Hunt Trophy were David and Juliet.

The day after Boxing Day has traditionally been the day the Wythall Radio Club run their annual fox hunt. No we are not chasing some poor dear animal around country fields but a poor radio ham in a car who transmits for 2 minutes every 10 minutes until the fox hunters have tracked his transmissions down using DF techniques.

I cannot be certain when the club started doing the Xmas Fox hunt but there is a reference to 6 teams participating in a fox hunt on 27th December 1997, but no reference for the same time in 1996. We have not missed a year since that time

Following club tradition the fox hunters ended up at the Barley Mow in Studley for a nice Xmas luncheon

Chris G0EYO

*Pics Top left: David G7IBO and Juliet M6RSC—Winners of 2016 DF Fox Hunt*

*Top right: Phil 2E0WTH, Anita 2E0DUO and Jon M0JMM looking confused*

*Bottom right: Juliet and Anita ready for the off!*



# G15YOTA SES at Wythall

On 22nd December we had the privilege of operating the Special Event call-sign G15YOTA from the club shack. Despite the fact that the shack and class-room were undergoing some refurbishment we managed to set up an HF position for young member Jamie 2E0SDV to operate this special call-sign. Read his report of his day of operating further on this page.

YOTA (Youngsters on the Air) is an established Amateur Radio youth programme, supported by the IARU. Every year, the month of December is designated as "YOTA Month", which aims to encourage young people to get on the air and experience Amateur Radio.

The National Amateur Radio Societies in many countries are encouraged to set up a number of special event stations in December, to promote amateur radio to younger audiences and to encourage them to get on the air. Each special event station is identified by the "YOTA" suffix and an award scheme exists to encourage amateurs to work as many YOTA stations as possible throughout the month

We did try to interest other young operators in the Midlands region to come along but all our request to other clubs within a 25mile radius of us were ignored. In the end Jamie had to do the whole thing on his own.

Because we were also using the Xmas holiday period and the hiatus between training courses to refurbish the club shack and radio room, we were not able to make this a public event and invite other youngsters to pass messages under our control and supervision.

None the less, Jamie, who is only 15, made an excellent effort to air this call-sign which after our day of use goes on to the RSGB Youth Commit-

tee (of which Jamie is the Region 5 representative) for them to use on Dec 26th and 27th

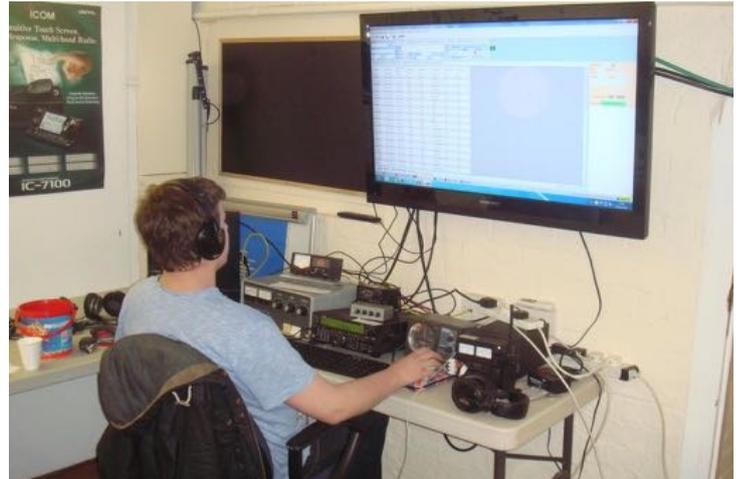
**Chris G0EYO**

## Jamie's report for G15YOTA

One of the things that radio clubs struggle with is getting youngsters involved in the hobby of amateur radio. Well Wythall radio club took a big action for me as a single operator of G15YOAT on Tuesday 22<sup>nd</sup> of December 2015. I operated between the hours of 14:00 UTC and 19:30 UTC with the G15YOTA call sign to put my efforts to making as many contacts as I can for YOTA month (Youngsters on the air).

Throughout my time in the amazingly set up shack in the class room made up of the clubs Kenwood TS 590s, Linear, beam and doublet I worked 142 stations in total. This number is not as high as I was expecting but with Christmas QRM across the whole of 80 & 160m it is all I could manage. I mostly worked DL's and IZ stations on 40m but I did work on 20m, 17, 10 & 12m too. The best DX I have was with Steve Telenius-Lowe PJ4DX in Bonaire in the Caribbean through a sked QSO on the 17m band. This was a pleasant contact to make as we have talked about the sked for the past three weeks before the event. I worked 1 station in the USA on 20m K2JMY, who was my only contact state side.

As well as the



great DX I had I was very pleased to work some club members. I worked Tim MOURX on 10m, and whilst I took a break I happened to hear "Mike Echo X ray" on my frequency on 40m. So I called back 2E0MEX and lone behold Rob answers my call. I also worked John M6KET (rumour has it; it was the first time he has ever picked up the microphone instead of the key).

I also worked some other friendly voices from the RSGB YC. I worked a good friend of mine William Davies 2W0WOD and Adam Hutchison. I also managed to work Adam's club call MS0YHC (young hamsters club) which was a good one to make as we were both supporting youngsters on the air, and a good friend of mine Martin G6VMR on multiple bands.

There were a few small pile ups but the most memorable one was between me, a F6, an EA4 and an IZ3. So here it goes;

*(Go to page 7)*



ME: "QRZ G15YOTA"  
 DX: "F6, EA4 IZ3"  
 ME: "OK THE FOX 6 MAKE YOUR CALL"  
 DX: "ECHO ALFA 4, ECHO ALPHA 4"  
 ME: "EVERYONE STANDBY I AM CALLING FOX 6, THE FOX 6 ONLY"  
 DX: "EA4, IZ3"  
 ME: (Getting a little annoyed) "ECHO ALPHA 4, DO NOT CALL ME, YOU ARE NOT FOX 6 ARE YOU?, OK THE FOX 6 ONLY"  
 DX: "FOX SIX HOTEL INDIA..... ECHO ALFA 4, ECHO ALFA FOUR"  
 ME: OK I HAVE - FOX 6 HOTEL INDIA, WHATS THE LAST LETTER?"  
 DX: "ALFA, ALFA, ALFA"  
 ME: "FOX 6 HOTEL INDIA ALFA YOUR 5 AND 5, I HAVE YOU IN THE LOG THANK YOU"

And after that I went on to work the others that had been so rude before. It pays to listen to the operator running the pile up before you shout your call.

Please continue to support youngster's across the world by giving them a call. or if you have worked some let me know who. QSL cards are available via direct or bureau, although I am not manager please visit <http://www.ham-yota.com/december-yota-month/> for info on that and to give your selves a general update about how YOTA is going.

There is an awards scheme,  
 Bronze award = 5 YOTA stations worked  
 Silver = 10 YOTA stations worked  
 Gold = 15 YOTA stations worked  
 Platinum = 25 YOTA stations worked.

Thanks to you all who seem to show a lot of support to young hams in and/or joining the hobby. Let me know if you work any YOTA stations & better yet let some of the EU YOTA stations know that you know me, a lot of the ops know me also.

Here is a URL to YOTA stations on the cluster, the ops of these are likely to know me. [http://dxsummit.fi/#/?dx\\_calls=J62YOTA,LY5YOTA,DQ0YOTA,G15YOTA,GM15YOTA,OH2YOTA,ON4YOTA,ZS9YOTA](http://dxsummit.fi/#/?dx_calls=J62YOTA,LY5YOTA,DQ0YOTA,G15YOTA,GM15YOTA,OH2YOTA,ON4YOTA,ZS9YOTA) so get active and help the next generation of young amateurs.

**Jamie 2E0SDV**

Been a busy but rewarding year for the Training team. We held class room courses at Foundation, Intermediate and Advanced level throughout the year plus two on-line Foundation courses. This resulted in the following passes

January Foundation 5 passes  
 May Intermediate 5 passes  
 December Advanced 4 passes  
 January on line Foundation 3 passes  
 July on line Foundation 5 passes.

Of those three, club members, Carl, Zaid and Dave managed to achieve all three levels from M6 to M0 in the one year. Quite an accomplishment I think you will agree.

Whilst I act as lead instructor and examinations secretary, none of this would be possible without the help of the other members of the training team, principally Roger M0GWM, Dave G3YXM, John G3VRF and Peter G4LWF plus of course Lead Invigilator David G0ICJ. I am pleased to say that the RSGB have recognised their efforts this year with the award of an RSGB volunteer pin badge. It is a sign of the club's interest in supporting the training effort that I can easily call on other volunteers such as Barry M0DGQ or John G4OJL to help us on morse appreciation tests for the foundation practical assessments.

As reported in the last newsletter, the Examinations Group and the Syllabus Review Working Group of the RSGB are currently engaged in updating and reviewing the syllabus for the three levels of the Radio Communications Examinations. Work has been on-going since 2014. The two main objectives are to better align the Advanced Level with HAREC (T/R 61-02) and to smooth out the steps more evenly between Foundation to Intermediate and Intermediate to

Advanced. In addition, the syllabus will be refreshed to include more recent technologies and practices currently in use in amateur radio. Consultation with the training community is planned for 2016 when an advanced draft of the new syllabus is expected to be available. Examinations to the new syllabus would not start before January 2018. At least a twelve month notice will be given between the formal release of the new syllabus and the start of the corresponding examinations.

The club's committee decided some months ago that training should be part of the new investment in IT and a specification was written up for Lee G0MTN who had taken the lead role in this task. As a consequence the training group will have access to a new HP laptop which will give us the ability to project on the TV screen, handwritten comments and formulae as well as videos and power point training sessions. We will also continue to have access to the internet and the circuit simulation programme called Circuit Wizard.

We expect to run a classroom Foundation, Intermediate and Advanced course in 2016 as at least one on-line Foundation course sometime during the year. Until the shack refurbishment is complete we have not made any announcements of start dates but I fully expect we will kick next years programme off sometime in February.

**Chris G0EYO**

*2015 Foundation Class with certificates*



# How (not) to build an HF Contest Station

A quick recap as this saga edges toward its third year... Moved house in November 2013. Got settled in, met the neighbours and introduced them to the idea of antennas during the spring and summer. Planning application submitted for a telescopic mast and antennas in September 2014. It took until April 2015 for a decision from the council planning officers, which was a refusal. After advice from the RSGB Planning Advisory Committee I prepared an appeal statement and submitted that in August.

Shortly before Christmas I was advised that the appeal was dismissed, so I was back at square one.

My appeal document content was split into two – evidence to support the notion that a mast was an appropriate development under the National Planning Policy Framework (NPPF) rules, and also on the other hand if it was considered to be an inappropriate development, so I would need to provide reasons why 'Very Special Conditions' (VSCs) existed to allow it.

The reason given for the original planning permission refusal was based on NPPF rules that effectively said 'development of buildings in Green Belt is not permitted' (unless you meet the VSC criteria.) A house, an advertising sign, a wind turbine, or an antenna mast are all technically described as buildings in planning law.

For the case that a mast could be a permitted development – I'd argued that Contesting, frequently known as RadioSport, is both a mentally and physically demanding activity (from the aspects of station building and operating itself) requiring and using outdoor space, and so could be considered to meet the criteria that allowed development to support outdoor recreation. The retracted mast would be smaller than the floodlights and rugby posts from the Rugby Club just up the lane. I'd also described the community benefit that the radio station could be, and it would also be from time to time a shared facility for other amateurs in the club and community. Finally I'd argued that due to its dynamic nature a telescopic mast is dissimilar to most other buildings, and ultimately would be com-

pletely removed.

Considering the other side of the coin that the development would be considered inappropriate, I'd argued that a retractable mast, with antennas hidden against the tree line, in a relative dip in the hedge lined road, with no immediate neighbours the visual impact would be slim. There was a lack of objections from neighbours and the Parish Council, and the local District Councillor supported me. I quoted my previous successful application where the planning officer's report said that the sympathetically designed and placed tower *did* meet the VSC criteria.

I summed up by saying I was merely changing location within Green Belt by 1 mile to a more suitable one, and so I should reasonably expect to put up a proportionately sized mast and antennas.

So I felt that I had a reasonable set of arguments, although was pre-warned that planning officers (from the council) and planning inspectors (from the government, who deal with appeals) were all trained to strongly protect Green Belt. The dismissal notice from the appeal actually agreed with me on almost all of the points I'd submitted, but concluded that on balance the development was inappropriate and there was insufficient weight in my arguments to swing the decision the other way.

So over Christmas I had a think about what to do next. My original aim was to have a robust tower and antennas that would stand up to the wind, and wouldn't require hours of work to set up each time in 'field day' style each time I wanted to use it. My revised aim is to see how close I can get to the original proposal in terms of RF performance using smaller masts and wire antennas, and also in terms of convenience to use and maintain. At a meeting I had with the Council in April, it was said that a box/pole type mast and wire antennas would be allowed. After an unsuccessful application I am allowed a sec-

ond free application with a revised proposal.

So, treading carefully, I will ask for a meeting with the council to discuss these options. A Tennamast as I had at my old house is substantially narrower than a lattice tower. I will also see if some of the 'wire beam' designs available, which photos will show can be almost invisible against the sky, would be permissible.

This would put me within a dB or so of wanted gain, and with some clever positioning of a lightweight yagi, within reach of optimum heights. For the LF bands various inverted V's or inverted L's could be made to work on a stub mast.

If this is not acceptable, then there is the fallback position of understanding what can be installed temporarily (mobile ver-satower, scam mast, spiderbeam mast etc.) Beyond that, wires in the trees and VHF verticals would hopefully be allowable without planning permission - 'de minimis' in planning lingo.

So I've not given up, but after such a long time I will be pressing for greater clarity from the planning officers. My greatest frustration is the time everything takes and the lack of detail about what would be permitted. It seems like I've wasted a lot of time and effort needlessly - if only more guidance provided had been provided earlier. Let's hope for progress in 2016!

Lee G0MTN

