newsletter

"having fun with rf"

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wythall radio club

wythall contest group

G4WAC G1WAC G7WAC
G0WRC M5W

July-August 2012

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. Contact g0eyo@blueyonder.co.uk

GB1DGW @ Avoncroft Museum

The weather was very kind to us when we went off to the Avoncroft Buildings Museum on 12th May to set up the special event station to celebrate Mills on Air weekend. The station was largely based around Callums portable set up comprising a nested dipole for 80/40/20m on his trailer mounted pump up mast (complete with lights). On top of that was mounted a vertical 2m collinear at 45ft. Callum's FT1000 powered an Acom linear for the HF bands and the club's FT847 was used for 2m FM. We had networked computers for the logging using N1MM and infrequent access to the internet via a 3G dongle. We had an excellent turnout of members to help build, operate and just observe. I counted 18, G0EYO, M0MCX, M3PMP, Syd G4?, M6AUL, 2E0WTH, M0NYP, M0JMM, 2E0BLP, M1JSS, M0IDR &XYL, G7DDN, G7IBO, M3RSC, M0YOM, G0MTN, and M0COK.

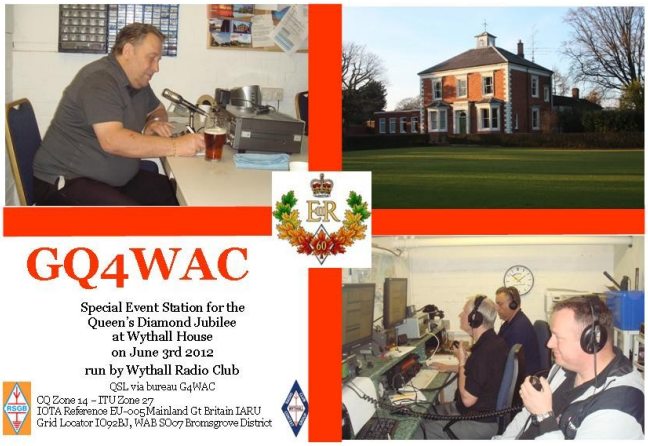
We conducted 191 QSOs across about 5 hours of operating time and scoring 28 DX entities. That's one in the log every 90 seconds! Impressive. The knock-down was smooth, from start to finish, we had everything packed up, antennas packed away and Callums boot closed. In less than 30 minutes.

Avoncroft is an excellent venue for special event stations. They have lots of visitors and there are various recreationers (people dressed up in costumes doing strange things) most weekends and the museum management are very helpful. In recognition of their support the club made a £20 donation to the museum.

Good work team!

GQ4WAC @ Wythall Park

Our plans to set up a special event station at Wythall Park as part of their Jubilee celebrations was subject to last minute changes by a forecast of continuous rain all day on Sunday June 3rd. Not to be put off we decided to set up in the club shack and so we ran four stations, the IC910 on 2m SSB, the FT920 on 20/15/10m via the tri-bander and the FT847 on 80/40m via long wire. For 2m FM we used the FT736 in the class room. Callum networked the two club PC with N1MM for logging and we set up Winlog32 on the FT847. We used a paper log for 2M FM. We started around 10:30 and by 3:30 we had logged 95 QSOs on the various bands. We suffered some interference when operating high and low band hf and ssb and fm on 2m. Jim was on hand to provide refreshments and when the bar opened at 12 noon more alcoholic beverages were available. A variety of snacks and biscuits were brought into the shack and some us risked a luke warm pork roll from the dodgy looking burger bar outside Britannia Hall. All of the outside events planned by Wythall House was brought indoors into Park Hall, Britannia Hall and the club and there were plenty of people around.



Thankfully we caused no TVI to other park users. Thanks to all * to who came along and helped, operated or just had a gossip. We will be sending out QSL cards to all those we worked .

We had a great time and at we didn't have to get wet. Thanks everyone.
*G0EYO, M0MCX, M6AUL, M3PMP, 2E0BLP, M6KEA, G7DDN, G0MTN, G0ICJ, 2E0WTH, G6ZDQ, 0NYP, G3YXM, M3SSP (and little Julia)

Chris G0EYO

See Stew's M0NYP cartoon on page 7

80m Direct Conversion Receiver

Here is a simple direct conversion receiver for 80m (also known as a DC RX). The receiver covers 3.51 MHz - 3.60 MHz and 3.64MHz - 3.71 MHz thus CW and Phone portions of the band are usable, this is achieved by using a VXO with two switchable ceramic resonators. Stability of the VXO is very good.The set has two filter bandwidth settings, one for SSB and the other for CW. Sensitivity of the receiver is good (for a DC RX), signals in the 5uV region are easily copied.

A look at the circuit diagram will show how straight forward this set is. The aerial signal first passes through a 1K pot which is used as a crude but effective RF attenuator, this is necessary if strong adjacent signals are present. A two pole bandpass filter follows the attenuator, a switch is used for hi / lo impedance aerials. In the lo impedance position the aerial signal is coupled to the lo impedance winding on L1. In the hi position the aerial is coupled to the hi impedance input of the bandpass filter. This can be useful for a end fed random wire aerial as its impedance can vary greatly depending on its length, you can omit this feature if the set is being fed from a 50 Ohm aerial. A JFET RF preamp (Tr1) provides a small amount of gain before the signal passes through to the mixer D1, D2. The wanted AF mixing product (i.e the demodulated audio signal) leaves the mixer via RFC1, this allows audio to pass but not RF. The audio source impedance from the mixer is very low (less than 200 Ohms) so a grounded base audio preamplifier Tr2 is used after the mixer, this gives a very good impedance match to the mixer output allowing good power transfer from the mixer to the preamp. Two active low pass filter stages (Tr3, Tr4) follow the audio preamp, these provide all of the selectivity for the set, no voltage gain is produced by these two stages.

A two way switch is used to select audio from the first or both active filters thus giving two bandwith options, SSB from the first filter or CW from both filters cascaded. The second filter has a slighly lower cut off frequency than the first and does result in slightly lower volume but it is worth it for the much narrower bandwidth.

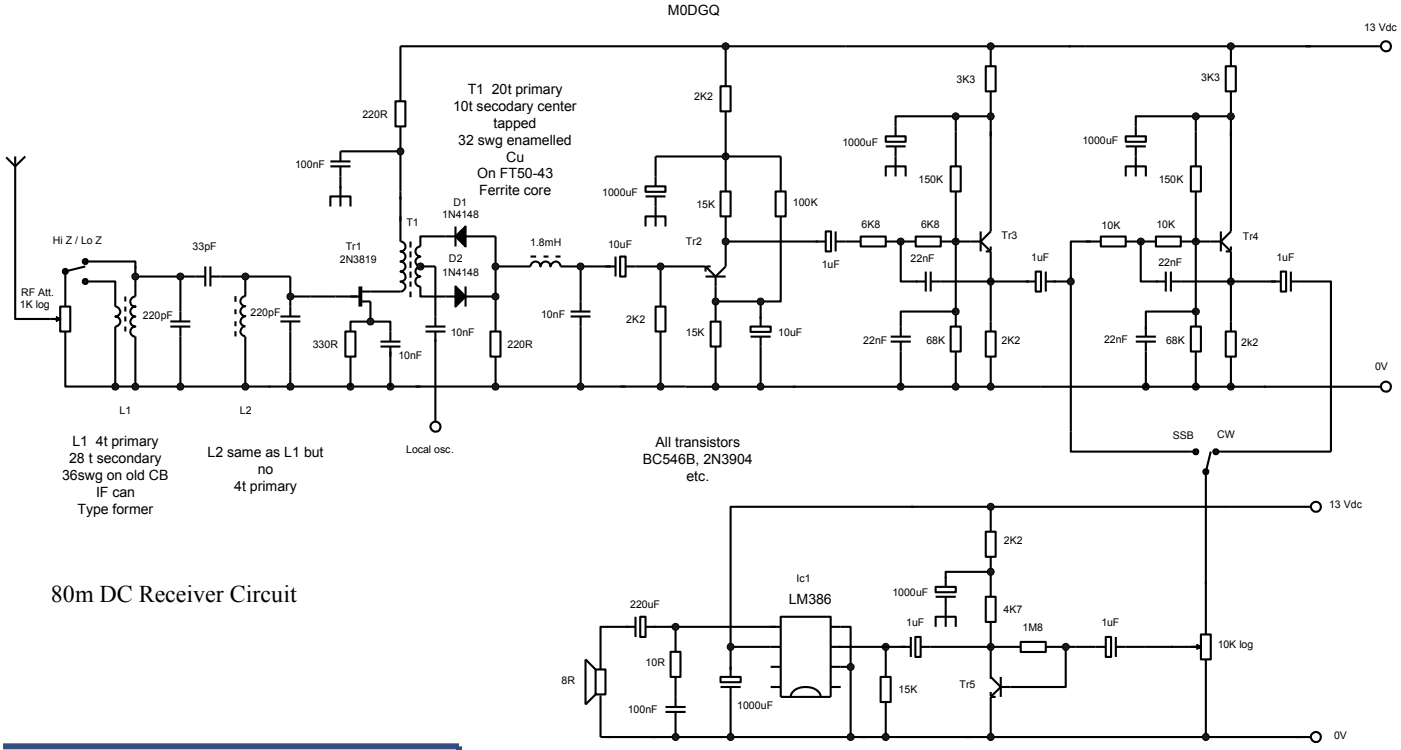
Another preamplifier Tr5, follows the filter stages via a volume control. Output from the preamp is then raised to speaker level by IC1, a LM386.

VXO

The set uses a VXO for the local oscillator, two ceramic resonators are used, a 3.58 Hz and a 3.68 MHz both of these are available from the G- QRP club as is the polycon tunning capacitor and pad cutting tool for the circuit board. A simple colpits oscillator is employed followed by a buffer. A varicap diode provides fine tuning of the VXO as no reduction gearing is used with the tunning capacitor.

In use, the set performs well and is a handy item to have around the shack. Construction is not difficult but a logical layout should be used as there is a lot of gain present in this circuit, keep inputs away from outputs etc.

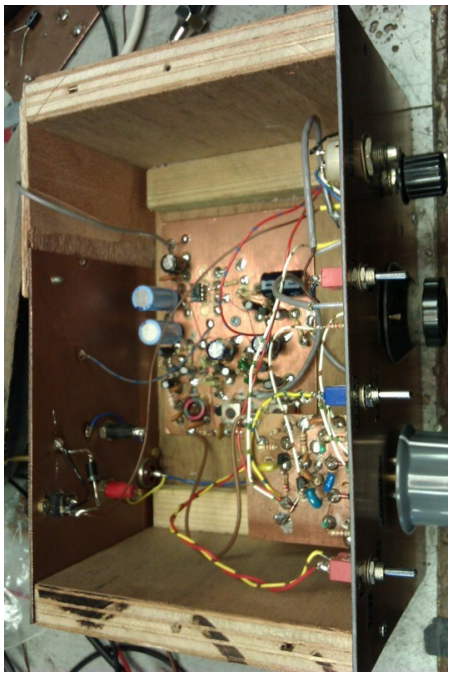
80m Direct Conversion Receiver

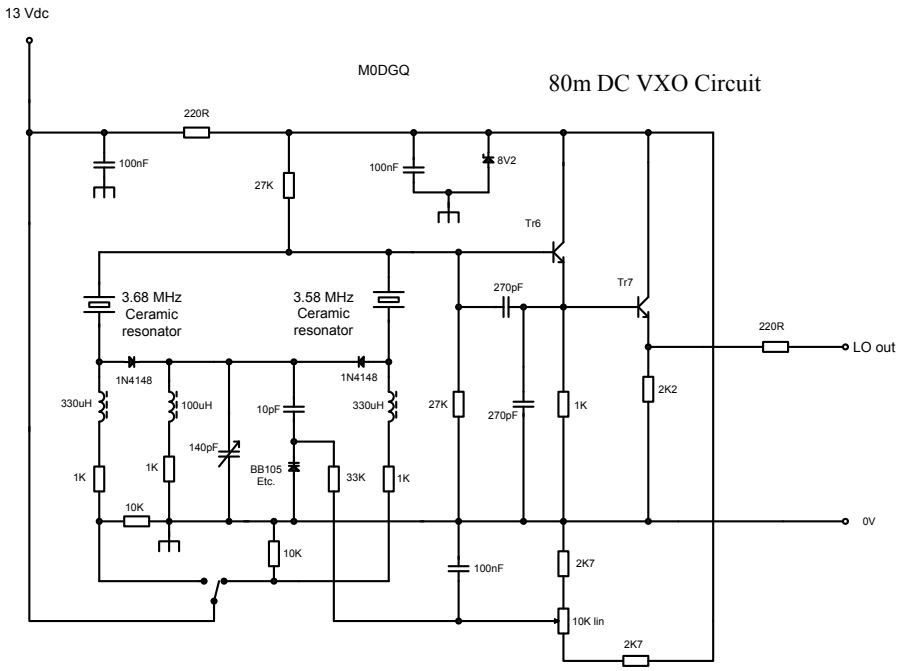


80m DC Receiver Circuit

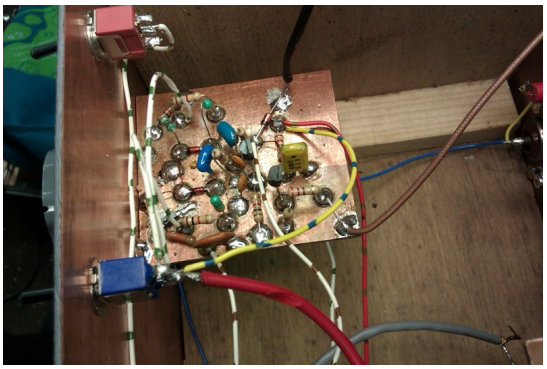
and do not skimp on any of the supply rail decoupling capacitors otherwise instability will occur. Use a screened lead for the speaker inter- connecting wire.

Barry M0DGQ





80m DC VXO Circuit



DO YOU LIKE THE NEW STYLE?. WE ARE TRYING TO MAINTAIN A STANDARD WRC STYLE FOR ALL OUR MEDIA

Who am I, and what do i do?

I am Tim Beaumont M0URX, proud member of Wythall Radio Club. When I started in Amateur Radio I wanted to give something back to the hobby in return for the pleasure that the Amateur Radio has given me since I was a SWL back in my school days. While talking to a friend of mine ON5UR Max Rymenant back in 2007 we agreed that we should provide a "One Stop Shop" for the DXpedition for all matters regarding QSL management. Max is a QSL card designer and printer and specialises in high quality cards.
Together we provide the DXpedition or rare DX station with free high quality QSL cards and free QSL service as well as funding a donation as and where possible.

For me a QSL card is more than just a confirmation of a QSO, it is a window to you, or your DXpedition to the world, it shows who you are, your station, antenna farm, your culture or the job that you do. All the QSL card needs is a little bit of imagination and a good digital image is the secret.

So in 2007 we set up "United Radio QSL Bureau" I say we, because although I do the QSL work it really is a team effort which when you read on this will become apparent. I was already QSL manager for OY1OF Olavur and OY4TN Trygvi from the Faroe Islands when I had an email from 9M6DXX Steve Telenius-Lowe, who was living in Kota Kinabalu on Borneo, Malaysia, Steve was looking for a QSL manager along with his friend 9M6XRO John Plenderleith, this is really where it all took off. John and Steve are keen DXpeditioners interested in both DXCC and IOTA activating, they have been QRV from places like Brunei, Mozambique, Lesotho as well as local Malaysian IOTA Groups. In September 2011, seven of us went to Timor-Leste and were QRV as 4W6A making 41,000 QSO's in 10 days.

QSL Card

However being a QSL manager is not just a case of writing a QSL card and putting it in the post there are many things that have to be considered and cost is a major factor. As part of our agreement from day one, Max, ON5UR had given me a great deal on QSL printing and has also developed a low cost high quality DXpediton QSL card which is Ultra Varnish coated instead of laminated, to the look, the quality is the same but the price is so much lower. OJ0UR, ZC4VJ, 9M6XRO, TN2T have all needed 10,000 card runs while 4W6A was a 18,000 card run so high volume means that the financial outlay can be quite high, so the new UV card was most welcome.

Postage

Another major cost issue is the postage, with spiralling postage costs I decided to take on a Royal Mail Online Business Account (OBA) Royal Mail have a minimum usage of £5,000 per year on this account so this gives you an idea of the amount of letters that I need to post just to be able to keep costs down.
Letters average 13g so by sending with stamps, it costs £1.28 to USA, but using OBA just 53p!

Materials

I use forty thousand QSO report labels per year, finding a supplier for this was close to home, G4VPD Mike has always supported the work that I do and in his line of work supplies me with the labels and other stationary that I need at a very good price.

INK

I also get through about 200 ink cartridges a year for the printer, MW0JZE Anthony runs an Ink company called INKINKINK.NET and also offered to be a UR supporter by providing me with very low cost ink cartridges.

IARU QSL Bureau

As a QSL manager, I have to provide a Bureau QSL service free to anyone who needs a QSL card Via Bureau. This has been a big hurdle for me to overcome. From 2008 – 2010 it became apparent that few of the thousands of QSL cards that I had sent through the Bureau had ever left the RSGB Bureau and I was getting hundreds of complaints, it was a very difficult time in which many emails where sent to and from

the RSGB to resolve the issue. Although since then the RSGB has sorted out these problems I felt that the only way to provide hams with the high quality and fast service that I wanted was to post the Bureau QSL cards to the World Bureaus DIRECT myself at my cost and using the Royal Mail OBA. I am sending some 30,000 cards through the Bureau system each year, or 130 kg of packages per year to the World Bureaus.
30,000 QSL cards cost £1,400 & 130 kg post £1,040 per year.
Many believe that the Bureau QSL is free, but it isn't free, someone has to pay somewhere, either the national radio societies or the QSL manager. Much of the costs are funded by incoming dollars or IRC's from direct QSL requests. So when you see $2 for a direct QSL this is where some of the money is spent.

www.M0URX.com
I.T. has never been my strong point, I needed a website to provide an information page to the DXers working our expeditions, MW0JRX Oliver, offered to give up his time to help me on this part of the project which has been ongoing over the last few years. On the website is a log search holding 750 thousand QSO's from all 80 logs. Oliver emigrated to Australia to start a new career last year so I was left looking for another I.T. professional to take over this important roll, M0YOM, James another Wythall Club member stepped in to the job and has been working hard to keep the software backed up and updated and all the other I.T jobs which just never seem to end.
It is very important to keep the DXers informed about when QSL cards are posted and any up and forthcoming DX news, so the website front page is in Blog format much like the Wythall website which keeps it fresh and interesting to readers and followers.

OQRS – Online QSL Request System
For most DXpeditions and rare DX stations, they do not require incoming QSL cards, they are not there to get awards, but there to provide you with a "new one" so we do not need your QSL cards. Instead you can log into the Online QSL Request System **http://m0urx.com/oqrs/** and request your Direct or Bureau QSL. This reduces the cost of the direct QSL and also reduces workload and cost for the World Bureaus. The huge benefit of OQRS is the speed in which I can get the QSL card in the post.
Always remember, **Request It – Don't Send it!**
This OQRS system was developed by DF3CB Bernd who gave me permission to use it for my use here.

Emails
After a major DXpedition like the recent TN2T from Republic of Congo there is always a huge amount of emails to answer before any QSLing can begin, logging errors to correct. Logbook of The World logs to upload, and some really whacky emails, that come in where DXers want to vent there wisdom to me for one reason or another. The work answering the thousands of direct and bureau requests takes many weeks to process with at least six hours working on the computer daily to catch up and sometimes at weekends 12 – 16 hour days.

The Future
With well over 80 call signs managed here it is very difficult to manage the logs on a daily basis, this is where "The Cloud" comes in, we are currently working on a cloud based logging system where not only can the DXpedition team log into that log from anywhere in the world but I can also manage the logs from where ever I am. This is a massive task to undertake and involves a team of people developing, testing and improving. This will enable real time log uploading and numerous other enhancements for the future.
The next major expedition that I am involved in here is QSL manager for CY9M St Paul Island, at the end of July. More information here: **http://www.cy9m.com/**

Why?
Why do I do it? I do it because it is something I am very passionate about, here at the Wythall Radio Club we have many members that show great professionalism in what they do within the club and the hobby, I hope that the work that I do, goes some way in giving back to the Amateur Radio community all that I have taken out of the hobby in the past.
In this article I have put a lot of emphasis to the cost of QSL'ing, I do get many emails asking why they have to send me $2 for a QSL card when a stamp costs just 60p, so I hope this goes some way to explaining why?

There are so many facets of this hobby to enjoy, that if each of us were to do our best as we can in just one, just imagine how great Wythall Radio Club can be? Whatever facet of Amateur Radio you take part in, enjoy it and share it with all of us.

73, Tim, M0URX

Club Mugs now in from supplier. They look really good. Thanks to G7DDN for organising.

You Can Learn Morse in Minutes!

What a fascinating evening we had one Tuesday in May! Thanks to Steve G3ZVW, we experienced an amazing hour of “whole-brain learning”!

Three “volunteers” (if you can call Steven 2E0SDD, Stacey M6STJ and Howard M6AUL that) managed to learn the vast majority of all 26 letters of the alphabet in around 60 minutes. That is thanks to the method known as Instant Morse. Using a mix of storytelling, picture imagination and letter shapes, Steve took us through the letters of the alphabet while helping us with the CW equivalents.

It will be a long time, for instance, before we forget Mel M0MAJ’s cocktail glasses and fancy bow-tie or, come to think of it, Chris G0EYO’s mouth with the tomato in it! (You just had to be there!!!) Callum M0MCX obviously didn’t forget anything however – at the end of the evening he could remember all 26 characters in code!

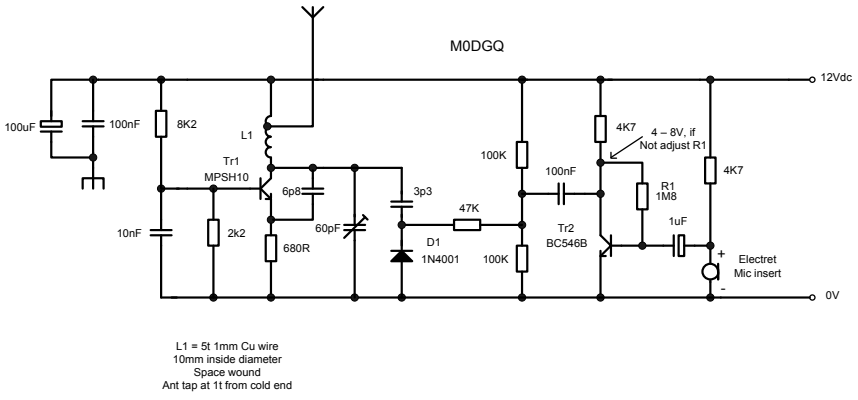
Chris G7DDN

FM Bug

Here is a simple FM broadcast transmitter, power output to the quarter wave antenna is less than 0.5mW so it has a range of a few tens of meters using a standard FM broadcast RX, it makes a very cheap baby monitor / bug. The output frequency is adjustable any where in the broadcast band (88 - 108 MHz) by tuning the tank variable capacitor - chose a frequency well away from any broadcast stations

Tr1 forms a grounded base VHF oscillator. FM modulation is acheived by D1, a 1N4001 power diode, due to its large junction capacitance it acts as a crude varicap diode. Maximum capacitance occurs with zero reverse bias across the diode, minimum capacitance is achieved with maximum reverse bias voltage across the diode. Essentially the capacitance exhibited by D1 can be varied by varying the size of the depletion region within the PN junction of the diode by altering the amount of reverse bias. A electret mic insert followed by a single stage AF preamp feeds modulation voltage to D1. The circuit is built on some copper clad board with islands cut into the board using a pad cutter (G - QRP club). The board should be mounted in a metal box for screening. A small mains power supply could be mounted in the same box if desired but screening would be needed between the transformer and the rest of the circuit to avoid hum pick up.

Barry M0DGQ



Lew Williams Shield 2012

”The Lew Williams Shield is a new club award to remember past club President Lew Williams who was also our original morse tutor from the very early days of the club. Everyone thought that some event promoting the use of morse code, which many of the older club members will have studied under Lew, would be fitting. A potential problem is that with club members having a wide range of abilities in morse, a traditional contest may have been off-putting for those on the first rungs of the ladder. Hence the decision was made to have a morse activity month in May, and for club members to record their activities over that time, or nominate others who were getting stuck in and making progression in this unusual art.

Many club members got into the spirit of the event, arranging skeds on 2 metres and on HF. We'd had a presentation on how to participate in CW contests without knowing (much) CW, and also Steve G3ZVW joined us mid-month with a popular talk to show how the alphabet can be learned in an evening.

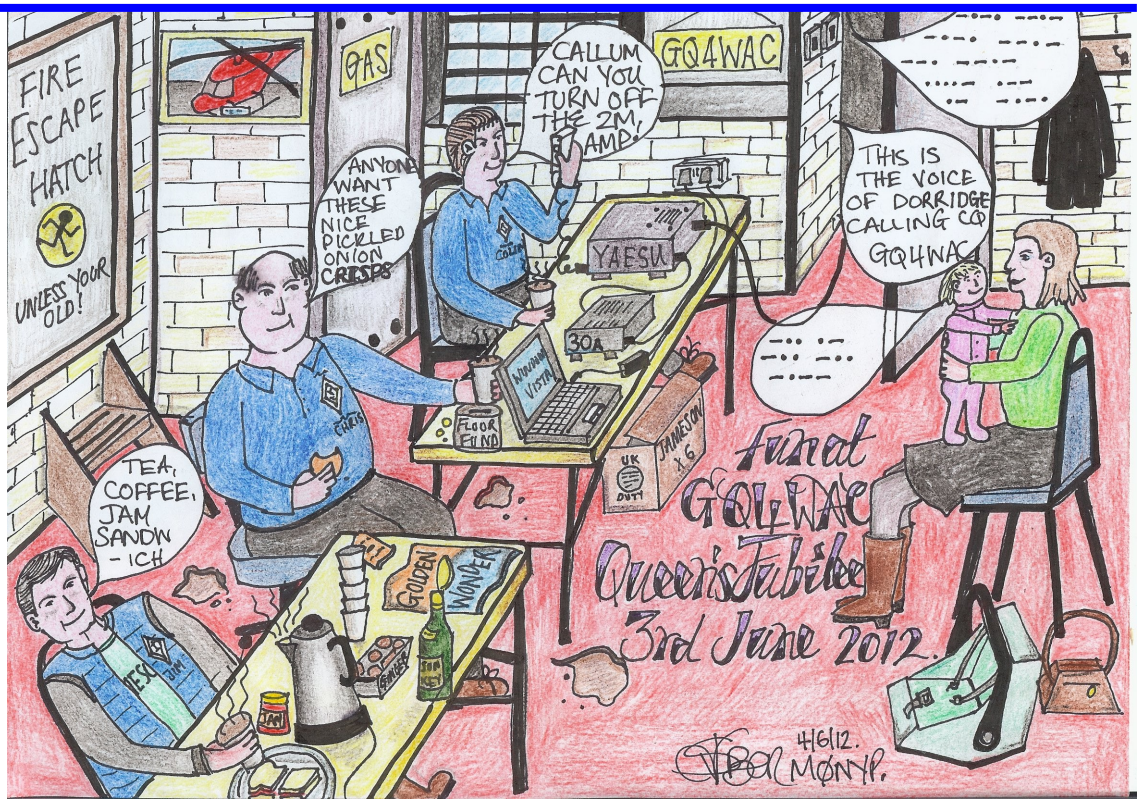
At the end of the month, log entries and submissions were requested by the judging panel of Chris G7DDN, Mike G4VPD and Lee G0MTN. We all felt that Chris' entry was a worth winner – showing that a lot of effort had gone into making his first ever CW QSOs on the air during the event. Chris had actually first learned morse over 50 years ago as a radio operator with GCHQ. There was a 20 year gap with no dits and dahs heard in between, but just like riding a bicycle, you never really forget he says.

Chris highlighted the difficulties of finding the right key or paddle that he would be comfortable with for sending, and then becoming comfortable with punctuation and QSO format, on top of the regular alphabet and numbers. Barry M0DGQ and Chris G7DDN were praised for their enthusiasm in keeping up Lew's legacy of the club morse classes.

When the dust had settled at the end of the month, Chris had made a number of ragchew and contest morse contacts, having never made any previously before. Not all were successful, but that made the completed QSOs feel even better. The best part is that Chris says that the month long challenge has given him the confidence to progress further. I hope that is also true for everyone else that took part at some time during the month. Congratulation Chris, and thanks again to everyone who took part in some shape or form. The Shield is awarded to the person who shows the most progression in learning and using morse code – could that be you next year?

Lee G0MTN

Stewart's M0NYP sketch of our antics at the recent Jubilee Special Event station GQ4WAC.



Contest Corner

VHF	GMT/UTC	Type
3rd July	19.00 to 21.30	144mhz UKAC
7th 8th July	14.00 to 14.00	VHF NFD
8th July	11.00 to 15.00	2m backpackers #3
10th July	19.00 to 21.30	432mhz UKAC
22nd July	10.00 to 16.00	70mhz Trophy
24th July	19.00 to 21.30	50mhz UKAC
31st July	19.00 to 21.30	70mhz UKAC
4th August	11.00 to 15.00	2m backpackers #4
4th August	13.00 to 17.00	144mhz Low Power
5th August	08.00 to 12.00	432mhz Low Power
7th August	19.00 to 21.30	144mhz UKAC
12th August	14.00 to 16.00	70mhz Cumulatives #5
14th August	19.00 to 21.30	432mhz UKAC
28th August	19.00 to 21.30	50mhz UKAC
1st 2nd September	14.00 to 14.00	144mhz Trophy
4th September	19.00 to 21.30	144mhz UKAC
9th September	09.00 to 12.00	2nd 70mhz Contest
11th September	19.00 to 21.30	432mhz UKAC
25th September	19.00 to 21.30	50mhz UKAC

HF	GMT/UTC	Type
2nd July	19.00 to 21.30	80m CC CW
11th July	19.00 to 21.30	80m CC SSB
19th July	20.00 to 21.30	80m CC DATA
22nd July	09.00 to 16.00	CW Low Power 3.5 + 7mhz
28th 29th July	12.00 to 12.30	IOTA
14th 15th July	12.00 to 12.00	IARU HF Championship
5th August	07.00 to 08.30	RoPoCo CW
8th August	19.00 to 20.00	80m Sprint CW
23rd August	19.00 to 20.00	80m Sprint SSB
1st 2nd September	13.00 to 13.00	HF SSB Field day
12th September	19.00 to 20.00	80m Sprint SSB
27th September	19.00 to 20.00	80m Sprint CW

Lots of contests for you to try your hand at over the coming 3 months, both on HF and VHF. VHF UKAC contests have attracted a few more club members, so why not give them a go from home if you can't make it up to the club, or even do a 1/2 hour entry before attending, you do WILL boost the clubs overall standing/score

Lauren Brookes G0HPG—Silent Key

It is with great sadness that we advise members of the passing of Lauren G0HPG, wife of Peter G0HPH and grandmother of Daniel M6BNP and Jake M6SXD. Lauren and Peter were early members of the radio club and can often be remembered for turning up on a big motorcycle in their leathers. Lauren had been ill for some time and was put in an induced coma after a recent operation from which she never recovered. We offer Peter and his family the club's deepest condolences at this most difficult time.

Training

Our three candidates for the intermediate examination in June successfully passed, so congratulations to Chris (was M6BNQ) now 2E0ETH And Keith (was M6KAO) now 2E0KHG and non-member Tony (was M6TKS) now 2E0TSK

We are now planning for 2012's Advanced course which will commence on Monday Sept 10th and run for 14 Mondays with an exam on Wednesday Dec 5th. Our three recent Intermediate candidates are up for progressing onto the Advanced and I wonder if any of our other 2E0 members fancy giving it a go. Some of you have held onto those 2E0 callsigns for far too long. I will be putting out a note to the G4WAC Yahoo group with details of the course and its cost soon.

Finally we are going to try something new on our next Foundation course and run this over two consecutive weekends with 4 hours sessions on the Saturday and Sunday. Culminating with an examination on the afternoon of the second Sunday. We have three students already wishing to have a go and are looking for one or two more. The weekends selected are July 28th/29th and August 4th/5th.

We are also pleased to report that Jake passed his Foundation examination and is now M6SXD. Jake and his grandfather Peter G0HPH are regulars on our weekly CW training sessions.

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

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