

**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

Well this Newsletter is about one month late. Put that down to the stresses of moving house, changing PC's, what seems like numerous courses and exams in the shack, selling a car, selling and clearing a house, dealing with a nasty leg ulcer and of course the damned heat. Anyway my many thanks to our contributors, especially Ian M0IDR, who has written several items in this issue.

Although apart from training responsibilities I haven't been to the club much, I can see that a lot has been happening. I was pleased to see that Kev G4XLO won the Lew Williams CW shield. Certainly well deserved, his enthusiasm for the mode has been well documented and probably encouraged others. Shame that Kev has decided to move away from area and intends to give his family a better life in South Devon, an area he is very familiar with. We shall miss him. Talking of Lew, I was speaking to his wife Cynthia recently who is still living in their big old house in Kings Heath but says even after these years she misses him dreadfully but was very pleased to

hear that the club still honoured his memory with the annual shield.

The Wythall Annual Fun Run was again supported by the radio club. Around 15 members handled two-way radio communications for all the control point marshals and for race control itself. This is the third year we have done this and all involved reported that they had had great fun while helping the early morning

from the shack and several members participated and worked loads of stations around the country. In the evening a fish and chip supper was arranged although I hear Pete M5DUO was short changed.

I believe we now have a working plan to fix and strengthen the antennas on the club mast although I am not sure when this is planned to be done. In the meantime Dave G3YXM and Mike G4VPD went up and put the 2m beam on the right heading. Our thanks to them.

The club has purchased an IC7300 for the shack. It is a true software-defined radio, but unlike most SDRs it doesn't need a computer to work it. It has its own screen and software built in. It is styled to



event to go off as smoothly as possible. Good to see that GB3WL, our UHF repeater station, was pressed into service and performed admirably.

look and work like a traditional analog radio, Lets hope it can be soon assimilated into the shack set up and that members will be encouraged to try it out.

The club has supported the annual VHF/UHF field day for many years with a portable station in a far field in the park and also held their annual summer

**Chris G0EYO**

BBQ in the evening. This year they have decided to support the annual IOTA HF contest instead. This contest which is end of July is a premier event with many stations around the world participating. It should be a lot of fun, especially with the BBQ on the Saturday evening. So for VHF Field day it was decided to put in an entry



# Going QRP

With the weather warming up, thoughts turn to portable operating. Working the 2m or 70 cms bands is no problem for me as I have the convenience of Broadway Hill a very short distance away and can have splendid QSO's on 5 watts or less simplex, but what about on HF?

At the home QTH, I am somewhat hampered by having at the present time to use a half size Carolina Windom style antenna in the roof space. For where it is located, it has actually exceeded my expectations and I have had some really excellent contacts on my 100w. I am more than aware however that the QRM levels are far from acceptable at an average of S7 on 40m, S6 on 20m and dropping away to S3 on 10m. Top Band and 80m are a challenge with noise at around S9 on both.

Going HF mobile or portable seems a practical solution, find a quiet spot and set up the station. Wishing to work from a gel battery naturally limits either operating time or RF power used and I have opted for low power from a 20 amp hour battery, which would give me more than ample time on the air.

Now turning to a suitable rig, I was initially looking at a Youkits diy build, but I spotted the relatively new Xiegu Tech X108G and started to re-search this small footprint rig. At just 9" x 5 1/2" x 2" including all controls and rear connectors, it is indeed small and will produce up to 20w of RF across the HF bands. Alan at Sinotel was most helpful at explaining the different versions that are being sold. An "indoor version", an "outdoor version, one with 5 function buttons and another with 4 function buttons.

The outdoor version with 4 function buttons is the only one manufactured now and is basically a slightly slimmed down version (adjustable parameter wise) with a much brighter colour lcd screen that is clearly visible in outdoor



conditions. Priced at just under £400 if you buy from a UK dealer, it has proved popular with those who wish to start out with QRP or who wish to update their Yaesu rigs with small, difficult to read screens. Of course if you can find a second user one, then you really do have a bargain.

After several weeks of waiting, I located one on an auction site and made enquir-

ies. It turned out that it was a latest version manufactured in late February 2016 and was "as new" boxed with all accessories.

Unboxing the rig, I was very surprised to find a full sized log Book to record all those QSO's that were going to be made. In addition there was a 13 page operating manual, printed on cheap paper and generally looking a bit poor, but of course all the instructions are out there on the Internet including loads of YouTube videos taking you through the rig step by step. The Rig itself was extremely well packed and comes with a multi-button mic, USB lead and a somewhat short dc power lead.

The front panel is dominated by the lcd screen which is slightly recessed, measuring 4cms x 3cms and packs in a lot of info in a clear fashion.

Anyone who is familiar with the Icom ID5100 will recognise the fist mic and indeed the HRD parameters to select are for the Icom IC7000, so we can see that there is more than a little Icom inside.



## How does it perform?

Most of the normal parameters can be adjusted via a push on the tuning knob and scrolling through the functions displayed on the RHS of the screen. A push

on the appropriate grey F button allows changes to the selected parameter.

Two filters can be selected, 2.4Khz or 500Hz, there is a pre-amp and attenuator, switchable AGC, noise blanker, RIT and the ability to operate Split.

There are no transmit audio adjustments apart from a selectable multi-level speech compression option.

Receive is very lively and audio quality is more than acceptable. There is provision for a "stereo" jack extension speaker to be used.



## Going QRP cont'd



Adjustment of the controls produces very readable ssb and clear cw tones. There are user selectable tuning steps from 1Hz upwards which works without issue. On transmit-monitoring myself on my station rig, I was a little disappointed at the audio quality and indeed changed the mic for a Icom HM207 off my ID5100. Well.... That was marginally poorer so I

popped the stock fist mic back on and called CQ on 14.268. Imagine my surprise when OL700KAREL came back to me and gave me a 5 and 9 with excellent audio report! And that is what counts of course! That contact was made using no compression and 10 watts so I was well pleased. Turning to build quality, the rig is built into a substantial black metal housing, rounded at the upper and lower sides and

fitted on the underside and both sides. The speaker is upward facing, quite small but gives a decent account of itself. There is no forced cooling on the rig and the case does become quite warm in use.

The tuning control is part recessed, has slight play and does sometimes contact the sides of the recess but apart from that slight niggly, I have no problems with this rig and look forward to using it in a portable situation.

Current draw on receive is a reasonable 600mA and 20 watts of RF will draw 7.5 amps, so a decent battery will provide hours of enjoyment.

I intend to extend and terminate the dc lead with power pole connectors which will connect directly to my gel battery. There is a fuse in the +ve side of the dc lead and I shall incorporate a further 10A fuse in the negative supply lead.

Ian M0IDR

## Understanding WSPR using WSJT-X (Review)

A couple of years ago I was lucky enough to attend a lecture by Joe Taylor, K1JT. He explained some of the nuances behind JT65 and some other very cool digital modes that he invented. His software is now bundled as a complete mini-suite called WSJT-X and the version I'm reviewing is the latest version, c1.6 r6263 available from here:

<http://physics.princeton.edu/pulsar/K1JT/>

All JTx modes have a similar pattern. Each CQ and "over" lasts exactly one minute, timed very accurately. Your transmit lasts exactly 46 seconds which leaves 14 seconds for decoding to occur and for you to decide what to do next. The only thing you can do is transmit your call, locator and an extremely brief 73. A typical QSO lasts 6 minutes.

I was already a connoisseur of the original JT65 program and as I write this, I was very pleasantly surprised that the new version installed very easily. After setting up your Com port, selecting your radio from a drop-down list and adjusting your soundcard, you're in business. If you can already use Ham Radio Deluxe with DM780 (or a similar digital mode program) then all this will be a

breeze. If you are absolutely fresh to digital modes, suggest you find an experienced club member who can walk you through the hardware requirements.

The latest version has a number of bundled sub programs including all the JTx modes plus WSPR-2 and even Echo (hear yourself off the moon!).

Let's concentrate on the WSPR mode. It stands for Weak Signal Propagation Reporter. Once configured, your computer will listen to your radio for a few minutes, decode some tones (that more often or not are completely inaudible) and then periodically, you will also transmit too - but all automatically. All this is very QRP as well. I set my outgoing transmit at 1 watt and I noticed last night, I was being heard on 40m across the Atlantic and as far as Chile. You can also see immediately what is decoding in the program window - but of interest, your computer uploads the received stations to the internet and allows users to build a map of exactly what they can hear - and even more importantly, it can display a map of which station in the world has heard your station. Very cool.

The map can be found at: <http://wsprnet.org/drupal/wsprnet/map>

I also liked the "Scheduling" feature. This automatically changes bands for you depending on the time of day. As I write this, my computer is transmitting on some bands, listening on others and generally enjoying herself. As I type, I hear the reassuring "click" of band changes other clunks as she fires up to transmit and receive across the HF spectrum

If you enjoy the idea of digital, and in particular Weak Signals, suggest you download and have a play.

Callum M0MCX

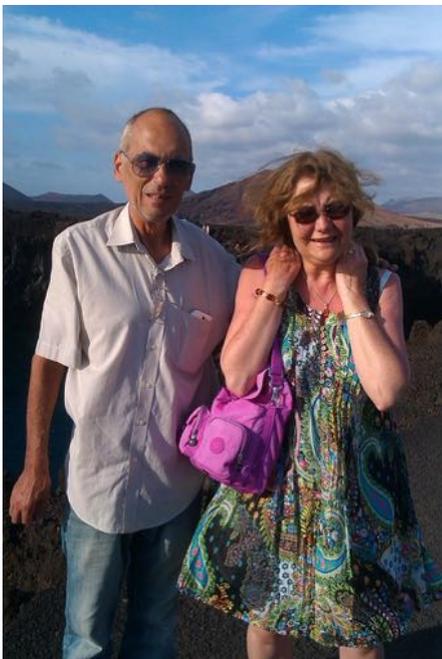
# Going that extra mile

Folks may know that every month there is a get together at The Round of Gras in Badsey for the "southern outpost of the Wythall Empire"

The late afternoons / evenings are spent chatting and having a drink or two followed by a meal for those who wish to. Late April Jenny and myself decided to take things further (2000 miles further south) and on our holiday in Lanzarote we decided to organise a meet up with Stan EA8/G4JGV who had very recently made Tinajo his home.

Having arrived at Arrecife airport, we discovered we had forgotten to arrange the transfer to Puerto del Carmen, where we were staying and so endured a hair raising taxi ride from Airport to Villa. All we can say is thank goodness it was a short 10 minute taxi race!

Having sorted ourselves out I sent a message to Stan and made tentative arrangements to meet up in the second week, hoping it would be convenient. We were delighted to receive a reply and on the Tuesday we were picked up from our villa and taken on a delightful tour of some of Stan's favourite spots on the southern part of the Island.



Stan looked so well and talking to him it was crystal clear that the lifestyle he now had suited him perfectly. He had made lots of friends and enjoyed taking folk "off the tourist trail" and showing them the best Lanzarote can offer.

Los Hervideros (literally the 'Boiling Waters') are a series of caves and blow holes which have been eroded into a former Lava flow. As the waves crash into the caves, mountains of white surf are produced, giving the appearance of 'Boiling Waters'.



Here it is possible to walk around the cliffs and watch the breakers crash into the caves from one of the natural 'balconies'.

Cesar Manrique was a very influential figure in Lanzarote and his legacy leaves this island largely unspoilt and Los Hervideros is one of many excellent examples of man and nature in harmony.

We ended the evening at a wonderful little beach, Playa Quemada, and enjoyed a superb meal together virtually on the



sea shore. The restaurant, one of only two or three, served marvellous freshly prepared cuisine and the quality of the food was only surpassed by the beauty of the sunset. The meal ended with a traditional small glass of Ron Miel—a honey and rum mix and absolutely lovely it was too. All too soon it was time to head back and we continued chatting until the early hours.

Tinajo, where Stan lives, is a pretty little town situated on the eastern edge of the Timanfaya National Park. We took a guided coach tour of the National Park and were shown (and felt) hot volcanic stone, juggling the hot pea sized stones from hand to hand, the same heat just below the earth's crust is still so intense that the restaurant at Timanfaya uses an opening in the ground to grill all the meat and fish they serve to diners.

There are also several demonstrations, performed just outside the restaurant, where staff will pour water down a number of holes in the ground, only for it to burst back up again in a geyser like spout, a few seconds later. Another demonstration shows how quickly hay will catch light when exposed to the heat emanating



## Going that extra mile cont'd

beneath the earth Leaving the park via the road to Yaiza, there is a small visitor's centre on the right hand side of the road, where you can take a ride up the side of a volcano on a camel.



The camels are led in a crocodile, with all their riders seated in the 'English' chairs strapped across their backs. They have a most ungainly walk, as they move the front and back leg on the same side of their body at the same time - this gait accounts for the rolling movement you



can see or feel when you experience this ride.

There is so much to see

and do on this Island, I would like to leave you with this collage of favourite places.

**Ian M0IDR**

....a perfect location for a shack!

## Kev G4XLO wins the 2016 Lew Williams CW Shield

A very special presentation took place last night at Wythall Radio Club. The results of the Morse Activity Month were revealed – and several members were commended.

May is designated our special “Morse Appreciation” month at Wythall Radio Club – at the end of the month our band of intrepid adjudicators selects the people they feel have shown the greatest progression in either learning or improving in the mode for special recognition.

This year, Dave M0IFT, John M1JSS and Jamie 2E0SDV were singled out for special praise but the overall winner (and winner of the Lew Williams Memorial Shield) was judged to be Kev G4XLO.

Kev's interest in Morse has blossomed from re-learning the code to being on air between 12-15 words per minute in what seems a very short space of time.

Well done everyone who participated and thanks to Lee for organising the event in honour of a fine gentleman.

**Chris G7DDN**



*Kev receiving shield from Lee G0MTN*

# DV4 mini and Yaesu Fusion

## My brief overview

Recent editions of Practical Wireless have carried various articles on the TYT MD380 DMR Handheld, the Yaesu Fusion FT2D and the Helitron DV4 Mini.

I will concentrate on the FT2D Handheld by Yaesu but mention the DMR handheld because the very capable Helitron DV4 USB stick can handle both Fusion and DMR plus DStar and an experimental format known as dPMR. The Yaesu FT2D is a well built, quite heavy handheld, the front of which is dominated by a 42mm square monochrome touch screen. The sheer number of pages in the manual give a very good idea of the complexity of this rig and one would be very brave to tackle all 170 pages in one go.



Having read a couple of Tim Kirby's articles in PW I had a rough idea of what to expect so switched it on.

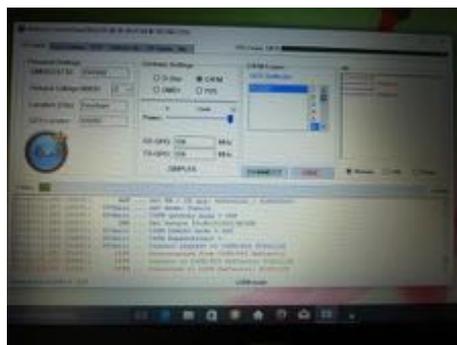
Firstly you have to enter your callsign which is done via a touch keypad and then see if you are in range of a local repeater. They are few and far between as the repeater map shows so this is where the DV4 mini plays its part.

At this stage (in common with DStar) you will need to register for a CCS7/DMR ID before you can set up the DV4 and you should go to: <http://register.ham->



[digital.net](http://digital.net) to effect your registration. You will receive a unique seven digit ID which gives you access to the DMR and Fusion networks

Once armed with this number you can progress to setting up the DV4 mini which is a slim USB stick with a SMA socket. Oddly no antenna is supplied although my suppliers provided one free of charge.



Go to the Helitron DV4 web site and follow the procedure to download and install the software. I used a Windows 10 laptop and it happened so quickly that I had to check it had happened.

The software itself needs a few details including your ID and the 70cms frequency you wish to use for handheld to DV4 mini communication to be entered but

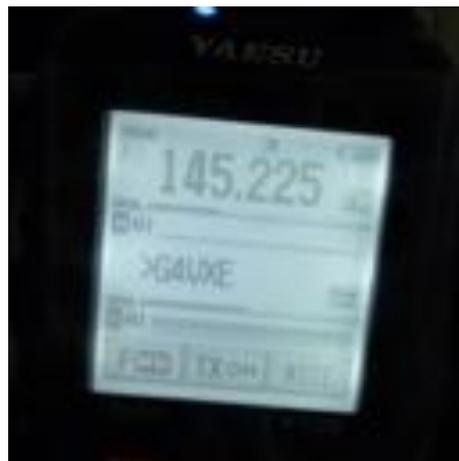


once everything is done, plugging in the stick very quickly completes the process. Turning on the FT2D and setting it to the frequency you specified plus the C4FM mode will get the system running. Presently there is only 1 reflector but there are loads of "rooms" to select from.

The DV4 has a led which signifies what is happening:

- Blue- all connected, system idle
- Red-incoming transmission or announcement from the reflector
- Green- you are transmitting

With the installation a breeze-how does the system work in practice?



The first qso I joined was between a 2E0 and a Swedish operator, the audio was crystal clear and I would say better than DStar. The UK operator had a cat sitting on his lap and you could very clearly hear the cat purring!

This test was of course all internet connectivity with just short distances each end for the RF links, but it worked without a hitch and seemed quicker to respond at the end of and the start of folks overs.

The same software can be used for DStar and DMR and I look forward to trying the DV4 mini in these configurations.

Whether C4FM (Fusion) gets as popular as DStar remains to be seen but I have had some fun with RF!

Ian M0IDR

# Training Report

It has been a busy few months for the Training Team, We got the guys through their Foundation exam in March and April and five of those went on to enrol on the Intermediate class. Four took their exam on 4th July and passed with David Simmons M6KND taking his intermediate on 30<sup>th</sup> July. We wish him well and congratulate him on overcoming his visual

together with David G0ICJ as prime lead invigilator (not an easy job sitting in silence for anything up to a couple of hours whilst candidates do their exam). Nor should we forget the vital work Anita 2E0DUO has done in taking on the role as an official RSGB reader. (now that is a difficult job). Together we are continuing to recruit people into the hobby and also

Dec. The Saturday practical session on testing and measuring is on November 26<sup>th</sup>.

The Exams Committee at RSGB are providing clear processes and procedures for various training positions and functions, i.e. exam secretary, first invigilator, registered assessor and those of us with those responsibilities can expect to be tested on them at some stage to ensure we are aware of what we should be doing. I, for one, am in favour of clear rules and procedures as we have a real obligation to run training and examinations honestly and impartially if we are to retain the privilege of doing these things ourselves. (surely no one wants to go back to the old City and Guilds days – exams once per year, would now cost hundreds and waiting months for the results).

**Chris G0EYO**

*Pics—Above left; Michael, Terry, Stuart and Rob with their Intermediate pass slips.*

*Below: Terry, Rob, Stuart, Michael and David doing their Intermediate practicals with Peter G4LWF*



disabilities to get this far. I don't think it will be the end of the road for him as I fully expect him to go after the advanced licence when we start the next class in September. I think we are writing the rule book in conjunction with RSGB Exams Committee on how to tutor and examine blind candidates. The advanced exam will be a huge challenge both for us and David, but we will find a way.

We also hosted an advanced examination for two external candidates, one of whom passed and is waiting for the Ofcom IT system, which has been upgraded and moved to a different location, to come on line, (hopefully next week), so he can get his M0 callsign. We had ten people express interest over previous several months in an on-line Foundation course but when invited to sign up only one wanted to do so, as a consequence we have abandoned the course and will next run a classroom and on-line course next January.

I have to pay tribute to my training colleagues, Roger M0GWM, Peter G4LWF, Dave G3YXM and John G3VRF who

often into the club itself. The Advance course schedule has now been prepared and will be advertised soon. We start on Monday September and the exam is scheduled for Monday 12<sup>th</sup>



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