

Wythall Radio Club meets from 8pm every Tuesday and Friday 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

New Activities at Wythall Radio Club

Friday morning sessions at the club shack

One of the ideas that came out of the club future direction presentation discussion was to open up the shack during the daytime to allow members to play radio and try new modes. John M6KET took the lead on this and each Friday opens up the shack between 10am and noon to anyone who wants to pop along. If John isn't available then Hon Sec Chris G3YHF will do the honours.

A regular clientele has appeared usually comprising; John M6KET, John G4OJL, Les G0HOR, Chris G3YHF, Jim 2E0BLP, and Ian M6LQY occasionally complemented by John 2E0EGP, John M1JSS, John G3VRF and Stuart M0SRZ. The rigs have been getting some good use both for QSO's and showing members how to operate. New modes such as FT8 have been demonstrated and skills on D star and reverse beacons. Of course get a collection of old blokes together and it soon develops into reminiscences of RAF Wythall, POW constructed Prefabs, the good old days and the latest aches and pains. This looks like being a permanent activity in the club's calendar and is certainly satisfying a need for those members who are free on a Friday morning.

Construction Group making SMT micro-duplexer for satellite operation

Hon Sec Chris G3YHF has a group comprising Harry M6MKW, Mike M6LRQ, David G0HVN, Phil 2E0WTH assisted by John G3VRF to make a micro-duplexer that will fit inside a PVC pipe antenna boom for satellite operation. The design is based on a VE2ZAZ design and Chris obtained three sets of parts including the boards and SMT



components. John G3VRF took them through some of the techniques for working with these VERY small components. They applied solder paste to the tags on the circuit board, using tweezers put the 10 simple components in to place and applied the hot air soldering gun. Just like magic, eight components moved slightly to align with the board tags! But two blew off position. They tried a fine tipped soldering iron on these but to no avail. However John took the bits home, cleaned up the board where they were to go, and hey presto they are now in place. The digital analyser shows the duplexer works as intended. They plan another SMT workshop shortly to construct two more micro duplexers - and to have a go at the antenna hardware.

Club of the Year 2017 application

The committee decided to make an application for the Club of the Year 2017 award sponsored by Waters and Stanton. As in previous years, the RSGB will be judging entries in two categories: clubs with fewer than 25 members and clubs with 25 or more members during 2017. There will be separate prizes for each category. We will be entering in the latter category. The theme of the competition this year is 'Mentoring and Retention'. Taking exams and gaining a licence are just the first steps in the lifelong enjoyment of amateur radio.

The RSGB want to know how does our club help to motivate people in their first years of being licensed or as they achieve the next licence level? What activities do we offer to help them try out different areas of amateur radio and to develop their knowledge and skills? The judges will want to learn what our club does to encourage sustained practical enjoyment of amateur radio. There are two levels of award, Regional and National. Wythall Radio Club won the Club of the Year award for Region 5 in 2009, 2010 and 2014 but we have never won the National Award.

Club Hamfest

The club will be holding its 33rd Hamfest on Sunday March 25th at Wythall Park and is seeking volunteers to help make it the usual successful event. The first Hamfest (called a Radio Rally in those days), was on 9th March 1986 following a suggestion put forward at the previous AGM (October 85). that we hold one at Wythall Park in conjunction with another club who dropped out before the first rally was held. There were lots of rallies in the Midlands area in the 1980s. From April onwards there were two or three per month up until the Telford Rally in September. We thought that we would be the first of the year to avoid any clashes with other groups and of course traders and elected to go on the second Sunday of March. We advertised our first rally as a mini rally and I think we only had the use of Park Hall and the Britannia Room and the club made £400 profit. We never looked back and eventually had the use of both of those halls plus the Scout Hut and a very large marquee, until costs were too great and we moved to Woodrush Sports Centre, eventually coming back to Wythall Park three years ago.

More digital fun!! Copying GB3VHF on JT65b

GB3VHF is a UK 2 meter beacon transmitting on 144.430 from a BT site North Downs in Kent (JO01EH). It transmits in 2 x 1 minute cycles - its call and locator followed by a tone for 1 minute, and then the same information in JT65b, a digital mode, for the second minute.

The antenna is horizontally polarised, so under (the usual) flat conditions a beam will be needed to receive the signals. But it is worth trying with a collinear if you have a reasonable take-off to the south-east, or if there is a bit of a lift on VHF.

Copying the digital transmission provides standardised data on signal strength, and can be left running to monitor changing band conditions. But it is also part of 'fun with RF', so here's how to do it. There is a guide [here](#), but it misses out a few steps that the novice (that's us!!) needs to know – so here's what we worked out between us.

Step 1

Have a way of connecting your radio to your PC – e.g. via Signalink, or some kind of direct connection. There are suggestions on the Internet, but the actual connections vary from radio to radio so take care. If anyone is making QSOs (meteor scatter, EME etc.) then proper PC to radio audio connectivity is a must. But for a lash-up experiment like receiving the beacon, a simpler direct connection between headphone socket and soundcard microphone in should be fine. Or just put the laptop next to the radio without any lead or connectivity at all and allow the laptop mike to pick up the signals. That makes it even simpler to try!

Step 2

Download and run the free WSJT-X software from the [K1JT website](#). There are 2 displays – a waterfall and a screen that displays the decoded data

Step 3

On the decoding screen, go to File > Settings and tick 'Enable HF/UHF/Microwave features' and click 'OK'.

Step 4

A box will appear telling you the programme isn't set for these frequencies.

Step 5

At the bottom of the decoding screen there is a box called 'Submode' (see screen shot). Adjust this to Submode B. You should now see JT65b at the bottom of the decoding screen.

Step 6

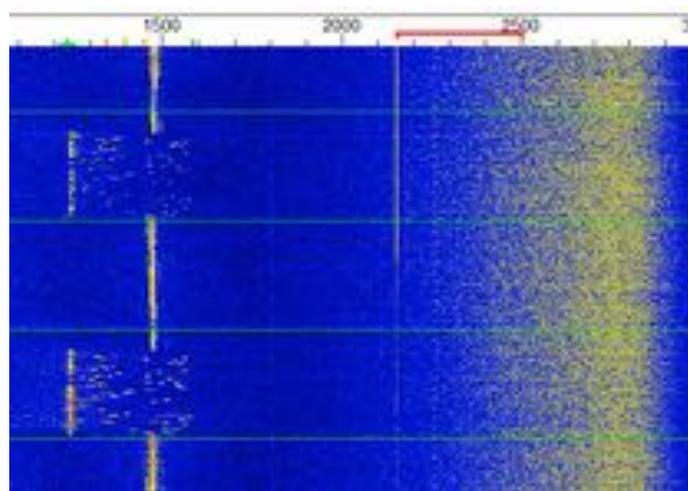
Point your beam (if you have one) to the south-east and tune your radio to around 144.429 MHz USB and you should start to hear cw, a single tone or warbling tones (these might be weak or indecipherable depending on your antenna / band conditions).

Step 7

If you can hear the beacon, tune the radio to exactly 144.4285 MHz USB. (Ignore the fact that the decode screen says the frequency is 144.120MHz – this is just the programme default; it's your radio that determines the frequency you are listening on).

Step 8

You should now start to capture decodes, which you will hear as warbling tones each second minute, and will be displayed on the waterfall. In the waterfall screen shot, the JT65b transmission is at about 1250 – with the tones indicating off to the right, and the cw/constant tone is at about 1500. The horizontal lines indicate each minute. (The scatter of noise to the right is probably my rig fan being picked up by the computer's mic!).



UTC	dB	DT	Freq	Message
1722	-12	0.8	1233 #*	IDEE.QJ/SWSEM
1722	-1	0.8	1243 #*	GB3VHF JO01EH
1724	-1	0.6	1244 #*	GB3VHF JO01EH
1724	-1	0.8	1244 #*	GB3VHF JO01EH
1728	-5	0.8	1247 #*	GB3VHF JO01EH
1730	-22	0.8	1238 #*	IDEE.QJ/SWSEM
1730	-4	0.8	1247 #*	GB3VHF JO01EH

You can deal with this by going to the box to the left of the frequency display on the decoding screen, and select '144.120MHz'.

Chris G3YHF/ Lee G0MTN

Digital modes - is FT8 worth all the fuss?

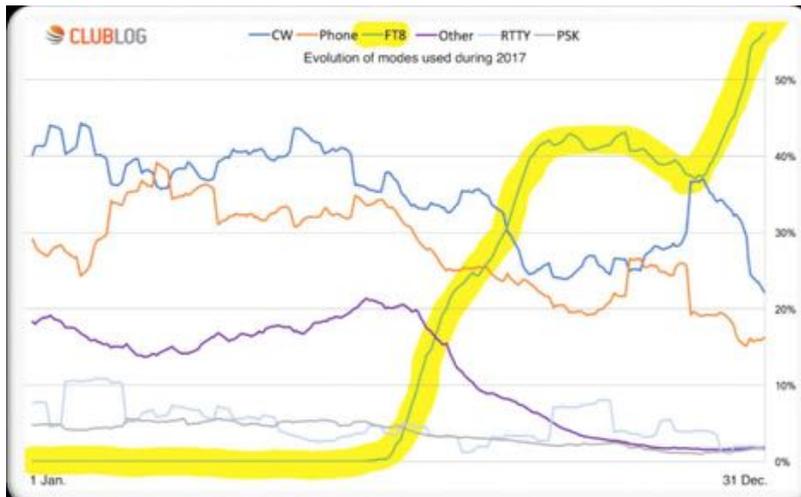
FT8 is the wonder-mode - at least that's what it looks like from the estimate that half of all HF qsos are now made using this digital package. As the graph shows, there has been exponential growth in the last six months. But is it really so good? Kev G4XLO has been using this mode for some time - so I was keen to see what it had to offer.

I downloaded the software - part of the [WSJT-X](#) package - hooked up my FT817 to the laptop via my Signalink box, and took a look. What strikes you immediately are two things.

First, the qsos are very basic. It is designed to do the bare minimum. Message length is a maximum of 75 bits per over, so once the call signs are included the signal report, location and 'R' confirmation have to be given in separate overs. Secondly, this is done in synchronised 15 second cycles, which means they are too short for the operator to type in the data; instead, qsos take place through an automated programme. You select the station you want to qso with, either in response to your or the other station's CQ, and then the programme takes over.

You can see this in the screen shot, where my G4WAC qso with HB9FAX is recorded in the right hand box. (I was operating from the Club during a Friday morning open shack). The HB9 called CQ and gave his 4 digit locator (green bar) and I replied with my locator (yellow). He didn't hear, and we had a couple of CQ/call cycles. Then he copied me and replied and give me a signal report of -13 db (red bar). I gave him a R (roger) and his signal report (+1). He confirmed RRR. I said 73. And that's it - the qso can be logged by the FT8 programme.

The rationale for this design is that it enables a qso to be conducted much more quickly than other digital modes (but still slower than a snappy SSB or CW exchange), and in marginal skip conditions. Having played with FT8 for an hour on 40 meters, I thought this qso process became rather boring!



Whether this is 'real' amateur radio is another point. Personally, I think amateur radio is a broad church and we now happily live with DX Cluster, which used to be derided. But for me the value was to be able to see and try to work all this DX when the bands were otherwise flat, and we are in the sunspot minimum! I couldn't remember the last time I heard Chile!

However, I saw the potential of FT8 for DX contacts later that the evening. I listened on 20m and it was completely dead for ssb and cw. But on the FT8 frequency there was excellent propagation to South America, with a host of Chilean, Argentinian and Brazilian stations calling CQ and having QSOs with Europe and the US. In addition I could receive the North American stations.

Maybe they had all migrated from the SSB and CW parts of the band? Perhaps, but because FT8 - like other digital programmes - monitors and decodes signals across the whole sub-band, it meant that I could see all the activity rather than having to tune around and find the DX. So for DX hunters, it makes life easier, and even beats DX Cluster since it is automatically scanning the band rather than relying on people to post information.

At our Friday morning session several of us had a go at FT8 qsos, so it will be interesting to find out what others think and what experiences they have had. I know Kev G4XLO has been working some excellent DX on this mode!! For anyone wanting to try this mode, there is an excellent 'how to..' guide by [Gary Hinson ZL2IFB/G4IFB](#). Or start a discussion on the reflector!

Chris G3YHF

UTC	dB	DT	Freq	Message
112413	1K	034	729	HB9FAX G4WAC IO92
112420	-2	1.4	729	CQ HB9FAX JN46
112445	Tx	032	729	HB9FAX G4WAC IO92
112300	-1	1.4	729	CQ HB9FAX JN46
112322	Tx	032	729	HB9FAX G4WAC IO92
112330	0	1.4	727	CQ HB9FAX JN46
112345	Tx	032	727	HB9FAX G4WAC IO92
112400	2	1.4	726	G4WAC HB9FAX -13
112417	Tx	032	726	HB9FAX G4WAC IO92
112430	1	1.5	725	G4WAC HB9FAX -13
112445	Tx	032	725	HB9FAX G4WAC R+01
112500	1	1.5	724	G4WAC HB9FAX RRR
112515	Tx	032	724	HB9FAX G4WAC 73

Random Radio Ramblings

Chris G0EYO's call for copy for the newsletter came out again, and once again nothing immediately jumped out from memory as being something newsworthy to report on. But I've not been idle all this time, surely? There has been some routine club administration work going on behind the scenes, but nothing particularly exciting. I'm still doing a little work for the CQWW Contest Committee chasing up people or typing up some logs.

In a few weeks' time I'm doing a presentation to a group of Senior Section Girl Guides, ostensibly about amateur radio, but including more general topics of radio communication. In contrast to my regular types of radio presentation, the audience will be more youthful and have little background knowledge. The plan is to have an interactive session, lots of short YouTube clips, and some demonstrations or "experiments" – consider the evening to be 'hands on science' rather than a traditional introduction to amateur radio.

In preparing for that I've been playing testing that two laptops can send RTTY and PSK to each other 'having fun with AF rather than RF.' Also that I can track and listen to some of the amateur FM satellites as they go by. This was fun, anyone can listen to them with just a handheld, or a common colinear, although for QSOs some directed RF via handheld antennas as Chris G3YHF is investigating would be better.

I can also tell the mysterious story of some of the numbers stations, and The Pip and The Buzzer, which can be received by anyone. Callsign prefixes and QSL cards can be made marginally more exciting referring them to aircraft registrations – in practice I'm hoping it will work out more interesting than it sounds here in summary.

Whilst some movie clips from Titanic and Independence Day show the value of morse code (saving the world from aliens etc.) these films are older than the audience will be. The most modern reference I've found for morse code is that singer Katy Perry had the morse code flashing light sequence from the top of the Capitol Records building in Hollywood changed for her latest album release – unfortunately though nobody noticed this subtle PR stunt.

We'll round off with some traditional on air greetings messages. If the presentation evening is successful we may try again with other local youth groups.

I'm considering changing my 10-15-20m fan dipole in a tree at home to a doublet. I've certainly enough room so the legs can be long enough to cover 40m and 80m with some efficiency. The club's set up seems to work well – balanced open wire feeder running down vertically to a remote auto ATU, and then coax feed back to the shack. When researching this online, the majority of the remote auto ATU's are expecting an end fed wire or a vertical, to be fed against ground. The ground ATU connection could be connected to one dipole leg, and a balun can be added somewhere, but I keep reading from several sources concern about this being a bad idea and prone to causing RFI issues and tend to agree.

Considering a temporary resonant LF fan dipole arrangement with a balun and an RF choke caused problems with just 10 watts last November, I'd like to minimise my chances of being frustrated and wasting money. I can't easily get ladder line all the way to the shack which is one solution. I'd prefer not to consider an end fed antenna. I'll have to make a decision and see how it works in practice in my home environment. To be continued...

Finally, I came across an approved planning application for flagpoles at a hotel near Earlswood, in the Green Belt, which obviously caught my interest. The planning decision was based on the design of the application, and unlike my own tower application, was not considered to be a building. Intrigued by this I then spent a few hours searching for flagpole applications in Green Belt from online planning databases, and found several.

It would appear that at some point, a structure becomes small enough so that it doesn't constitute a building. I'd argued before unsuccessfully that my prior lattice tower proposal wasn't a building – no human or animal could occupy it. The definition is not specified in planning documentation as far as I know, and with these examples along with my own prior Tennamast from 2001 appear to have found a suitable precedent that it is the form, not the function of a structure which determines when the 'this is a building' clause of Green Belt policy

comes into effect. I went to see Bromsgrove Council and queried this with them, as last heard they said I couldn't even apply for anything at all.

It appears now that this was an unfortunate typographical error – albeit quite a significant one that I'd waved in front of two government ministers. I am awaiting a new response from the council about how I may now progress an application for a low profile 'flagpole like' telescopic mast. Or if all else fails, I'll apply for an actual flagpole. Also, to be continued!

Whilst there's not been a central topic covered in much detail, and my logbook does not reflect much time on air, adding it all up I can certainly see where my limited free time has gone. Next time a newsletter is being prepared, or even if it's been quiet on the club email reflector for a while, please consider writing up a few notes about your experiences and sharing them.

Lee G0MTN

WSPR + M6/3s

WSPR, a weak signal (as opposed to QRP) mode has proved to be a vital re-energizer for Foundation Licensees.

Fed up with having no response to their 10W CQ calls on SSB and not being able to send or receive CW, they are now apparently very enthusiastic about using weak signal digital modes such as WSPR on the amateur frequencies.

Discovering this mode has stopped some of them giving up the hobby due to lack of QSOs. Some are even experimenting with MGM CW contacts using FLdigi, and enjoying the worldwide contacts they are able to make.

WSPR can be run on a variety of operating systems, Windows, Linux, Raspi etc G4ILO's website has a very good explanation.

<http://www.g4ilo.com/wspr.html>

Chris G0EYO

Christmas Contest Results

The format of the Christmas Contest changed this year. It ran for 5 days instead of 9 with the best 3 days counting towards the score. Although some regular contenders were missing this year, activity was a little higher and there were some unusual bands and modes tried. The table shows the activity compared to previous years.

Number of entrants

	2017	2016-2017	2015-2016	2014-2015	2013-2014	2012-2013	2011-2012
Overall entrants	29	27	30	36	41	38	30
Open Section	18	13	13	25	18	14	20
2m / 70 cm FM	11	14	17	11	23	24	10

39+ multipliers active (45+ last year)

950 QSOs were made which would compare to 1700 QSOs if it had been over 9 days. As expected most activity was on 145.225 FM, but there was more D Star and GB3WL activity together with HF QSO some by remote links.

The contest logger was available again and used by most although there were a few issues for some and this will be looked at for next time. The on line scoreboard was also used as was the e mail chat room

The results

D Star and DMR totals had Dave M0IFT and Chris G7DDN in equal first place

POS	CALL	DSTAR / DMR
=1	M0IFT	4
=1	G7DDN	4
3	2E0XTV	2

CW (sometimes over FM) had John G4OJL in 1st place, Chris G3YHF in 2nd place and Joh M6KET in 3rd place.

POS	CALL	CW
1	G4OJL	18
2	G3YHF	5
3	M6KET	4

2m/70cm section

Kevin 2E0NCO came 1st and retains the 2m/70cm trophy; Ian M0IDR came 2nd and John (Winston) 2E0EGP came 3rd.



Leading Foundation licensee was Julia M6RSC and placed 5th overall

All Modes section

Dave M0IFT was 1st and wins the G7OJO Trophy; Jim 2E0BLP was very close behind in 2nd place and David G7IBO came 3rd.

Leading Foundation licensee was Les M6IOI just ahead of Neil M6LQY

The club will continue to discuss and rules and format of the contest but congratulations to the winners and well done to all who participated. Wont' belong before the Easter Contest comes around.

POS	CALL	SECTION	QSOs	BEST	MLTS	PTS	BAND	OP	MODE	BONUS	TOTAL
1	M0IFT	All Modes	94	70	34	2380	400	100	250	750	3130
2	2E0BLP	All Modes	99	69	33	2277	400	50	150	600	2877
3	G7IBO	All Modes	76	59	30	1770	400	100	250	750	2520

POS	CALL	SECTION	QSOs	BEST	MLTS	PTS	BAND	OP	MODE	BONUS	TOTAL
1	2E0NCO	2m/70cm FM	68	56	25	1400	100	100	50	250	1650
2	M0IDR	2m/70cm FM	27	27	19	513	100	0	50	150	663
3	2E0EGP	2m/70cm FM	46	30	17	510	50	0	50	100	610

GB3WL upgraded for Analogue/Digital

The club's 70cm Repeater GB3WL has been upgraded with a Yaesu DR-1X Repeater together with a NW Digital D-Star UPMC add on via a Raspberry to enable multimode Analogue/D-Star and System Fusion operation. This has given slightly better coverage area than the previous analogue Tait T800 system and although not all reflectors are quite available yet, all the DCS reflectors are working on the repeater and it is left linked to DCS005H, the Worcestershire Reflector as a default.

Operated & underwritten by the members of Wythall Radio Club, GB3WL is housed at the Club's Headquarters in the cellar shack at Wythall House in Silver Street, Wythall. The repeater feeds a commercial 4 stacked folded dipole array installed on the chimney at Wythall House. Although initially a club project, GB3WL is offered to the whole amateur community to serve South Birmingham, Redditch, Solihull and the southern section of the M42, currently not so well served by other repeaters.

GB3WL Information

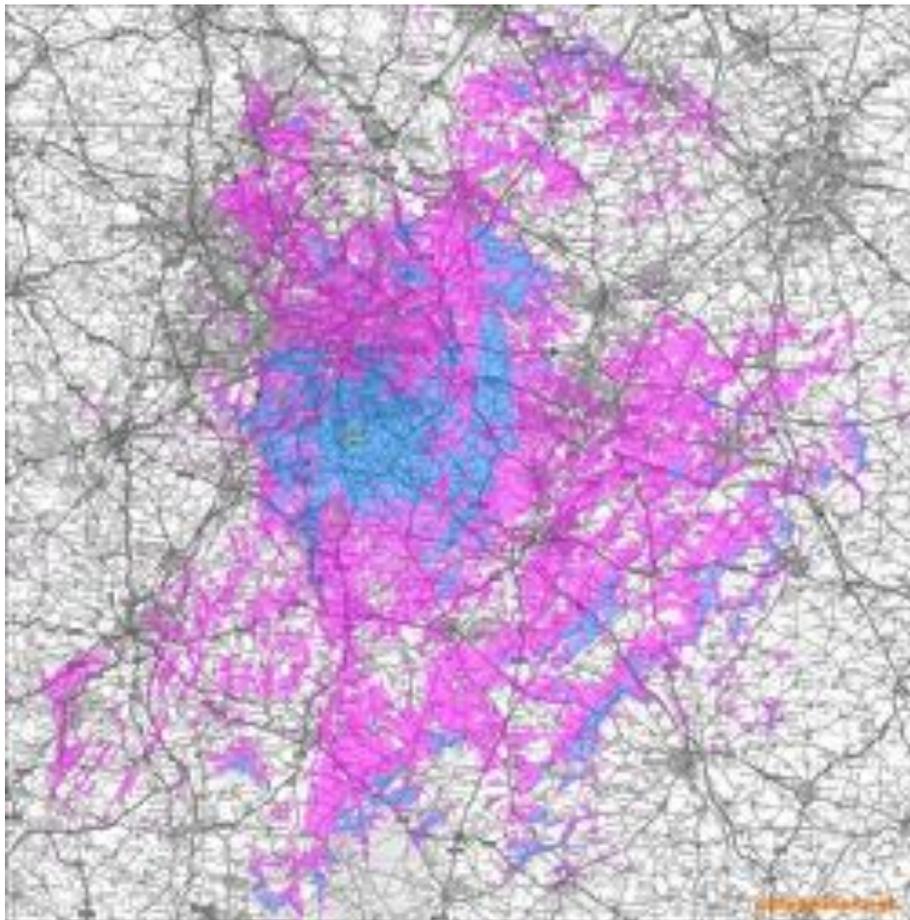
Input Frequency: 438.550 MHz

Output Frequency: 430.950 MHz
(+7.6MHz split)

CTCSS Tone: 67Hz – use full CTCSS
Tone Squelch on analogue to block Digital noise

Location: Silver Street, Wythall B47 6LZ
Latitude: 52.384092 (52°32'03"N) Longitude: -1.888403 (01°53'18"W)

D-STAR Connectivity: Reflector
DCS005H by default, linkable elsewhere by radio commands



Training Report

We are currently part way through an on-line Intermediate course for students who took the online foundation course late last year plus three other members. We have 9 students on the course. We are delivering this via Edmodo using narrated videos of the slides via YouTube. There will be two practical sessions and we have just had the first one with the second planned for 17th March, The date of the exam is Saturday 14th April in the Britannia Room.

Because the online foundation courses have been so successful we will also run another Edmodo based course starting early March and finishing late April.

Again there will be a Saturday session for the practical assessments. With on line courses there is no tuition fee only the exam fee which goes to the RSGB and a room hire contribution for the club.

We are expecting the new syllabus covering Foundation, Intermediate and Advanced to be released late Spring so from then onwards we will be revising our course materials to reflect the new syllabus. We are assuming that the new syllabus will be examinable 12 months from the date of its release, which probably means mid 2019. This revision will be a lot of work so we will not run a classroom advanced course this year

based on the old syllabus but will direct people to the excellent Bath based Advanced Distance Learning Programme BBADL which has got well over 1000 people through the exam in the past 5 years.

We shall be encouraging candidates to take the Foundation, Intermediate and Advanced exams on line this year but for those who wish a paper exam we can still offer this.

Chris G0EYO

The next issue of the Wythall Radio Club Newsletter will be published at the beginning of May 2018