RAGCHEW

SPRING 2026

From the Editor

Well, I never thought I would be back editing "Ragchew" after handing over to **Cliff G8CQZ** in February 2024. Sadly for personal reasons, Cliff has stepped down from the role and I was more than happy to pick up the reins again. Over the past couple of years Leta and I have wound down our bookselling business which in theory gives us more time to do the things we want to do, but already Parkinson's Law is taking over!!

I cannot believe it was 10 years ago when I produced the **Spring 2016** issue following the untimely death of the previous editor, **Brian Millard M6BRI** and much has changed in the Society, not least our meeting venue. On the technical side, digital modes have come to the fore with many club members embracing this new technology.

On a personal note, this year I hope to be more active operating /P on the VHF bands also complete various projects which for various reasons have been put on hold. We've found that winding a business down seems to take a lot more time and effort than setting a business up!

Many thanks to **Dave Hobro G4IDF**, who recently gave a talk at club "**A Beginner's Guide to Logbook of the World".** Inspired by his talk, as soon as I got home afterwards, I applied for my TQSL certificate and on receipt, uploaded my logs from Logger 32 and Log4OM covering the period 2015 to date. As Dave alluded to in his talk and not being a DX or Award chaser, I was amazed at the number of countries I'd worked and confirmations received!

So, what is in this issue of "Ragchew"? **Vernon G0HTO** gives us a summary of the activities of the Construction Group, and **Richard M0HNK** an overview of WSPR. Many club members, probably the majority, use computer logging for their QSO's, myself included, but I also appreciate the value of paper logs, so **"In Praise of Paper Log Books"** may strike a chord.

Looking ahead to later in the year, Leta G4RHK and myself will be on Lundy in the Bristol Channel from Saturday 5th to Saturday 12th September, our 31st year of visiting the island. Our stay coincides with the 144MHz Trophy contest (5th-6th Sept), 70cm UKAC (8th Sept) and 50MHz UKAC (10th Sept). The plan is to take an FT857, along with various antennas for these bands. I'm more than happy to arrange skeds for 144MHz SSB QSOs, also we get a good signal from the GB3WR repeater on FM so hopefully can keep in touch with club members.

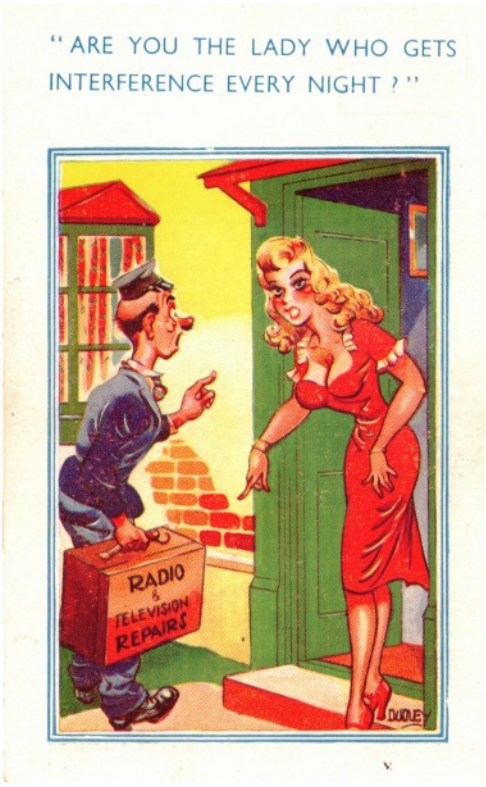
Depending on member's contributions, I'm hoping to publish "Ragchew" on a quarterly basis, so the Summer edition in early July. Submissions please by **15th June**

73 Brian G4CIB (g4cib@outlook.com)

70MHz Activity

Jim 2E0GKN is working hard to promote activity on 4 metres and he encouraged many members to come on the band at 7.30pm Tuesday 5th May. Sure enough, at the appointed time, stations called in on 70.425MHz FM, and before long the net list ran as follows; Jim 2E0GKN, Brian G4CIB, Mike G0UWU, Gary M0XAC, Derek G3NKS, Les G0ULH, Mike G6OTP, Ken G4MOH and Em G3SUA. Owing to some stations using horizontal polarisation and others vertical, not everyone could hear each other, and G4CIB compromised by angling his 4m dipole at 45° which seemed to work well. Jim's proposal is to hold the gathering on the first Tuesday of the month, so the next one will be on 2nd June. Plenty of time for members to get some 4m gear and antennas working!

G4CIB operating outdoors for the 4m gathering



A Few Words About The Construction Group Activities

The construction group started in November 2024 and has met 16 times to-date (details on the club website). A number of members regularly attend to share knowledge, work on projects etc. Some of the new and legacy projects are listed below:

MKARS 80M QRP kit - A design originally from the Milton Keynes Amateur Radio Society, this is a work in progress to complete and test.

WSPR - Various activities including completion and improvement of legacy projects. Previously built units have been put back on the air and most recently new kits are being purchased which promise a straight-forward build at a modest price (Kanga kit details circulated separately.) Many will be familiar with WSPR which uses advanced encoding to enable a weak signal to be received at great distances. Signals radiated from here with only 200mW are being received in Australia!

DF Receivers - A few members previously made DF receivers from kits that were re-tuned for use on 160m. Some of these have been put to good use at Crickley Hill events and there are known to be others that will soon be given some TLC to get them fully functional. Additionally, there is new interest in 2-metre DF, inspired by a recently published article in PW magazine which uses an Arduino Nano and a clock module to produce a simple VHF morse beacon. Suitable 2-metre receivers are now being investigated, both a DIY build option and the re-purposing of some of the inexpensive handheld radios on the market (through the use of modified firmware).

HF radio - There is considerable interest in kits from QRP Labs and I have reports of recent purchases, including the QMX receiver kit. Interesting information is contained within the website and several videos on YouTube.

Other projects

Antennas, dummy loads, DC power supplies, dust-extraction control units and receiver fault finding activities have also been undertaken.

Future work - In addition to the above, a Howes DFD4 kit has been found. It is an add-on digital display, yet to be constructed. Hopefully this will be paired with an analogue Vega shortwave receiver in due course.

If you have any questions, please come along to one of the advertised construction evenings or speak to me at any other opportunity.

Vernon G0HTO

Dates for Future Construction Evenings

Monday 18th May

Monday 8th June

Monday 6th July

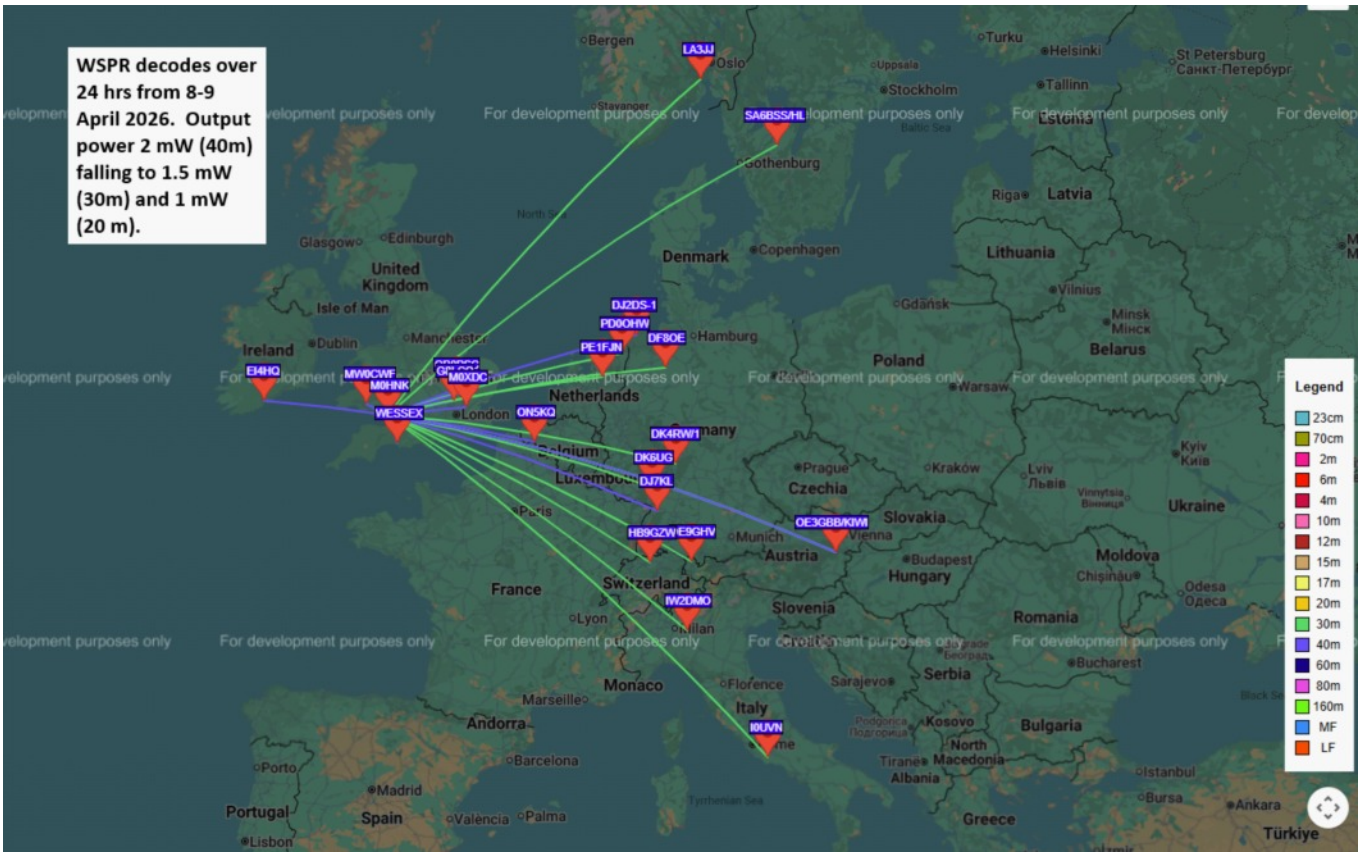
Put these dates in your diary!

WSPR – a useful tool for investigating transmission and reception
By Richard M0HNK

Back in the days when the club met at Churchdown, several members built the QRP Labs U3s WSPR transmitter as a construction project. I built one of these units and found it fascinating to see where my tiny signal was reaching. WSPR is an excellent means of probing propagation pathways and for testing and comparing antennas.

After a few months, I put my WSPR transmitter aside and didn't give it much thought again until Ray G1NVS came to one of the recent construction meetings at Down Hatherley. He explained that he wanted to undertake some WSPR experiments but his U3s WSPR transmitter which he'd built all those years ago needed some repairs to get it on the air. Ray's enthusiasm for WSPR encouraged me to dig out my old U3s and get it back on the air again. My version of the U3s has the ability to operate on six HF bands but I decided to restrict my experiments to 40, 30 and 20 metres. As built, the output power of my device measures approximately 200 mW on 40m, 150 mW on 30 m and 100 mW on 20m.

I soon found that my signals were routinely picked up as far afield as Australia, with 30m and 20m being the favoured bands. After a few weeks of this, I decided to make a change and investigate where my signals would be detected if I reduced the output power. Rooting around in the junk box, I found suitable resistors to make a 21 dB attenuator pad, so I built it, boxed it and installed it on the output of my U3s. The output of my U3s was now approximately 2 mW on 40m, falling to1 mW on 20m. I wasn't expecting dx with this arrangement, but I was surprised at how far my QRPp signal reached. The figure shows the location of the stations which reported my signal over a 1 day period.



Stations reporting my WSPR transmissions over a 24 hour period from 8th – 9th May 2026. In this particular instance, most reports were on 30m with a few on 40m, but on other days 20m also proved to be effective.

WSPR seems to be used by radio amateurs mostly to assess transmission, either to probe propagation pathways or to investigate the efficacy of various antenna options. But it is a very useful tool to investigate receive performance too. And WSPR would not function if it weren't for dedicated amateurs who have a receive system set up to report decodes from transmitting stations to the WSPR website.

For assessing receive options, probably the most effective way is to run a series of pair-wise comparisons using two receive systems which are 'identical' in all ways apart from the item being tested. In my case, I ran a series of experiments comparing the SNR of received WSPR transmissions using two receive systems that were the same apart from the receive antenna. My attic dipole was used as a reference and was compared against both an active loop antenna and an active dipole antenna. At the time I started these experiments, I could not find any examples of other similar studies to use as a basis for my investigations, but an approach similar to mine seems to have become more widely adopted and there are now various examples online [ref 1, ref 2]. But even for those who do not wish to run two receive systems, just setting up a single WSPR receiver can be informative. Each transmission that is detected by the receiver will have a SNR figure associated with it (e.g. -21 dB). For any particular transmitting station at any particular time, it is possible to compare one's own SNR figure with that of other nearby stations. If, on average, the receive reports tend to be poorer than other nearby stations, one might decide to attempt improvements (e.g. better station grounding or using an active antenna further down the garden away from potential noise sources). And, having done this, a fresh comparison can be attempted to see if the average SNR has risen in relation to the other stations.

Whether used in transmit, receive or both, I have found WSPR to be a fascinating and instructive mode. And there is no need for expensive equipment. If you haven't done so already, why not give it a go?

Ref 1 – https://na4da.com/measuring-antenna-performance-using-wspr/

Ref 2 - https://pdfs.semanticscholar.org/2258/ac66fd1d0afd6b294942222bb28ace22ecec.pdf

Here's the new Kanga kit (left) mentioned in Vernon G0HTO's Construction Group Activities article.

Details can be found here

https://www.kanga-products.co.uk/wspr

As a kit, it costs £39.99, ready built £49.99

In Praise of Paper Log Books
by Brian G4CIB

Regular participants in the Society's 144/145MHz nets will no doubt be aware that Jim 2E0GKN is currently attempting to bring an old Microwave Modules 70MHz transverter up to scratch. I too possess such a piece of equipment dating back to the early 1980s. My transverter operates from 144MHz input to 70MHz output and although Jim's is 28MHz to 70MHz, interior examination reveals that it originally started life as a 144MHz version. We have successfully had QSOs over the air but there was a lingering doubt in Jim's mind that the receive portion was not up to spec. I offered to dig out an old QRP 70MHz CW transmitter I built some 40-odd years ago. I say built, but it was in fact a modification of a Heathkit transmitter strip which I think started life in the USA as a device for opening garage doors. Roy Thompson G3VZR (who ran Richards Electrics in Barton Street) had obtained a job lot of surplus bits from Heathkit and was selling the boards in his shop. I spotted this board, complete with a 35MHz crystal. Taking a chance, I had one and obtained a 35.130MHz crystal from one of the suppliers who advertised in RadCom at the time. I mounted the board into a small box, along with an antenna change-over relay, a transmit/receive switch, 3.5mm key jack socket and a variable capacitor to "pull" the crystal. When the tx/rx switch is actuated, the oscillator starts up along with the multiplier/buffer stage and the final PA transistor is keyed, giving about 1 watt output. Imagine my surprise having not only found the little box but also the crystals to go with it, and when I powered it up, it still worked! The idea was to provide a very low level signal from the oscillator for us to compare the respective sensitivity of our transverters. So far, so good. My mind went back to when I actually used the transmitter in anger. I guessed it must have been in the early 1980s and trawling back through a drawer full of old log books, I found the relevant one covering the period 7th July 1973 – 8th January 1984. I'd forgotten how I was receiving on 70MHz but my log book came to the rescue. On the 5th May 1981 I recorded that I was /P on May Hill (we lived in nearby Longhope at the time) and worked G3IKR on 144MHz SSB using my IC202S (which I still have) at 1830-1900. I had with me a little Sentinel 70MHz receive converter as my log book notes that between 1835 and 1837 I received him on 70.320MHz at S3 using a ¼ wave antenna. A couple of days later Leta and I were at her mother's cottage at Dodington Ash (close by to the A46/M4 junction, high up on the Cotswolds) and my log book notes that using this little rig I worked G4FRO who was in locator square YL37C (this was before the current Maidenhead system), 16k NW of Bristol, so fairly local and GW3XBY/P in YM44D, Beacon Hill, Powys, a distance of 76 miles. There must have been a contest on, as G4FRO gave me 539033 (he was 559 with me) and GW3XBY/P gave me 599104. Although my log book doesn't record it, I'm sure I was using a homemade dipole antenna made of copper water pipe.

This little bit of research got me thinking. I, like many operators, use computer logging and I wonder if in 45 years time computer logs being used today will still be as easily accessible as my old paper log books? I must confess that when I first started computer logging, I actually printed out the pages and bound them in a folder, but I haven't done that for a few years now! For nostalgia, though, to see my hand-written logs from all those years ago brings back many happy memories. My only regret is that I should have taken more photos of my /P activities, but processing film wasn't cheap then!

Fig. 1: The car's for sale at $500 but the radios inside cost another $25,000.

Fig. 2: WA0KGU's porcupine car at the Dayton Hamvention.

NOT SURE IF YOU WOULD REALLY WANT TO TAKE THIS ON THE ROAD!!

(Submitted ny Anne 2E1GKY)

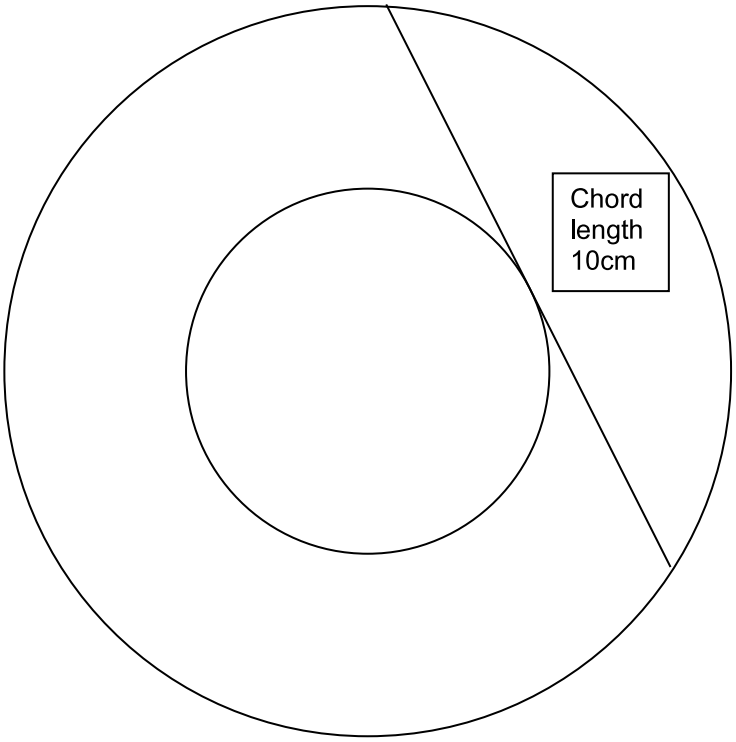
From the Archives

The DF hunt at Newent on Saturday September 11th was very poorly supported with only Brian, Alan and Anne taking part. Tony and Vernon had gone to a great deal of trouble planning this event. Anne 2E1GKY missed a turning to the Glasshouse (May Hill) location on her approach but this turned out to the members advantage because she found a perfect place to have a pot of tea with some scones and cream and jam after the hunt which was enjoyed by all. The name of the place is Taynton Farm Centre which is in a really beautiful location for an afternoon run or just for tea.

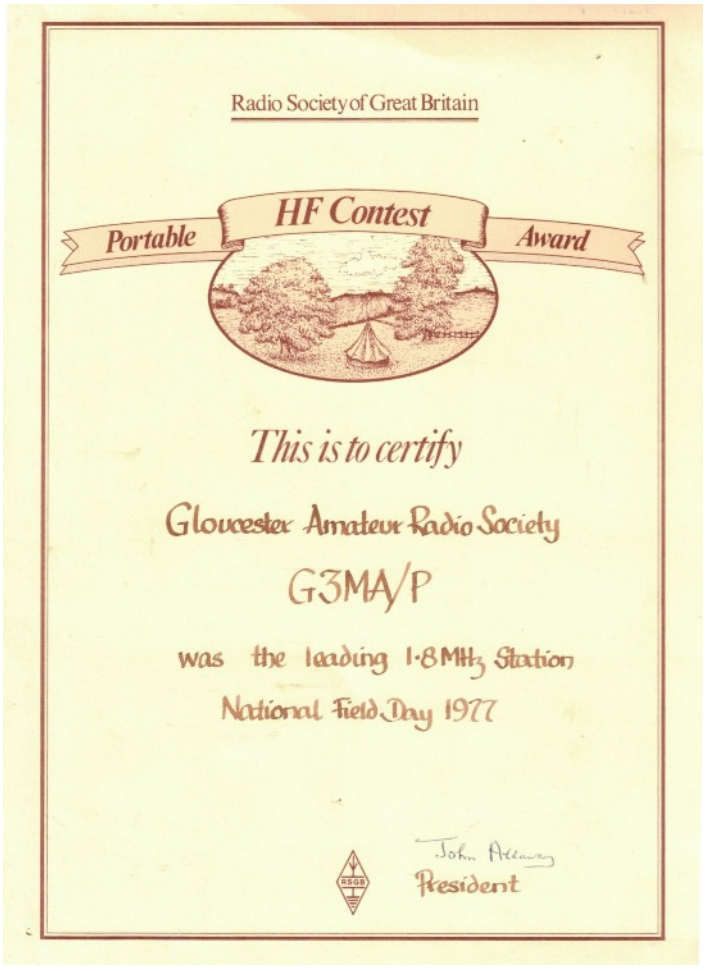
Photograph from 2E1GKY, caption by 2E1GKY from the October 1999 “Ragchew”

Circle Puzzle

The chord length is 10cm. What is the area of the “doughnut” formed by the two concentric circles?



From the Archives



G4AYM/P at the summit of May Hill

144MHz CW Contest - November 1982