SURREY RADIO CONTACT CLUB

85th Anniversary Year - Founded 1935

MAY 2020 – No 933

SRCC supports the RSGB Child Protection Policy

General Club Business: secretary@srcc.uk Membership/Treasurer: membership@srcc.uk Newsletter articles/distribution: newsletter@srcc.uk Club Equipment Loan: equipment@srcc.uk Club Website: https://www.srcc.uk	Honorary Secretary & Editor John Simkins G8IYS 18 Riding Hill, Sanderstead, South Croydon, Surrey CR2 9LN Tel: 020 8657 0454

Face-to-face meetings currently suspended for the duration of the COVID-19 pandemic – more details below…

SRCC COMMITTEE 2019/20

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EDITOR'S OPENER

Well, we're now five weeks or so into the COVID-19 lockdown, and I guess we are all adapting to the changed life style in our own ways. For me, it hasn't really meant that much change as I haven't been a great socialiser for many years. But my work on the RSGB Contest Support

Committee has been keeping boredom from the door. The HF Contest Committee has introduced a series of short events – one per weekday, with different modes at different times for each to provide a bit of variety – under the umbrella name “Hope QSO Party”. I must admit to finding that name seriously naff, but the idea is a good one which has been well supported by the HF community. But this puts a significantly increased load on adjudicators, and coming at a time of year when the adjudication load is high anyway has meant a heavier than normal level of commitment, in my case meaning eight events to adjudicate in a 35 day period. Ah well, they do say that if you can’t take a joke you shouldn’t have joined…..I have also been having my five year old granddaughter here rather more than usual (permitted under the lockdown rules because of my son’s domestic circumstances) which is great fun provided you don’t weaken!

But that’s enough from Mission Control Norwood – I have been keeping in touch with John G8IYS by phone, and it‘s good to be able to report that continues to improve steadily and has been busy tidying up his shack.

So on now to stuff you actually want to read….

73, Quin G3WRR

FUTURE MEETINGS

In the current absence of face to face meetings, we are intending to hold a virtual meeting, using the Zoom software package, on Monday 4th May at 8pm clock time (usual A meeting date and time). This is expected to consist of a video produced by Peter G3ZPB followed by a round robin session allowing all attendees to provide a brief summary of what they have been up to. A SRCC virtual Committee Meeting was held recently using Zoom, and we found it worked surprisingly well. It will be interesting to see how it works with increased numbers and in a club meeting format. If you are able to join, please do so, and let me have your views after the event, and any ideas on how we might improve the experience. Here is the guidance on how to gain access:

Peter Burton is inviting you to a scheduled Zoom meeting as follows:
Topic: SRCC Virtual May Meeting
Time: May 4, 2020 08:00 PM London
https://zoom.us/j/7856179565?pwd=T1YrRHNpdW5sdHQ0d0RKTnZ6b1ArZz09
Meeting ID: 785 617 9565
Password: 6B0Qkj

Follow the link above that starts "https://zoom.us..."
This will take you do the Zoom site. If you do **not** have Zoom already installed, then you will need to download and run a small program (it seems to be quite safe from a security point of view and there are versions for Windows and Mac operating systems).
If you **do** already have Zoom installed then follow the link and run Zoom.
You may be asked to enter the Meeting ID and Password as shown above.
At (or around) 8 o’clock, you will be "accepted" into the meeting (this is a security feature to stop hackers joining the meeting).
Be aware that your microphone and camera may be live from when you first join the meeting.
During the meeting, please curb your natural instinct to talk all the time - talking automatically takes you "centre-stage" which may not be the most effective way of running the meeting .

PREVIOUS MEETINGS

Nothing to report this time in the absence of any formal meetings since last month's Newsletter – but see Peter G3ZPB's Blog below…..

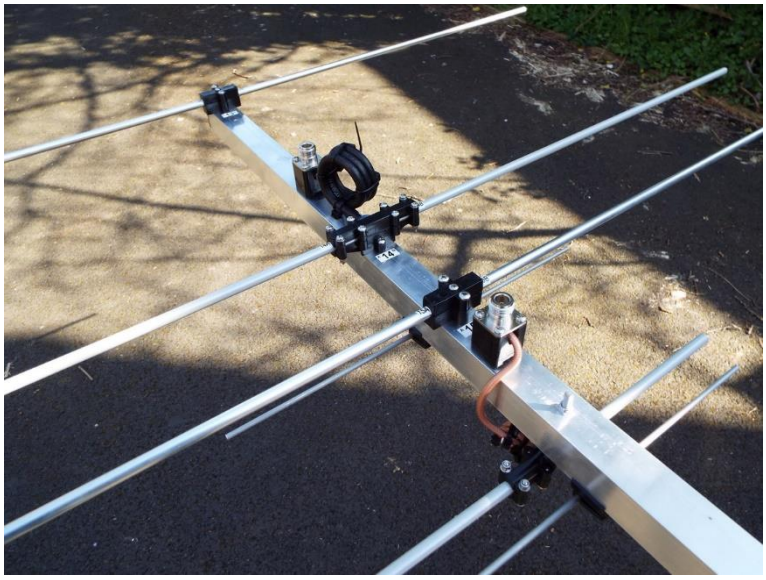
CHAIRMAN'S BLOG

Hello everyone – what strange times we are living in! I shouldn't even be writing this Blog as in normal times we would have held our AGM and elected a new Chairman. However, these are very far from normal times and life goes on for most of us in a similar but different way.

We held our very first "Virtual Meeting" on 20th April when 10 members "attended" a showing of 2 videos and some discussion. This is, of course, the second time the Club has been unable to hold proper meetings because of Government decree – the first being in the late 30's and early 40's during the war but I don't think they had computers and fast broadband then – so no Virtual Meetings! We are in a war again now – against an enemy we can't see, hear or smell which is in many ways much more difficult to fight.

However, the "lockdown" has given many of us more time for our hobby. In many ways we are extremely lucky in that our hobby gives us the ultimate in "social distancing"; never mind 2 metres, how about several thousand kilometres?
I have also been able to make several significant improvements to the station here…at HF, I have finally managed to get my half-size G5RV up high enough that the entire vertical part is now vertical and I can now get good SWR on 40m, 20m and 10m. Being able to use 20m has enabled me to work 5 new DXCC entities already this month i.e. Thailand, Dodecanese, Brazil, Curacao Island and Panama, all using about 90W on FT8 mode. I was also lucky enough to get my new long-awaited 70cms/2m beam delivered before lockdown made buying such things more problematic. It is not the cheapest antenna I've ever bought (in fact I think it is probably the most expensive) but it is superbly made (in Serbia) with a 30mm x 30mm boom and 8mm dia 2m elements and 4mm on 70cms – well strong enough not to bend under the weight of a pigeon (but see later). I bought the version with separate feeders for each band; this enables easy connection of the 70cms masthead preamp and separate antenna connections on my IC-9100 rig. Here are some pics…

Picture 1shows the Yagi nearing the end of assembly.



Picture 2 shows detail of the feed arrangements and connectors for each band.

Picture 3 shows the final assembly up in the sky.

The more observant readers will notice lots of “little spikes” fixed to the upper side of the boom – these are “anti-bird spikes”. Now, I adore birds except when they are sitting on my antenna and their droppings make a horrible mess underneath. The spikes are made of thin plastic, fixed with cable ties and don’t seem to have any effect on performance. The next stage is to enter a 2m UKAC contest and see how it performs. I also have a 70cms/2m co-linear which is better for use in the local 2m nets.

Like many of you, aside from Amateur Radio, I have also spent some extra time in the garden. The main occupation there has been re-seeding part of the back lawn. Those who came to the club BBQ last year may remember a large area of brown earth under where we had a fir tree removed shortly before the BBQ. I decided this spring-time would be a good opportunity to re-grass it and because of its irregular shape and position, decided that seeding it was preferable to laying turf. After a lot of TLC, I am pleased to report lots of little green shoots now showing through. Who knows, if we are allowed to have a Club BBQ this year here, it should just about be ready to walk on by then!

I think that is enough from me for one month so I hope you all manage to stay safe, well and healthy and maybe talk to some of you on the radio and see some of you at our next Virtual Meeting.

73 and 88, Peter G3ZPB

DIGITAL VOICE RADIO - 3rd FEBRUARY 2020 by MIKE GREENOW G6PTY

This is a seriously belated write-up of the February A meeting, at which 22 members and visitors were present.

Mike opened by outlining his background in the hobby. He was first licensed in 1982 when living at Corston, Wiltshire. His initial activity was on 2m SSB and FM using an FT290 and a homebrew 8 element Yagi or 7/8 wavelength vertical. He has since moved to the Guildford AREA where has become more involved with the computer side of the hobby.

He noted that a frequently asked question about Digital Voice Radio (DVR) is whether it is “real amateur radio”…..and said that most DV contacts go through the internet, but access to it always uses traditional amateur radio. In addition, end to end contacts wholly via radio without internet involvement can be conducted. In response to a question, four of the SRCC members present said that they had at least dabbled in DVR.

The talk addressed three main aspects:

- systems and standards
- network structure
- talk groups.

Taking systems and standards first, the fundamental characteristic is in the name! Instead of, as in traditional amateur voice systems, using an analogue signal to modulate a carrier (or equivalent), in DVR the analogue signal is first digitised and the digital signal then used to modulate the carrier (or equivalent). Three basic systems for amateur use have evolved, based largely on commercial systems such as P25, TETRA and dPMR. Sadly, they are not mutually compatible! The three systems are:

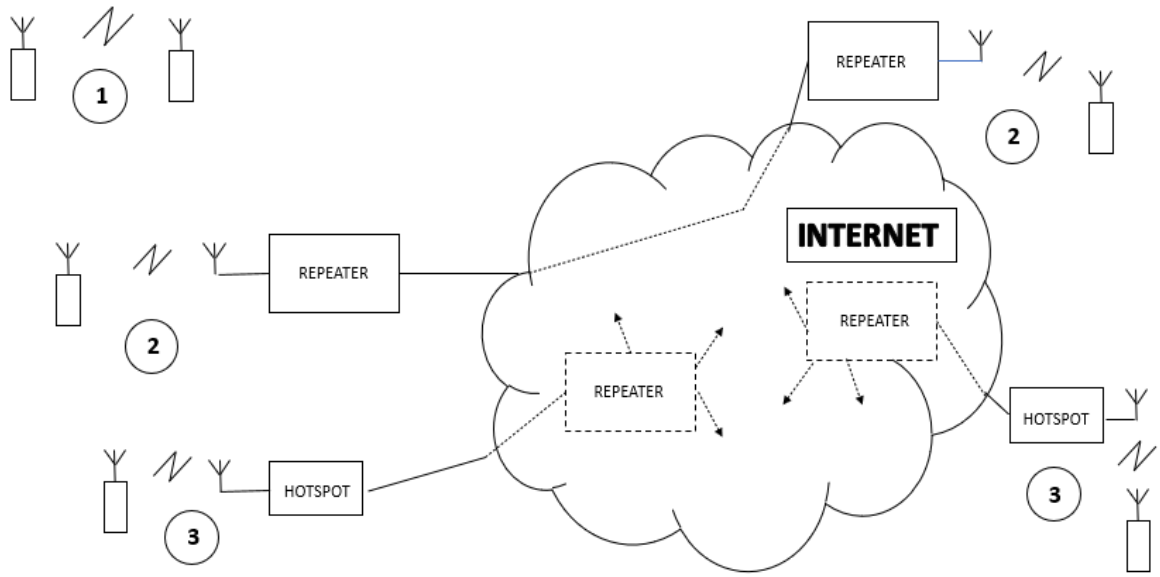
- **D-STAR –** a contraction for **D**igital **S**mart **T**echnology for **A**mateur **R**adio – was the first developed for amateur radio. Its specification was led by the Japanese Amateur Radio League (JARL) in conjunction with certain universities and amateur radio suppliers. It is an open standard, although it uses proprietary AMBE codecs. Modulation is Frequency Division Multiple Access (FDMA) and a number of internet facing protocols (REF.XRF/DCS/XLX) are supported. The first supplier to market was Icom, but others have since started supplying equipment.
- **DMR -** a contraction for **D**igital **M**obile **R**adio – is a 2003 European Telecommunications Standards Institute (ETSI) standard. It was originally developed by Motorola mainly for commercial applications. It can support two 6.25kHz or one 12.5kHz channel, and two simultaneous conversations can be conducted on a single frequency. It too uses the AMBE codec, modulation is 4FSK, access is Time Division Multiple Access (TDMA) and the internet facing protocol is IPCS2. Several suppliers to the amateur market now produce DMR equipment

- **Fusion –** more correctly System Fusion – is a system and set of standards designed by Yaesu. Again, the AMBE codec is used, modulation is C4FM (continuous 4 level FM) and access is FDMA. Fusion is not an open standard and hence only Yaesu make equipment for it. However, the high penetration of Yaesu repeaters means that it can be widely used.

Mike displayed an RSGB repeater map, and noted that the nearest repeaters for each of the three standards were:

- D-STAR – GB7OK
- DMR – GB7LO
- Fusion – GB3XP.

Moving on to network structure, a large number of configurations are needed to cover off all possible network scenarios, but the following identifies three of the most likely.



Case 1 - a normal simplex over the air contact using digital encoding – the internet is not involved. The SRCC Friday 7.30pm D-STAR net on 144.6125MHz is an example of this.

Case 2 - a call via repeater using digital encoding. The repeater may be linked to other repeaters using the internet as an inter-repeater transmission mechanism. In this case the repeater handles both protocol conversion (radio interface to IP) and routeing functions

Case 3 – a call in which radio access is via a hotspot handling radio interface to IP conversion. But in this case the routeing functions (ie. deciding where the far end of the call should pop out of the internet) is performed by an internet hosted “virtual repeater”.

Connection of repeaters to the internet, or embedding them within it, and their interconnexion (as in cases 2 & 3) permits regional / national / worldwide coverage. The Fusion based wide area networking capability is referred to as WIRES (**W**ide-coverage **I**nternet **R**epeater **E**nhancement **S**ystem).

Hotspots are available from a number of different suppliers and Mike showed pictures of a number

of them. They are typically dongles used in conjunction with a PC, but stand-alone units are also available. They can usually support all 3 standards listed above.

A key feature of WIRES-X and similar systems and networks is the use of “Talk Groups”. These are not something that is familiar in non-DVR amateur operations. Talk Groups (TGs) may relate to particular geographic areas or communities of common interest. For example, TG1 is the global calling channel and TG 31674 is the Maritime Radio Historical Society. Registration by callsign is required to provide access to particular networks and TGs before they can be used. Tools are available to assist registration and production of “codeplugs” (downloadable blocks of data for customising individual mobiles with user preferences (eg. screen colour, squelch level) and TG names and frequencies). Examples of such tools are CQ-UK and Pi-star. A personal view (of the writer-upper) is that this is rather different to normal amateur practice where anything goes….you call CQ and see who comes back (in my case usually nobody…). The procedure here seems to be that you have to know about interesting talk rooms before you can get into them – which feels a bit like lifting yourself up by your bootlaces – but probably I just don’t understand all this properly.

It was unfortunately was not possible for Mike to give the hoped-for demonstration owing to the poor quality of the available internet connection at Trinity, but the lecture nevertheless provided an interesting & useful introduction to the topic.

73, Quin G3WRR

CAN ANYBODY ASSIST?

I received the following from Michael Somers recently….

I wonder if someone in the Club would like to construct a mains powered timing device which, when linked to an openable door, makes an alarm go off after an adjustable time lapse - for a fee of course!

The background here is that I am a director of a public loo (don’t laugh but I bet you’d never have guessed it) down in Cornwall on a beach full of salt air and at times, pretty rough weather conditions. Because Cornwall Council have withdrawn funding for all loos in the county, we have formed a company to run them as the alternative doesn’t bear thinking about.

We make a charge of 20p for entry but 37% of users we’ve calculated do not pay, either because the exit door is politely held open for them or they jam it open with a rock or squashed can. The thinking is that when the timed period has elapsed, a noise will go off, hooter, bell or even a loudish spoken message “Please close the door. You must pay your entry charge” in the hope they will do just that. The system needs to be vandal proof. There are three doors involved. The timer will be inside the building with the sounder outside. If any one of the three doors is open beyond the time set for each door, the alarm will go off so that anyone in any queue will get the message, even if they’re not responsible this time.

With so much time on our hands right now, I hope that someone will be interested.

If any member feels that he/she can help Michael out, please contact him at m.somers113@gmail.com .

A COUPLE OF USEFUL SNIPPETS from MIKE M1CCF

A number of our members regularly attend the twice yearly Kempton Park Rally. The latest (and possibly last ever) of these was to have been held in April, but as with many other events it was stood down due to the COVID-19 pandemic. Mike M1CCF, who has a bit of an eagle eye for useful bits of information that are easily missed, has forwarded this:

POSTPONED until 15 NOVEMBER. WEST LONDON RADIO & ELECTRONICS SHOW (Kempton Rally) Kempton Park Racecourse, Staines Road East, Sunbury on Thames, TW16 5AQ. A talk-in station will be on air. Car parking is free and doors open at 10am with disabled visitors gaining access 10 minutes earlier. There will be trade stands and a Bring & Buy as well as special interest groups and lectures. Catering is available on site. More details from Paul, M0CJX on 08451 650351, info@radiofairs.co.uk or www.radiofairs.co.uk.

Mike has also forwarded the contents of an Ofcom information release, as follows:

Ofcom release database of Amateur Radio Call Signs
Following a Freedom of Information request (not by a club member) Ofcom have released a spreadsheet of all Allocated amateur radio call signs in the UK and Crown Dependencies. The spreadsheet lists 92,318 callsigns that were showing a status of Allocated as at March 26, 2020. The database can be useful for people wanting to apply for a specific call sign as it shows calls which are not available for issue. It is at the following URL:
https://www.ofcom.org.uk/__data/assets/excel_doc/0025/194533/amateur-radio-allocated-call-signs.xlsx

Ofcom clarified the meaning of their call sign status field e.g. 'Reserved' means that the callsign has been used within the past two years, although it is no longer, and is in the process of 'cooling down'. It is therefore not currently available for assignment to anyone else, but operators will be able to apply for it again after the two-year period has expired. If you are interested in when a call was issued, or forbidden for issue, have a look at:
http://www.southgatearc.org/news/2020/january/ofcom-release-database-of-amateur-radio-call-signs.htm

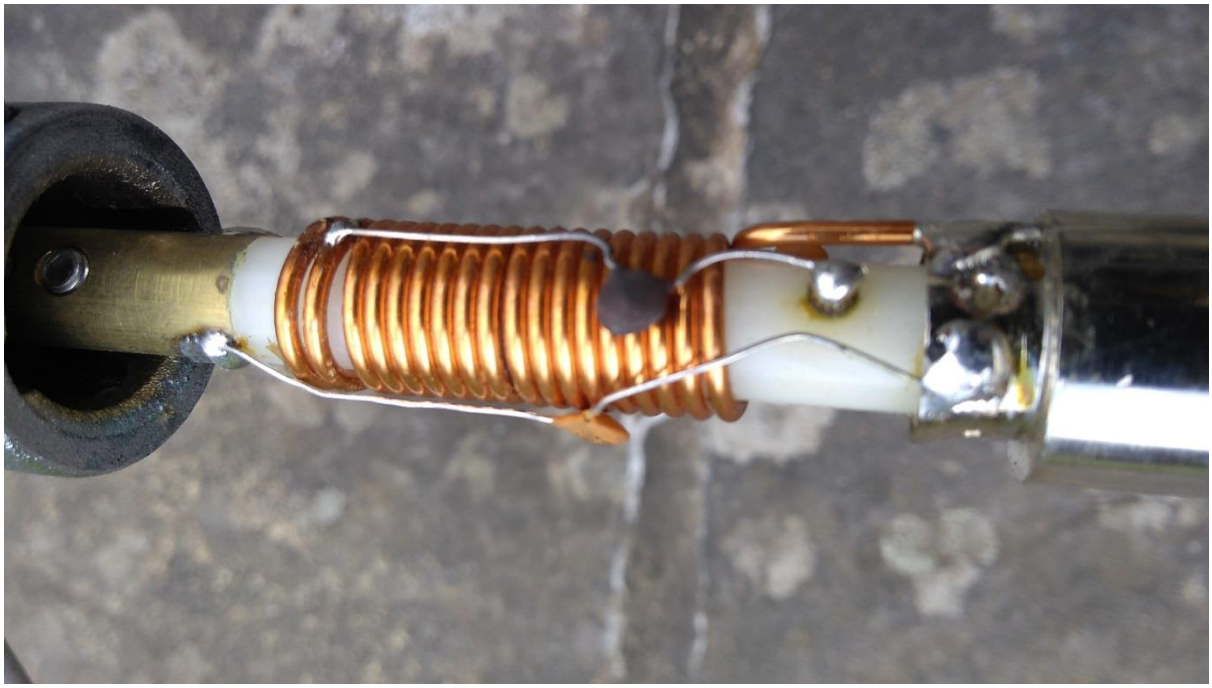
Many thanks to Mike for both of these.

73, Quin G3WRR

FOR THE SAKE OF A HA'P'O'RTH OF TAR, or THE TALE OF RESURRECTING A 'DEAD' TRI-BAND COLLINEAR by GARETH G4XAT

It had been on the chimney for many years, originally purchased at a Kempton VHF convention. Offering the 'best' (published) gain I recall it cost me around £55. It worked OK in as much as it certainly had some attempt at impedance matching on the 3 bands (6,2 &70). And then it stopped working, probably around the time when I acquired a radio with power on 6M. That would have been a FT450, bought to replace my aged and faulty FT757GX. But I really did not get on with the radio, it felt 'cheap and tinny' in comparison to the good old 757GX and it had a menu system, different from the FT817. But it did have up to 100 watts on 6M and since my co-linear was rated at 50W I adjusted the power and worked a few Europeans on Sporadic E one afternoon. That was fun. The FT450 developed a TX error fault (quite an achievement when it wasn't even switched on!) and Yaesu wanted silly money for the repair. 'The Shack' (James down in Cornwall, a well-known and respected repairer) spent four hours diagnosing the problem but the replacement board rendered an already unloved radio 'one for moving on' i.e. BER. So I split the auto-atu off and sold that, followed by the radio to someone who reckoned he had a good TX but faulty RX. In the end it wasn't too much out of pocket and enough to buy a fully working FT757GX (still doing good service and so easy to drive!). Anyway, when I got back into WXSAT reception I tried the collinear – it worked quite well on the low elevation passes, and curious as to how well it matched on 137MHz I ran my MFJ259 over it as a routine check. Horrors! It had developed a significant non-resonant behaviour on all bands, so it was (once I'd made up a suitable roof ladder) removed and replaced with a similar product that I'd bought from Pat, G4FDN. Rather than chuck it away I had a look inside it and found a single blackened ceramic capacitor. Oh, well, no circuit diagram, no visible lettering (see picture against a proper silver mica example) so I filed it away for attention 'one day'. That 'one day' arrived today as I was tidying up a stash of timber, mast poles and bits of pipe. There it was, needing attention as the coax to my current chimney mounted one has apparently failed open circuit (roof ladder needed again, decent weather etc. etc.…). A little on-line research into tri-band co-linear designs suggested that it might be a very small value capacitor and since they suggested that it should be a 500V device I had a look in my stores. Therein I found some 5pF, possibly at least 1kV disc ceramics. So I fitted one in place of the burnt item and ran an analyser over it. Close, but no cigar yet. All the band resonances were high. Ah-ha I though, add capacitance. So I soldered a second unit across the first (10pF now). Ah-ha, resonance now too low, I wonder if it was an 8.2pF that was used. Although well stocked with a wide variety of lovely SM capacitors (culled in 1986 from a big pile of boards I was given at work) I did not have any 8.2pF. But I did have side cutters. So I trimmed a sliver off the edge of one of the ceramics – down to 9.4pF for the pair now, and closer matches but still a trifle low. Another snip and a measure on the meter – 8.8pF and a pretty good match on all bands – in fact better than it ever was before. Although a tight fit inside the antenna barrel, the new capacitors do fit. The ceramic gap is at least 1.5mm so I am confident that I won't fry this one. The open end was coated with epoxy to seal and hopefully prevent arc-over between the plate edges. It's up in the garden ready for testing on the various nets and also some local 70cms DATV. When the weather settles I'll shin up the roof and sort out the other one too, hopefully just a feeder connection failure – it's what happens when you 'trust' ex-commercial cables!

Such a shame, a tiny component that can't have cost even 0.01% of the manufacturing costs was potentially enough to send the whole thing into the skip.



As it failed…..

And as repaired, one and 4/5ths of 5pF 1kV capacitors

INFORMATION FROM RSGB HQ

Thanks are due to our RSGB District Representative Alun G4WGE (who as many of you will know is an SRCC member) for periodically sending the SRCC and other clubs in his catchment area RSGB related news which may be of interest to members. I'm not sure what percentage of the SRCC are also RSGB members (hopefully high) but below is a copy of information related to the recent RSGB "virtual AGM" and its outcome.

AGM

The 93rd Annual General Meeting of the Radio Society of Great Britain to be held on Saturday 25 April 2020 was cancelled because of government restrictions on travel and public meetings due to the coronavirus Covid-19 pandemic.

The Board convened a meeting today to receive the results of the votes submitted by the Society's members on the resolutions and elections they were asked to consider in the Calling Notice. The results are summarised in the proceedings on our website: https://rsgb.org/main/about-us/agm-2020/agm-2020-proceedings/

The 2019 Trophies and Awards are outlined on the same page but you can read the full citations on the special Trophies and Awards page: https://rsgb.org/main/about-us/agm-2020/2019-trophies-and-awards/

If you have any questions you would normally have put to the Board at the physical AGM meeting, you can still do so via our Have Your Say web page: https://rsgb.org/main/about-us/have-your-say/ The new Board will reply to you within two weeks.

Board & Region Elections

As a result of voting by the Society's members:

1. Dr Stewart Bryant, G3YSX was endorsed as a Nominated Director
2. Andy Mace, M0MUX and Len Paget, GM0ONX were elected as Board Directors

During the first meeting of the new Board, Ian Shepherd, G4EVK was elected as the Board Chair until the AGM in 2021.

There were Regional Representative vacancies for six regions (Regions 2, 5, 7, 11, 12 and 13). There were no valid nominations for Regions 2 and 12.

The following have been elected unopposed and their appointment begins now, after the AGM:

Region 5: Vinny Hopkins, M0TAV
Region 7: Glyn Jones, GW0ANA
Region 11: Dean Brice, G0UIL
Region 13: Mark Burrows, 2E0SBM

Another important topic related to all UK amateurs, whether RSGB members or not, is the increasing problem caused, mainly in the HF part of the spectrum, by the use of VDSL by BT and other Communications Providers. In some instances this is causing parts of the HF amateur bands to be all but unusable. A personal experience of this was an attempt to participate recently in one of the HQP series on 80m: in the SSB part of the band (what, me operating on telephony?!...) the VDSL noise was never less than S9+10dB and in some chunks S9+40dB. Although the RSGB

have been in dialogue with Ofcom on this subject for some time, Ofcom's stance is that the number of complaints received is too low to take the problem seriously (presumably due to the tendency to amateurs to grit their teeth and just get on with it…). As you will see from the information at the following URL:

https://rsgb.services/public/publications/vdsl/president_letter_about_vdsl_in_radcom_may_2020.pdf

the RSGB is proposing to demonstrate to Ofcom just how serious the VDSL problem is, and how many amateurs are affected. If you have experienced and are experiencing problems, I would encourage you to act as set out in the RSGB paper.

SRCC LEAGUE TABLE – MARCH 2020

It has been necessary to stand this over till June – see below under "that's all folks"

SRCC NETS

The following is a list of structured nets on which members of SRCC meet regularly. They are sometimes joined by members of other local clubs, who are always made most welcome. The net is not usually led by a nominated controller, but stations normally transmit cyclically in the chronological order in which they sign in. If any member wishes further occasions and frequencies to be added to the table, please let me know at g.g.collier@btinternet.com.

BAND/FREQUENCY/MODE	DAY OF WEEK	START TIME (clock)
160m / 1905 kHz / LSB	Sunday	9.30 am
10m / 28.078 MHz / JS8	Thursday	10.00 am
4m / 70.30 MHz / FM	Thursday	8.00 pm
6m / 51.55 MHz / FM	Tuesday	8.00 pm
2m / 144.6125 MHz / D-Star	Friday	7.30 pm
2m / 145.35 MHz / FM	Friday	8.00 pm

In addition to the regular Club Nets, several members monitor the local repeater channels, particularly GB3XP (145.6875MHz 82.5Hz CTCSS FM)

THAT'S ALL FOLKS….

It has regrettably been necessary to stand over a number of Newsletter items (including material from John G3MCX and Rick M0LEP, plus the League write-up) until next month (June issue). This is because of the need to give early publicity to the alternative arrangements for the A meeting on 4th May. But that doesn't mean that more items are not welcome – so please keep them coming!

73, Quin G3WRR