SURREY RADIO CONTACT CLUB

85th Anniversary Year - Founded 1935

NOVEMBER 2020 – No 939

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

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Face-to-face meetings are currently suspended for the duration of the COVID-19 pandemic. The current plans are detailed in this Newsletter – but the national COVID-19 situation remains volatile, so please keep an eye on the SRCC website at https://www.srcc.uk

SRCC COMMITTEE 2020/21

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EDITOR'S OPENER

Dear Members & Friends,

It looks as if, with the anticipated "second wave" of COVID-19 taking a hold with a vengeance, SRCC will be continuing with virtual meetings for a considerable time to come. That being the case, the Committee are keen to ensure that the "user experience" (to use an irritating bit of managementese) is as good as possible. So if any members have ideas on how we could improve things – in terms of topics, presentation or any other aspect – please let us know at secretary@srcc.uk . As a point of detail, we shall be using the Zoom package in future as several members have commented that they find its user interface (to use another bit of managementese) better than that of Webex. In English, that actually means "users find it easier to use".

I have been indulging in a bit of “self-training” (to quote our licence) recently. Experience during the IOTA Contest in July showed that when things were going briskly, two finger typing was simply not fast or reliable enough to avoid embarrassing delays – even a couple of seconds finding the right keys can result in losing the rhythm of the QSO – particularly when you meet longer calls like WA3JTC/ZP5 (a real one from years past). So, I am trying to teach myself Touch Typing via a software package acquired for about £12 on Amazon. Competence in this area will also help avoid typos in future issues of this Newsletter…The package is excellent and appears to be “self-tuning” by picking out the characters you are worst at and throwing more of them at you. However, at the age of 68 I am finding it slower to learn anything than I did when, for example, I was learning Morse Code at the age of 14 or 15…. I am still stuck in the first module which deals with the “home keys” viz. a/s/d/f/g/h/j/k/l/; and it even makes my fingers hurt keeping them in the right positions. But hope springs eternal – and they do say that practice makes perfect…

An oddity from last weekend….I decided to give the CQ WW SSB contest a go – not because it’s not one I particularly like but because I wanted to pick up some points for the League Table (did you notice the subliminal advertisement there?). Although conditions were a bit up, I had terrible trouble getting any of the stations I called to hear me….in the end with great difficulty I worked an impressive two stations – one G and one DL - on 15m). Now for the odd bit….although the auto ATU was tuning up OK and giving me a decent SWR on nearly all bands, it seems that the fox (or whatever bit of wildlife has been repeatedly chewing though any bits of wire - or occasionally thin coax – that it finds) had done so to the bottom of my inverted L, leaving about 3ft of wire connected. All part of life’s rich pageantry – but what is puzzling me is whether I made the QSOs on the 3 ft of wire, the coax feeder acting as a long wire although it’s at ground level or something else! Any good suggestions?

Anyhow, on to the Newsletter….

73, Quin G3WRR

FUTURE MEETINGS

The November A meeting (Monday 2nd) will consist of a “virtual visit” to the Poldhu Museum presented by Terry G4CDY. The following input from Terry gives a taster of what should prove to be a most entertaining session.

“Lizard and West Cornwall is famous for a number of firsts in the world of telecommunications. These include the first transatlantic cable to Housel Bay, first satellite TV to Goon Hilly Down and numerous experiments by Marconi, such as the first spanning of the Atlantic in December 1901. In 2001 to commemorate the 100th anniversary of Marconi’s achievement, the National Trust and the Marconi Company built a small museum at Poldhu, on the site of the original station. This contains a number of artifacts and demonstrations about the early days of radio. The Museum is manned and managed by the Poldhu Amateur Radio Club and also used as a club house and accommodated two permanent LF and HF stations, GB2GM.

In non-COVID times we are open several days week and welcome visitors, but we are pleased to use Zoom to give you a flavour of the beautiful part of Cornwall and our Museum. Terry G4CDY”

Since the December A meeting (this year on Monday December 7th) is traditionally the Construction Contest and the usual face to face arrangement is not currently possible, the meeting will take place via Zoom and will consist of the Construction Contest without the Contest bit…..which we are calling the Construction Roundup. There will be no prizes, but it will be an opportunity for members to show, and talk about, any items they have built that they think will interest other members.

The December B meeting on Monday December 21st will consist of the now normal Round Robin, but given the imminent arrival of Christmas, members are encouraged to consume their own mince pies and cheering liquids. Wearing of party hats, or indeed silly costumes, will not be frowned upon….

PREVIOUS MEETINGS

The October A meeting on Monday 5th took the form of an RSGB video on QO-100 – the first geostationary amateur satellite. (The satellite itself was not amateur launched but space – excuse the pun - was very kindly made for a 13cm (uplink) / 3cm (downlink) amateur transponder on the Qatari Es'hail 2 commercial broadcasting satellite). The presentation described the system architecture, necessary components at the Earth end and how to set them up. A QSO between M0BLF and G4BAO was also demonstrated. For those who were not able to participate, the video is available at this URL: https://www.youtube.com/watch?v=6izyfb6kuDk .

The October B meeting on Monday 19th consisted of the now familiar Round Robin. Around 18 members participated.

G3ZPB'S BLOG

Hello and welcome to my personal blog. Activities continue at two of my three "locations of interest".

Chez G3ZPB – some of you may know that I have been experiencing a power supply problem recently. After operating for half-an-hour or so, there would be a pronounced "buzz" in my headphones. Turning the volume control to minimum made no difference. Strange I thought, do I have a problem with the rig (expensive) or the PSU (cheap)? So, mid-contest, I changed the 12-volt PSU to a spare that was sitting on the shelf. For the remainder of the contest, I was "buzz-free". To my mind that confirmed the PSU was the cause of the noise but no sure how or why as it was a switched-mode PSU. Anyway, I sent it back to the supplier (in Staines) and a new replacement is back with me. The new one is slightly different as it has two pairs of "Power Pole" connectors on the back. As all my accessories now run on this type of connector, I have taken the opportunity to remove the second (low current) PSU and power everything of the new single PSU. This was not quite as simple as it sounds because of the large number of cables in the shack – most of the equipment is powered (1 cable), most have either RF or Audio or both (this means 3 cables for the multi-band equipment), plus some are computer controlled (1 x USB cable). So, not only are there a host of cables, but there is up to 400W of RF floating about, so cable runs have to be carefully arranged to minimise cross-talk.

I have also started a new mini-construction project. Some time ago I bought a rather expensive Yaesu microphone; being Yaesu it, of course, comes wired only for Yaesu rigs. But I also want to use it with Icom and Kenwood rigs. As you can guess, although all three manufactures use the same 8pin microphone plug, the connections are all different!! So, a box with different connection cables is required. Well I thought, if I am going to do that, then I might as well add my equally expensive Heil Headset to the box. This adds a further complication because the Headset is designed for use with my IC-9100 which thus includes an electret insert. So, I also need the option of powering it from the 5-volt or 8-volt output present of all the microphone plugs. Another simple project actually turning out to be more complex.

Amberley Museum – the radio installation there includes a "Doublet" antenna for the MF bands and a 2-element Tri-band beam for HF. The beam is currently not in use because the Rotator is faulty. Because I am one of the more inquisitive members, I couldn't resist investigating what is "faulty". So, a group of us carried out some tests last week on the rotator. The indicator in the display shows some "interesting" effects – it sort of follows the direction the beam is pointing in but also shows some significant variation, much faster that the beam actually turns. My diagnosis is the potentiometer inside the rotator housing is "past its sell-by date" and either needs cleaning or replacing. Guess what my winter project is?? We will have to completely lower the mast in order to remove the beam and rotator and then elevate the mast again as it supports one end of the doublet antenna. The rotator unit can then come home for a complete strip-down, clean/replace and rebuild.

If anyone is thinking of visiting Amberley Museum, we move to winter opening hours from 1st November being open only on Wednesdays, Saturdays and Sundays (10.00 to 16.30). The GB2CPM shack is located in the middle of the Radio and TV Building and is one of the first exhibits visitors see as it is situated near the main museum entrance.

Brooklands Museum – sad news from there I'm afraid; the Radio Display is located on the balcony in the Stratosphere Building and because of COVID-19 restrictions is still closed to visitors. However, there is still plenty else to see and their winter opening hours are Thursdays to Sundays (10.00 to 16.00).

73, Peter G3ZPB

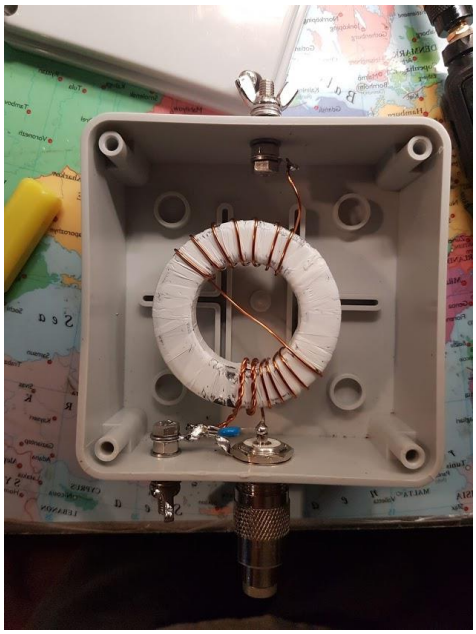
HF ANTENNA AT G7VAK QTH

On return from Sri Lanka in January 2019 I discovered loading up on 80m was not possible; 40m was also affected and I was discovering RF in the shack. Obviously, HF operating was not possible. Looking out of the shack window I discovered my feeds had been pulled with some force causing them to become un-dressed. As many know my left leg was damaged in an accident in Cambodia in 2017 and was not up to spec after major surgery. The rub was that I was unable to climb a ladder to sort out my problems.

I mentioned the loading problems to Quin one night as he gave me a lift to SRCC, and he kindly offered to do the ladder work. Then came lockdown. I had been perusing the internet for an alternative to my 80 to 6m long wire. I turned up an inverted L article in a back issue of Practical Wireless, but it seemed a little hit or miss and the remarks from those using didn't inspire confidence. Then I found detail of the EFHW or End Fed Half Wave antenna. Original articles suggested 40 to 10m; the published SWR curves suggested a pre-tuned length giving sensible values. Reading on I discovered a worth of discussion and development including the addition of a loading coil and around 2 metres of extra length to allow 80m coverage. A number of YouTube tutorials on this antenna were also discovered and became late night viewing as I considered a new project.

During this my wife and I decided on decking and a pergola at the end of the garden which was ably done. This meant the mast for my long wire and anemometer had to come down. The coax to the Unun box at the long wire feed point was cut, the long wire came down. With the new decking it was then decided we would have a new wooden shed, a miniscule 5 x 3ft in size. Upon ordering in mid-June, we discovered the delivery date, due to no stated reason, was September. I contacted a non-radio amateur to give me some help erecting the shed and then hit on the idea that he could help with the new antenna if he was game [he was]. The bits were gathered together and assembled.

First up was the 49:1 Transformer wound with 0.914mm [20SWG] enamelled Cu wire on a FT240-43 toroid and mounted in a junction box with stainless steel bolts for external connections and an S0239 receptacle to accept the input. A 1:1 current balun was wound using coax around a FT240-43 toroid and mounted in a junction box again using the SO239 receptacles.

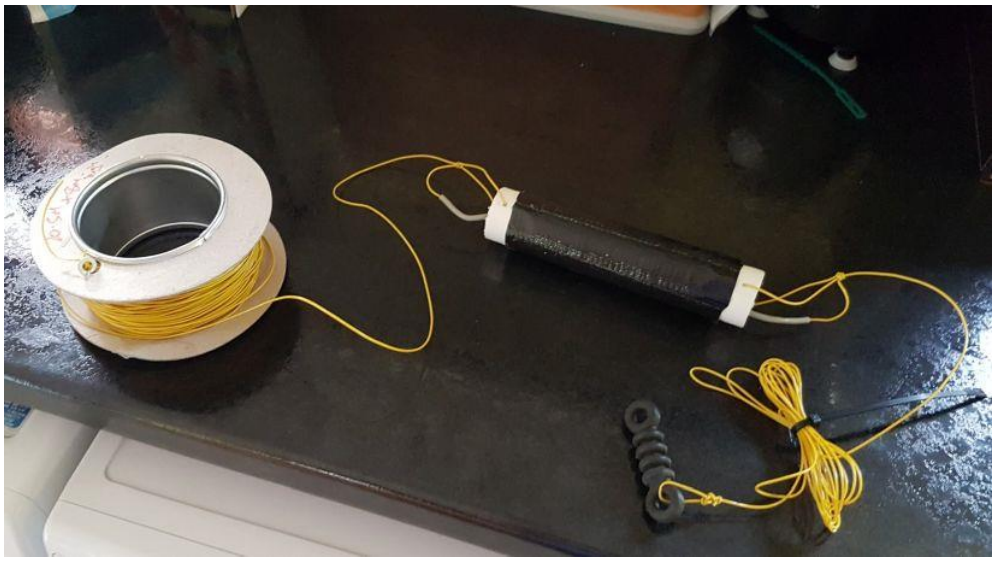


49:1 UNUN

1:1 BALUN (4M AWAY FROM ANTENNA FEED)

Next came the winding of the 80m 110uH loading coil cum choke. The figures given in the tutorials and indeed some of the pdf docs suggested 45mm diameter light walled PVC drainpipe. Not having any PVC pipe available of sensible size, I put out a request on my road's community 'WhatsApp' and was rewarded with a metre length of 38mm diameter, meaning a few calculations or an online calculation. Both were carried out and adding 15% more to the online calculation brought the value to 105uH; a few more turns and the additional 5uH were added, A few layers of 'Gaffa Tape' sealed the coil and holes drilled to allow the antenna wire to support the former.

The recommended start length for the additional length to cover 80m was 2.5m. This, along with an insulator at the free end were measured and tied to one side of the inductor. The length for the 40m was stated between articles as between 20.1, 20.35 or 20.5metres in length. I opted for the latter; 20.5 metres were measured out. The resulting construction was reeled back, tidily, onto the cable reel.



REELED UP, READY TO GO

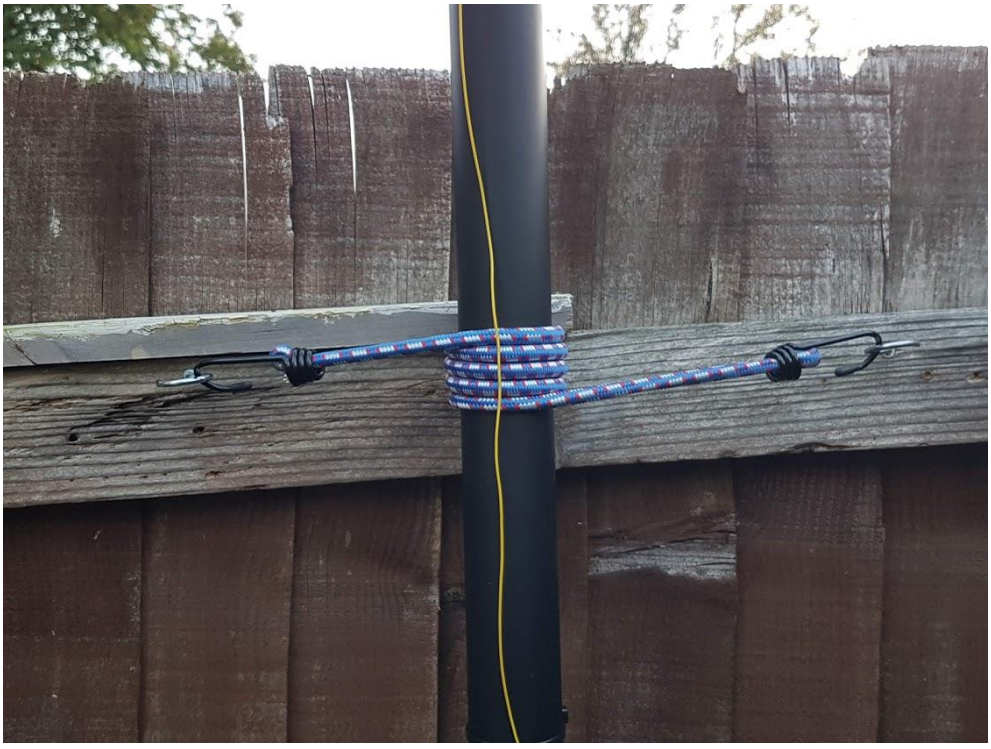
The wire recommended for the antenna was 0.7mm dia. I had single strand but thinking of strain etc I opted to purchase stranded 0.7mm. Described as lightweight SKU AWLW-101 it cost £8.25 from Sotabeams and was 0.7/7. I already had a 10m roach pole that had been purchased to support a Slim Jim for 4m. It was the inability to climb a ladder that prevented me from running coax for this; my shack being on the top floor. I'm a great believer in my antennae not showing any degree of permanency; there's no way I'll be seeking planning permission for such a small impact item, paying for the privilege of applying, and having it refused. I have had a wire antenna up for at least 38years in this property with no complaint and this one, so far, has yet to attract any notice.

As my friend and I erected the shed he said he wouldn't be going up the steps as he felt at 82 it was asking a bit much. At 70 with a duff leg I climbed up, managed the roofing felt and nails well, deciding then the ladder work might be easier for me. I had previously passed the draw strings and prepared coax with PL259 plug to connect to the current balun through the access pipe from the shack. Climbing the ladder, I cut away the unwanted coax runs from previous use as well as the old counterpoise and radio earth wires. Managing to get down the ladder safely the coaxial cables, new radio earth and counterpoise wires were drawn down to a manageable level.

Again, using previously laid draw strings the coax and other wires were drawn along the respective routes. The antenna cable was run out and fixed to the roach pole with a length of 8m; the Unun box was already fixed to the pole using ty-wraps.

UNUN BOX AND FEED POINT [NOTE FLOWER POT SWIVEL POINT]

With two hooks fixed into the fence at the end of the garden and a hole in to which a small flower pot was inserted, the base of the 10m high roach pole was dropped into the flower pot and fixed into position using a bungy cord wrapped a few times around the pole diameter and hooked onto the fence.



G7VAK NON-PERMANENT AND STRESS FREE MOUNTING

The free end of the antenna run, 14.5m from the pole, was retrieved and fishing monofilament [40lbs breaking strain] tied with six knots. The end was drawn up to the shack window above which is a hook. A loop was tied into the monofilament and neatly placed on the hook using an ‘easy reach’ tool.

110UH LOADING COIL AND MONOFILAMENT ON INSULATOR

The resulting antenna was good.

GARDEN VIEW OF POLE MOUNTING FROM SHACK END (GREY POLE SUPPORTS QUARTER WAVE ON 40M FOR AUTO MONITORING)

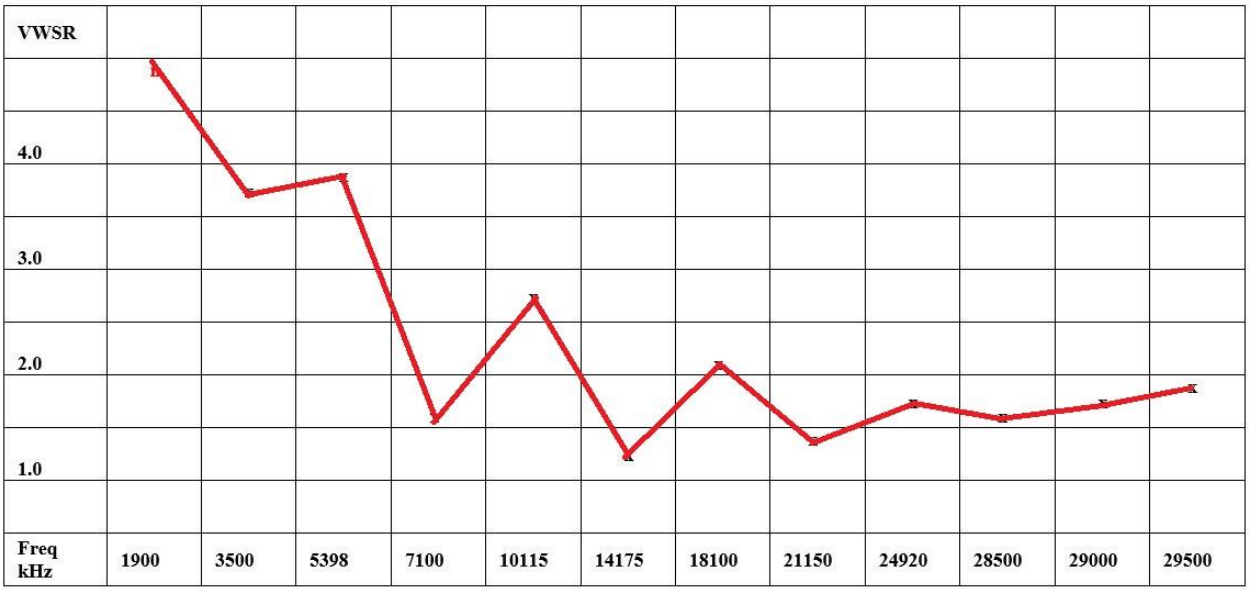
Once a PL259 was soldered to the shack end a set of readings were taken using my antenna analyser. The actual tuning was said to be tricky and to be honest I decided as a non-DX chaser or contester the losses incurred using an antenna matching unit wouldn't really matter as long as the VSWR seen by the transmitter was a respectable one.

The readings I found were:

3700kHz	3.6:1	18100kHz	2.0:1
5398kHz	3.9:1	21150kHz	1.4:1
7100kHz	1.5:1	24920kHz	1.7:1
10115kHz	2.8:1	28500kHz	1.5:1
14175kHz	1.3:1	29000kHz	1.7:1
		29500kHz	1.8:1

All the above were easily matched, giving a sensible VSWR using a conventional matching unit.:

Frequency vs VSWR of EFHW at G7VAK



Does the antenna work? For me proof is in the pudding and on 30th September at 2235z I put out a CQ on 80m and worked a station in Crayford, Kent. Not a good report and probably on a groundwave. The next morning, with my XYL risking her life shopping in Croydon town centre, I answered a call on 80m from the RAFARS net. Conditions were not good and band noise was reported as S7 from most stations. I managed a 5/9+ from a station in Poole, Dorset and 5/5 and 4/7 from others. Later, I opened my emailer to discover an encouraging email from a MW6/2W0 station near Powys telling me I was a steady 5/9+20dB with him. These results were encouraging.

I've never claimed to be a CW operator, my slow short-term memory due to neurosurgery in 1967 puts paid to that, nonetheless I put a 'CQ TEST G7VAK' out on 40m CW using my QRP unit [3W] only for someone to come back telling me with QRS and informing me I was a LID! Not over worried I sent 'IMI QTH' but they were gone. I was very tempted to send QSS but behaved myself as I should.

Back on the FT897 and again on 40m I copied HB0/OT2P, an expedition station in Lichtenstein, operating near the Swiss border. He was 5/8-9 with me and running 100W. I returned his call and a quick QSO ensured during which I received a 'solid 5/9 +5 to 10dB.' A most satisfying report.

The new HF antenna works almost to spec. The losses from using poor coax is to be tolerated as are those from matching. Windage seems good so far as we have had some 20mph gusts here and the thing remains up. I am sure a trim to the 2.5m long 80m section would reduce the high SWR seen in that band but it is easily matched so such a task remains *sine die.*

Paul Beaumont G7VAK

RSGB "BEYOND EXAMS" INITIATIVE

At the recent AGM, a question was asked about the RSGB "Beyond "Exams" initiative. This is a scheme to enable the newly licenced amateur radio operator to build experience with the help of their local club. They would have fun whilst discovering more about amateur radio and what it has to offer. The scheme is run through accredited clubs and consists of 23 activities, based around five themes.

I have put up on our website https://www.srcc.uk more details about the scheme on the Training link. Click on: https://www.srcc.uk/wp-content/uploads/2020/10/RSGB-Beyond-Exams.pdf The RSGB link is: https://rsgb.org/main/blog/news/rsgb-notices/2020/04/30/beyond-exams-resources-launched-by-the-rsgb/

The committee would be interested if any of the membership would be interested in helping in such a scheme for the SRCC. Please email secretary@srcc.uk – thank you.

73, Ray G4FFY

AND THERE'S MORE….."

Do you remember the above catchphrase from Irish comedian Jimmy Cricket back in the 1980s? Well, it's appropriate this month! There is a fair amount of material still to hand, but given the length so far, it has been stood over until next month. This includes a couple of "Here and There" items (on why standard amateur antenna / feeder impedance is 50Ω, and (humorous) on circular polarisation) plus full articles from Rick M0LEP and Paul G7VAK. So watch out for next month – but meanwhile keep your fingers going on your keyboards as more material is always gratefully received!

SRCC LEAGUE TABLE – SEPTEMBER 2020

The number of entries in the **CONTACTED** section of the League Table for September 2020 was six - two up of the number for August. Once again, there were no entrants in the **HEARD** section. The monthly tabulation is shown below.

ENTRANT	WORKED DXCC / SQUARE	WORKED SRCC MEMBER	WORKED IN CONTEST	POINTS THIS MONTH
G4LZE	58	1		118
G4FFY	47			94
M0LEP	18			36
G4FYF	16	1	1	35
G3WRR	10		10	30
G3ZPB	7	7		28

With the welcome increase in numbers, there has been a significant change around in positions. G4LZE and G4FFY exchange positions one and two, and M0LEP and G4FYF similarly exchange positions three and four, with G3WRR and G3ZPB returning to the fold in positions five and six.

Colin's scoring contacts were as usual all on FT8 with the exception of his regular JS8 sked with Peter G3ZPB (on 40m this time). All his activity this month was on HF (perhaps with the end of the 6m sporadic E season the band has lost some of its charm for him), with 54 contacts. 90% of these were on 40m, with a singleton on 20m and four – all in Africa - on 17m. He found conditions not quite as good as in August: nevertheless 39% of his scoring contacts were outside Europe – nine in Asia, five in Africa and North America, one in South America and one (YB – Indonesia) in Oceania. These included some interesting DX, in particular (author's opinion) 5T (Mauretania) and 9J (Zambia) on 17m.

Ray's 47 scoring contacts were all on FT8 with one exception, which was on FT4. Like Colin, his contacts were all on HF (probably for the same reasons) and 70% of them were on 40m, with a dozen or so, in descending order, on 80m, 40m, 30m and 20m). Just over 75% were with European stations, the "outsiders" being five from North America, three from Africa, two from Asia and one from South America. Interesting DX included three of the Africans worked by Colin (5T, EA8 & EA9), 8P (Barbados) and ZP (Paraguay) – a new country for Ray. His log reflects Colin's view that conditions were not as good as those in in August.

Rick's 18 scoring contacts were as usual focussed on SOTA and he took advantage of activity in the European "End of Summer" SOTA day to pick up seven new countries during breaks in gardening! These were all European except UA9 (Asiatic Russia).

Steve's comment on his September entry was "nothing of note" – but nonetheless he made 17 scoring contacts mostly on 40m & 20m plus one on 6m.

Quin's return to glory (?) was once again a lacklustre entry consisting of 10 scoring contacts with big squares made supporting the Club in the 4m AFS contest. All were within the UK but included a portable station near Aberdeen at 636km – a fairly good haul for 4m.

Peter's 14 scoring contacts covered a mixture of bands (from 40m to 70cm) and a variety of modes and included 7 SRCC members.

The cumulative scores are shown in the table below. The relative positions of entrants at the end of September is identical to that at the end of August.
:

ENTRANT	1/ 20	2/ 20	3/ 20	4/ 20	5/ 20	6/ 20	7/ 20	8/ 20	9/ 20	10 / 20	11/ 20	12/ 20	TOTAL
G4LZE	101	125	124	182	356	176	128	166	118				1476
G4FFY				6	124	480	357	302	94				1359
G3EUE	98	104	114	87	129	18	76						625
G3ZPB	24	42	38	84	53	78	141		28				488
G4FYF	23	32	62	48	42	50	60	42	35				394
G3WRR		24	57	24	141	102	8		30				386
M0LEP	16	7	10	10	56	30	22	18	36				205
G3SRC	78	12					63						153
G4WGE	6												6

The SFI continues to creep up gradually with wobbles along the way, but at the time of writing was 76 – a figure I don't recall seeing for quite a while – so fingers crossed (again)!

73, Quin G3WRR (SRCC Leaguemeister)

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	Wednesday	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…..

Before signing off this month, I'd like to draw your attention to an on-line magazine produced by the RSGB – the monthly RSGB Affiliated Clubs Newsletter, which is available to RSGB members and non-members alike at https://rsgb.services/members/clubs/news/ . Although much of the information contained is available to RSGB members in the next issue of *Radcom*, there is information that will also be of interest available to non-members (bearing in mind that only around two thirds of SRCC members are also RSGB members). As the November issue also contains an interesting free offer to non-members, it's well worth a look – the latest copy is included with this Newsletter.

Anyway, that's all for now – see you on the Zoom calls or on the air…and keep COVID free!

73, Quin G3WRR