



SURREY RADIO CONTACT CLUB

JUNE 2023 – No 970

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MONTHLY MEETINGS NORMALLY ON 1ST AND 3RD MONDAYS 7.30 FOR 7.45pm

Meetings at Trinity School, Shirley Park, Croydon CR9 7AT

1st MEETING Monday 5 June: “Noise Reduction” by John G8MNY

2nd MEETING Monday 19 June: Fix-it, Move-it-on and Social Chat with John G8MNY

SRCC COMMITTEE 2023/24

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Committee Member	G7RUX Jason Gardner	07515 357630
VHF NFD Co-ordinator (Co-opted)	G3ZPB Peter Burton	01737 551413

EDITOR'S OPENER

Dear Members & Friends,

Welcome to the June 2023 issue of the SRCC Newsletter.

Firstly, welcome to a new member who has recently joined SRCC. He is Phil Mead who lives in New Addington. Phil comes from a CB background but intends to go for his Foundation licence once he can find a suitable course. He comes across as very keen and you may have already met him at one or more SRCC meetings. He currently has the club's IC703 on loan and, while on a steepish learning curve, finds listening on the bands (mainly 40m so far, I think) stimulating. The picture shows G3WRR (left) trying to explain constant impedance connectors to him. We hope you have a long and enjoyable involvement with SRCC Phil.



Life here at Mission Control Norwood is just entering a particularly busy phase. On the radio front, there are three major contests between now and the end of July. First is HF NFD this coming weekend. The team (self, Alun G4WGE and John G4CZB, a former Purley resident until he escaped to Northampton) will be operating from a site near Northampton to which John has access. This CW only event covers all six of the pre-WARC HF bands: the Restricted section (which we will be entering) only allows you a single antenna. Most entrants - ourselves included - use a 256(ish)ft doublet fed with open wire feeder. (Hint - never, ever let a cat get near open wire feeder...). The antenna SWR varies wildly from band to band and setting up ATUs for them all and then managing band changes quickly can be a problem. This year, building on efforts last year, we will be using an auto ATU and think we have probably got it right this time! We usually make around 800 contacts, but it is interesting to see how the improved HF conditions will affect things. I expect to be back for the SRCC meeting on Monday - but if I display an unusually vacant expression that will be exhaustion! HF NFD is followed by VHF NFD a month later: there's little more to add to what is said later on, but again a tiring weekend. And finally at the end of July Alun G4WGE and I will be going over to the Isle of Wight with the Addiscombe ARC crew (Mike G3VYI et al) to take part in the Islands On The Air (IOTA) Contest using the call G4ALE/P. It is another HF contest (both SSB and CW this time) and is based on the well-known IOTA award scheme in which certificates can be gained by working different islands, which are allocated five-character identifiers by the scheme. Contacts with island-based stations count as multipliers, making contacts with the Isle of Wight (identifier EU120) attractive for other entrants. The proof of the pudding is in the eating: in 2022 we were again "in the ironwork" having won the RSGB IOTA Multi-Op LP DXpedition Trophy. Again, an exhausting weekend but fun - and the IoW is a nice place to visit!

On the non-radio front, I seem to be quite heavily committed with away breaks (not a bad thing, of course). Firstly, I am going down to Porthcurno in Cornwall with an old friend from university (half a century ago...) where we expect, amongst other things, to visit the Telegraph Museum - and while in the area will try to drop in and see our member Terry G4CDY. Then in early August it's down to Exmouth in Devon with my son and his daughter Francesca (a.k.a. Moo) for ten days - and after that up to Lincolnshire in early September for a week with my daughter and her daughter Summer for a week. Probably after all that I will be ready for a holiday...

But enough about my rich and varied social life - onto the good stuff... **73, Quin G3WRR**

SRCC - CHANGE OF VENUE

Many of us have been inconvenienced by the irregularity of our meeting dates over the last few months. These were the result of a new Trinity School policy of not opening up during school holidays in order to save energy costs. As a result, the Committee has been looking for an alternative venue which would avoid this problem without introducing other inconveniences. Two such venues have been considered and visited, leading to the choice of one of these. It is:

The Jubilee Room
St. Paul's United Reformed Church
Croham Park Avenue
South Croydon
CR2 7HF

A couple of pictures follow, but more general information is available at:

<https://www.stpaulsurc.org.uk/>

Our last meeting at Trinity will be on 3rd July and our first at St. Paul's on 17th July.



The Jubilee Room is through the arched door and first right - and the scaffolding has now been removed...

73, Quin G3WRR

PREVIOUS MEETINGS

May A meeting (15th May) This was a briefing / initial planning session for VHF National Field Day (VHF NFD) 2023, which takes place this year on the weekend of 1st/2nd July. The session was led by Peter G3ZPB. VHF NFD is a multi-band VHF portable contest which has been run by the RSGB since 1963. SRCC took part in, and in fact won, the initial event. The club has taken part for most (perhaps all) of the years since then, initially in its own right then for the last decade as part of North East Surrey Contest Group (NESCAG) consisting of SRCC, CATS and Addiscombe ARC (plus a number of unaffiliated friends). The decision last year by AARC to “go it alone” resulted in the need to review how the event is conducted. The aim of the 15th May meeting was twofold: firstly, to tell the SRCC membership – as well as CATS and others who had also been invited to the meeting - a bit about VHF NFD (which within SRCC has traditionally been run by a fairly small core group) with a view to attracting greater involvement from the membership, and secondly to expose the current thinking on site, which bands to use, allocation of bands to stations, equipment to be used etc. as a basis for discussion. In summary:

- operation will be from the usual site on Warlingham Ridge just off the B239, setting up from the Friday afternoon (30th June)
- we will be operating on all five bands – including, largely on an experimental basis, 23cm for the first time in a number of years
- there will be three stations:
 - 6m/4m led by Quin G3WRR
 - 2m led by Alun G4WGE
 - 70cm/23cm led by Peter G3ZPB – this is facilitated by the availability of the club's IC9700 which covers both bands: and certain items for 23cm that have been purchased specially
- logging will be by computer using either the Minos or N1MM+ programs, with support available for those who have not yet developed the skill of computer logging for themselves while operating
- the first few hours are likely to be fast and furious, so this is a time for operators with previous contesting experience. However, by mid Sunday morning, activity has usually slowed down and by this time there is likely to be the opportunity for anyone who "wants to have a go" to do so.

Peter G3ZPB took a list of attendees who are potentially interested in taking part and has sent an e-mail explaining the above in greater detail (with more information to follow) to them. If you were unable to attend the meeting but are interested in attending VHF NFD, please e-mail him (peterg3zpb@gmail.com) so you can be put on the list.

May B meeting (22nd May) This was the usual Fix-it, Move-it-on and Social Chat session.

FUTURE MEETINGS

June A meeting (5th June) In a change to the previously advertised topic, this meeting will now be a talk on Noise Reduction presented by John G8MNY.

June B meeting (19th June) This will be the usual Fix-it, Move-it-on and Social Chat session.

July A meeting (3rd July) This will be the “short talks” evening previously advertised for the June A meeting. This will open with a talk by John G3MCX on his experiences as a wireless operator in

the Far East during his National Service in the 1950s. It will be followed by Quin G3WRR with a presentation on an ATU built from ex-military parts. However, if John believes there is enough material available to do a full presentation on his National Service, the ATU presentation will be stood over to a later date. This will be our last meeting at Trinity as moving to St. Paul's.

July B meeting (17th July) This will be the usual Fix-it, Move-it-on and Social Chat session. **Our first in the Jubilee Room at St. Paul's United Reform Church.**

GB23C AND THE CORONATION

A special events station was run by Cray Valley RS in Greenwich over the period 3rd – 9th May to celebrate the coronation of King Charles III. SRCC member Alun G4WGE was one of its operators. More detail of GB23C is available at <https://www.cvrs.org/gb23c/> but Alun, a keen photographer, blasted off a large number of photos, some of which are (with thanks and due attribution to him) attached for your interest.



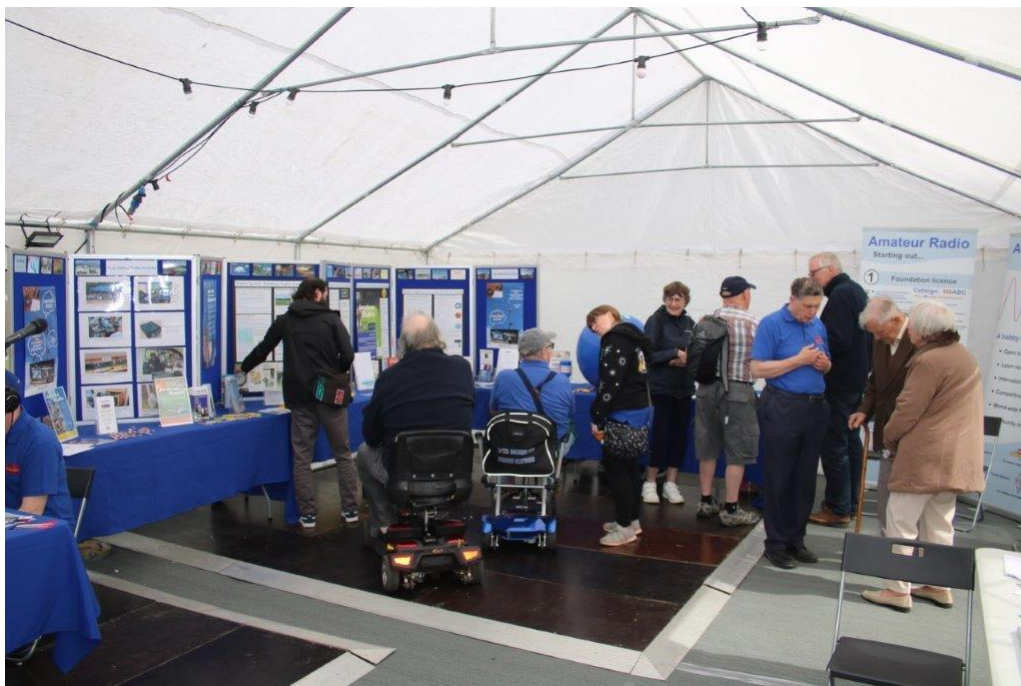
EXTERNAL VIEW OF GB23C SETUP



AND NOW FROM THE INSIDE



**NOTE MASTS
OF CUTTY
SARK IN THE
BACKGROUND**



GOOD TURNOUT OF MEMBERS OF THE PUBLIC VISITING GB23C



OUR MAN IN GREENWICH – ALUN G4WGE LOOKS AS IF HE IS ENJOYING HIMSELF...

NOT STRICTLY RADIO BUT I'M CHUFFED! BY STEVE G4FYF

Have had many solar garden lights over the years. If got a year's use, considered that a bonus. When failed, I usually give them a quick and dirty examination. Usually, failure seems to be due to moisture ingress corroding battery terminals and switch. If a quick wire brush of battery terminals and test with charged battery doesn't work it is consigned to the bin; being usually from Poundland, not worth further effort.

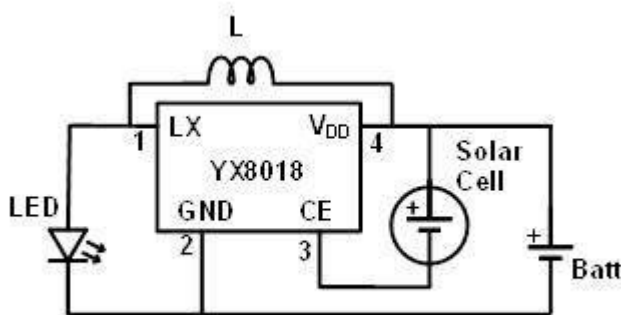
However, we have a more expensive, artistic, solar ornament that lost its glass globe during the winter. As usual, initial examination showed terminal corrosion and switch was obviously suspect. I wanted to rescue this one 'cos, well, I quite like it!



Since switch is always 'on' decided to remove switch and wire bridge PCB pads for a constant 'on' condition. But whilst extricating the PCB the flimsy wires to the solar panel and LED became detached from the PCB.

Having identified the solar and LED wires, I needed to extend these to solder back to the PCB. This was like neural surgery, not a lot of space and not much copper in the flimsy wires. Made to a cost, not to a quality?

But where do they go on the PCB? A bit of reverse engineering required.



I found a generic circuit that seemed to match my PCB. When sunlight falls on the solar cell during daytime, the solar cell charges the rechargeable battery and turns LED1 'off.' When no light falls on the solar cell during night-time, the IC draws power from the battery and provides constant current to light up LED1. Since the solar cell acts as a light sensor, there is no need of a phototransistor or light-dependent resistor for automatic switching of the LED in the dark. The chip is more or less just a gated oscillator which runs

at approximately 200 kHz driving an open drain NMOS switch. The circuit pulses the small inductor to step up the voltage to drive the LED in a similar way as a '*Joule Thief*' circuit.

To reduce the component count, the application of the YX8108 chip is rather ingenious. They use the internal ESD diode between the CE (chip enable) input and ground for charging the NiCad cell from the solar panel, but also use the voltage (or lack thereof) from the solar panel to detect when it is dark enough to turn the LED on. The CE input includes a small pull-up current. I measured about 30 μ A with 1.25 volts on V_{DD} . This small current will pull pin 3 high gating on the oscillator if the solar panel is not generating more than 30 μ A of current. An alternative method of controlling the CE input shown in the datasheet is to use a light dependent resistor CdS photocell between CE and GND.



Given that, traced the PCB tracks and soldered extended solar and LED accordingly. Refitted PCB and lo – it works! Use of combination of hot glue and two-part epoxy glue to refit the glass globe and it's its back in the garden. Well chuffed!

[See: <https://ez.analog.com/adieducation/university-program/b/blogs/posts/hacking-an-led-solar-garden-light> for more info]

73 Steve G4FYF

HERE AND THERE

A couple of snippets this month, both in form of links to information on the internet, which have shared themes of the history of communications....

First, most folks know something about the part the then immature technology of wireless took in the 1912 Titanic disaster. This link <https://www.bbc.co.uk/news/uk-wales-65398807> tells a fascinating tale: it puts an additional slant on the story and is well worth a read! Many thanks to Kim G6JXA for passing it on.

And second, until the advent of direct sampling receiver architecture in the last decade or so, all (well, virtually all) receivers used the superhet (short for superheterodyne, in its turn short for supersonic heterodyne) principle. This reigned supreme for around a century. This link <https://www.electronics-notes.com/articles/history/radio-receivers/superheterodyne-radio-receiver.php> provides a fascinating explanation of how the earliest receivers progressively developed into an architecture that it still familiar and extensively used today. Also, well worth a read!

73, Quin G3WRR

SRCC LEAGUE TABLE – APRIL 2023

April proved to be quite an eventful month for the League Table!

Firstly, two of the regulars were unable to submit entries. As reported last month Ted G3EUE had a fall and, having not had any input from him for April, I am assuming that he is taking a while to recover. I am intending to contact him shortly to see if everything is OK. Also Colin G4LZE had no antennas up which is as good an excuse as any radio amateur can have – in the same class as having a note from your mum letting you off football.... But on the other hand, we have had a first-time entry from G7RUX – welcome aboard Jason – bringing the April entries to seven. His entry contains some interesting stuff – more detail is included below. The competition at the top has been as close as it is possible to be, with Ian M0CGF pipping Ray G4FFY to first place by a single point, breaking a chain of continuous wins by Ray that, with two exceptions, goes all the way back to January 2022. And finally, last month's listing contained some Fake News – and your scribe's fault at that! Having nothing at all in my log for March, I had accidentally submitted my April results in error. This has been rectified by showing a null score for March and the correct April score in the annual listing. The monthly listing for April is as follows:

ENTRANT	WORKED DXCC / SQUARE	WORKED SRCC MEMBER	WORKED IN CONTEST	POINTS THIS MONTH
M0CGF	55			110
G4FFY	48	1	11	109
G3ZPB	39	1	13	94
G7RUX	37			74
G4FYF	22	2		48
M0LEP	10	3		26
G3WRR	7		7	21

Despite being April leader, Ian M0CGF admits to having been keeping a low profile on the amateur radio front. 88% of his scoring HF contacts, and all his VHF ones, were made using FT4 or FT8: the rest were on SSB. They included all continents except Antarctica, with 62% in Europe,

18% in Asia, nine in South America 5% in North America and 2% each in Africa and Oceania. Most of his HF scoring contacts were made on 20m (42%) followed by 40m (25%), 12m (17%), 10m (14%) and 15m (3%). 10m included contacts with Asia and North and South America, but in terms of interesting DXCCs worked from the rarity point of view, 12m probably takes the prize with contacts with 3W (Vietnam), 4S (Sri Lanka) and EK (Armenia). His 6m contacts included a nice crop using sporadic E, the best being CE (Chile).

Ray G4FFY in second position also modestly claims April as a “low activity” month with domestic activities, including taking one of his dogs to the vet, taking priority. The latter caused him to miss the FT4 contest: however, Ray advises he has now been doing a fair bit of FT8 operating from the motorhome during May so we will see the result of this next month. His scoring HF contacts included all continents except Oceania. 20m, with 70% of contacts, was dominant, followed by 17m (19%, 40m (8%) and 10m (3%). The last was a contact with Peter G3ZPB using the Var-AC data mode described in last month's issue. His VHF scoring contacts were, except for two using SSB in the 70cm UKAC, all made in the 2m & 70cm Activity Contests.

Peter G3ZPB comments that his scoring contacts were “nothing particularly exotic in terms of DX”, most being made using FT4 or FT8 in the HF and 70cm contests. He also made a few contacts using SSB in the 2m UKAC and a few using Var-AC – including one with Ray G4FFY – on 20m.

In submitting his first League Table entry Jason G7RUX comments “I've had a fairly active month on HF, having sorted my problematic antenna!” Well, whatever he did, it certainly did the business as his entry – all made using 2.5W using FT4 or FT8 – included all continents except South America and Antarctica. Contacts with (among others) VK (Australia), YB (Indonesia) and JA (Japan) were very impressive ... Please keep them coming Jason!

Steve G4FYF comments “Who flicked the switch from 'Sun Off' to 'Band Noise On'? The fun recently had on the higher HF bands suddenly departed. So, April log back to usual Europeans on 40 & 20 metres. Recent RSGB Newscast intimated that the next solar cycle is predicted to arrive earlier than expected. We will await and see”.

Rick M0LEP comments “It's not been the busiest of months for me as far as the radio is concerned, but here's my entry for April..... A little SOTA chasing, and the usual Monday morning SRCC Net. However, I had brief SOTA QSOs with three activators in Japan on 15 metres one morning, thanks to some exceptional propagation during a busy weekend of SOTA activating over there”.

And steadfastly bringing up the rear, Quin G3WRR repeats the comments which he incorrectly submitted last month...” [The entry] consisted of three inputs from RSGB Contests, the 80m CW and SSB Club Championships and the 6m UK Activity Contest. None of the HF contacts were outside Europe, and all the VHF ones were within the IO91 “home square”: so once again rather a lacklustre month! All [the] scoring contacts were made using the same antenna, [the] HF antenna (an inverted L at 20ft with a 50ft top). Unsurprisingly, its performance on 6m was not sparkling...”.

The annual table is shown below. Except for the entry from Jason, the positions are the same as for March.

ENTRANT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
G4FFY	155	213	95	109									572
G3ZPB	43	150	131	94									418
M0CGF	70	84	109	110									373
G4FYF	24	38	100	48									210
M0LEP	71	40	46	26									183
G3WRR	63	21		21									105
G7RUX				74									74
G4LZE	46	12											58
G3EUE	10	10											20

Despite Steve G4FYF's comments about HF conditions, they do generally seem to be holding up – it will certainly be a shame if cycle 25 proves to be a bit of a flash in the pan. But if so, at least in the short term we seem to have the emerging sporadic E season to keep us amused!

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 q.g.collier@btinternet.com.

BAND/FREQUENCY/MODE	DAY OF WEEK	START TIME (clock)
160m / 1905 kHz / LSB	Sunday	9.30 am
80m / 3710 kHz (+/- QRM) LSB	Monday	9.00 am
10m / 28.078 MHz / JS8	Wednesday	10.00 am
6m / 51.55 MHz / FM	Tuesday	8.00 pm
4m / 70.30 MHz / FM	Thursday	8.00 pm
2m / 144.6125 MHz / Digital Voice	Friday	7.30 pm
2m / 145.35 MHz / FM	Friday	8.00 pm

* The Friday night Digital Voice net usually starts with D-star.

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.....

Nothing more to add this month – see you next time!

73, Quin G3WRR – SRCC Newsletter Editor