



SURREY RADIO CONTACT CLUB

83rd Anniversary Year - Founded 1935

OCTOBER 2018 – No 914

SRCC supports the RSGB Child Protection Policy

CLUB NET 1.905 MHz LSB Sunday 9:30am
 CLUB NET 70.30 MHz FM Thursday 8.00pm
 CLUB NET 145.35 MHz FM Friday 8.00pm

CLUB WEB Site: <https://www.g3src.org.uk>

Hon. Sec. John Simkins G8IYS
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Newsletter articles/distribution: newsletter@g3src.org.uk

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

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

FIRST MEETING Monday 1 October:

**September Catalogue Sale Final Session & Autumn Surplus Equipment Sale
 Auctioneer: Gareth G4XAT**

SECOND MEETING Monday 15 October:

**Final Stage of G4CCW SK Catalogue Sale
 plus Fix-it, Move-it-on, Skills and Advice Night, Social Chat over tea/coffee
 with John G8MNY**

SRCC Committee 2018/19

Chairman & Club Meetings	G3ZPB Peter Burton	01737 551413
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Dear Members & Friends

Hello and welcome to the 914th edition, the October 2018 Issue, of the SRCC Newsletter - edited by John G8IYS Hon Sec.

Hon Sec/Editorial Spot

Thank you again to all who have renewed their membership and made the necessary funds transfer. The couple of individuals who have not renewed are no longer members. However,

whilst the money-income is great and helps continue the life of SRCC, a lot of renewal forms are still outstanding. The General Data Protection Regulations (GDPR) May 2018, requires that each individual gives specific permission for their data to be held on a database and that suitable arrangements are in place to protect the individual from unauthorised access to that information. SRCC maintains a membership database which contains, among other things, the email address of members to which this Newsletter is sent. As Editor, it is my responsibility to ensure that I send copies only to addressees who have given consent to receive it. In actuality, at this point in time, 2/3 of the membership has failed to give such permission, so this might be the last Newsletter they receive - even though membership subscription has been paid. So, not just to keep me from a hefty fine - the rest of the Committee too, please send your membership renewal form without delay to membership@g3src.org.uk . Please do not disregard this note. Some Court-cases have already been heard and penalties awarded, so this is important. As a fall-back, given that every member has been assured that their data is stored in a secure manner, if you cannot find the form which was sent to you, then at least send an email to membership@g3src.org.uk stating that you consent to your membership details being stored on an SRCC database and that you wish to continue to receive correspondence from SRCC. Failure on your part has to mean goodbye to any more information from SRCC. Really, really this needs action by you today. Furthermore, Officers of other local Clubs have informed us recently that they are receiving unauthorized distributions of this Newsletter (ie not sent directly to them by me, as Editor of this Newsletter) which includes content (text - not personal info) intended to be restricted to SRCC members for a period. The latter is why our Newsletter is only uploaded to our website about a month after the date of each issue and part of the SRCC Committee's commitment to serve our members well - and first! Our recommendation concerning information for other clubs is that if you want more than contact details and imminent meeting happenings, then apply to join that Club as well as SRCC. Copyright laws apply here also.

NEXT MEETINGS

First Meeting: Monday 1 October: Closure of September Catalogue Sale & Autumn Surplus Equipment Sale with Auctioneer: Gareth G4XAT

The September Special Catalogue Sale - Part 1 began at 1900 hrs clock time on Friday 14 September 2018 and ends at 1900 hrs clock time on Friday 28 September. A copy of the Catalogue was distributed to SRCC MEMBERS towards the beginning of September. Progress, on an open bid basis, has been reported on the SRCC Website.

That book is reopened for further bids at 20.00 hrs at the meeting on Monday 1 October. This constitutes Part 2 of the Sale and provides an opportunity for topping those bids made by the closure of Phase 1. This session will provide an opportunity also to pay for and collect any item won during Parts 1 and 2 or alternatively make funds transfer and later-collection arrangements. This session is open to SRCC fully paid-up members only. If you made a likely-winning bid and hope to collect or wish to further-examine the goods, please contact secretary@g3src.org.uk to say so and it will be transported to the meeting.

Please note that if an acceptable bid for any item is not received, the item may be withdrawn from sale. An acceptable bid is one considered high enough in relation to the "Guide Price" set out in the "Special Catalogue Sale" and will be at the sole discretion of the Auctioneer.

The Autumn Surplus Equipment Sale will follow. Sellable goods are welcome. The standard rules for conduct of this and any physical sale held on Trinity property are as follows:

It is very helpful for sellers to be in the meeting room by 7:30pm and to bring no boxes of “rubbish” please. All members and visitors whom they have brought along must sign the attendance book and all must be conversant with the rules. Note that the club accepts no responsibility for goods sold at this private sale, and the purchasers buy on the understanding that they are capable of determining the usability, fitness for purpose and SAFETY of goods obtained. The following also apply: 1. Only SRCC members are permitted to sell. 2. All items not donated for the benefit of the Club must be marked with the name or callsign of the vendor, a brief description and details of any reserve price. 3. Bids shall start at 50p and increment in steps of 50p up to £10 and £1 steps thereafter – unless determined otherwise by the auctioneer. 4. The Auctioneer, in his sole discretion, will determine what constitutes an acceptable bid. 5. Sellers will not be paid until all buyers have settled up. 6. The club levies 15% commission on all sales. 7. Please do not obstruct the doorway. This will facilitate escape in case of fire. 8. The school premises are NO-SMOKING.

Second Meeting: Monday 17 September: Fix-it, Move-it-on, Skills and Advice Night, Social Chat over tea/coffee with John G8MNY

PREVIOUS MEETINGS

First Meeting: Monday 3rd September Project Echo by George Emsden M0TPH Report by Quin G3WRR

The meeting was attended by 17 members and other visitors. George opened by explaining that Project Echo was responsible for the launch of the world’s first communication satellite (comsat). He said that the concept of communication satellites was first raised publicly in an article entitled “Extra-Terrestrial Relays” by Arthur C. Clarke (better known as a science fiction author) in *Wireless World* for October 1945. It addressed the key aspects of comsats, many of which have now come into use - including global coverage enabled by the use of three geostationary satellites. For this he was paid \$US15. In passing, it is interesting, without any criticism of Clarke’s vision, to note two aspects which did not come into use:

- in addition to earth / satellite links, inter satellite links were also envisaged
- since in 1945 photo-voltaic cells had not been invented, it was proposed that electrical power would be derived from satellite borne Stirling cycle engines (using solar radiation as an energy source) driving electric generators.

Clarke did not patent any of the ideas involved as many aspects of the technology required had not yet been invented, and the patents would have expired before he could have made any money from them. He later (humorously) produced “*A short pre-history of Comsats, or: How I lost a billion dollars in my spare time*”.

Other early space travel visionaries included:

Herman Potočnik (1892 – 1929) – a Slovene rocket engineer, focussed on long term human habitation of space

Konstantin Tsiolkovsky (1857 – 1935) – a schoolteacher, one of 17 children, who wrote over 500 papers. He made contributions on the technology of rocketry, including multistage rockets, steerable rockets and airlocks.

Early work on astronautics in the USA was conducted under the aegis of the National Advisory Committee on Aeronautics (NACA) founded in 1915. Relevant NACA projects included:

Work on the Bell X1 – the first supersonic aircraft

Recognition that a “coke bottle shape” was optimum for supersonic flight

- Cold War missile research

In October 1958, NACA became NASA (National Aeronautics and Space Administration). Its responsibilities included civilian human aeronautical research, robotic space programmes and satellites. The initial focus of satellite activity was not on comsat applications but on measuring atmospheric drag, which would have an impact on high altitude / high velocity aeronautics. This work was from January 1956 conducted under the Upper Atmosphere Research Panel (formerly V2 Panel) under William J. O' Sullivan. The International Geophysical Year (1st July 1957 – 1st July 1958) - which also spawned lots of pretty stamps - gave the USA and USSR an impetus to launch an artificial satellite. Being deadly Cold War rivals at the time, both were keen to gain the kudos of achieving this first. Internal rivalry also existed within the USA between the US Navy and US Army over the choice of launch vehicle between the former's Vanguard missile and the latter's Redstone missile. A panel chaired by James van Allen (after whom the radiation belts were later named) was responsible for selection of experiments to be carried by the US satellite, and after a period of frustration over a number of impractical suggestions, seven areas for analysis were identified (with initial conclusions in brackets):

- aerodynamic theory (if satellite drag can be measured, air density can be found)
- shape/size (a sphere is the simplest shape and presents a constant area regardless of orientation)
- drag forces (need low mass but large area)
- design considerations (forces on loads once in orbit are very low but 10G loads occur during launch. A strong satellite would be too heavy and insensitive for drag measurements, negating the point of the exercise)
- construction materials (had to be tough but flexible to allow folding and fitting into a nose cone, followed by inflation in orbit)
- temperature constraints (these range from 3^oK to perhaps 3000^oK in direct sunlight Reflective coatings plus suitable materials were already available which could handle low temperatures)
- trackability (three options were possible: (a) small radio transmitter – but that would be too heavy for a balloon, (b) optical tracking of a large bright object - but that was only possible in twilight hours, and impossible if cloudy, and (c) radar tracking would allow 24 hour availability, but radars of the day were not powerful enough to track something in orbit).

Meanwhile, John R. Pierce of Bell Telephone Labs (one of the team who had developed the transistor) had been (from 1952) developing ideas for comsats, which he initially published under a pseudonym in Amazing Science Fiction magazine to avoid being mocked. His initial ideas were based around the use of passive reflectors (ie. effectively mirrors) rather than the more complex active satellites introduced later. But by 1955 his ideas, and acceptability of the

concept, had advanced to the point at which he “went public” with an article entitled “Orbital Radio Relays” in Jet Propulsion magazine.

Ultimately, the USA was pipped at the post by the Soviet Union with the launch of Sputnik – an active satellite - on 4th October 1957 (to coincide with the 40th anniversary of the Russian Revolution), but work in the USA continued. Following tests of dozens of potential materials, Mylar (made by Dupont), normally used for recording tapes and freezer bags, was found to be suitable for balloons, with an ability to stand temperatures between -80^oF and +300^oF and, when made in a special version half the thickness of a cigarette packet wrapper, to have a tensile strength two thirds that of mild steel. And an ability to add a thin layer of metallisation (to protect from solar radiation and provide radar reflectivity) was evolved by Reynolds Metals. Meanwhile, considerable “mission creep” was taking place – the required balloon diameter grew from 20in to 30in to 12ft. This made the ability to pack it into a rocket nose cone tricky, but this was finally cracked by making the sphere up from triangular “gores” and gluing them together. Despite a number of failures, a launch of a 12ft balloon was finally achieved.

Meanwhile, further drastic mission creep and scope had taken place: the emphasis had now shifted to comsats. These were required to be 10 storeys high, earning the nickname “satelloon” – and previous experience with 12ft balloons was of no use at all. To support this new focus, a Task Group of 200 people was set up in 1959, but activities were not helped by a turf war between NASA’s Langley and Goddard sites. A particular problem was the ability to inflate satelloons in orbit, and no existing vacuum chamber was big enough to support realistic experiments on this. A dedicated 41ft vacuum chamber was ultimately built, together with a 150ft folding chamber, but initial tests at atmospheric pressure were carried out at a USN blimp hangar at Weeksville NC. Inflation was achieved in 12 hours, and although the satelloon came apart at the seams, useful lessons were learned. It was wryly commented that an origami expert should have been consulted on how to manufacture and pack the balloon. However, the latter was solved by adaptation of a technique used for ladies’ rain hoods (which we rarely see nowadays) in which a flexible waterproof sheet like a headscarf can be shrunk into a thin rectangular shape suitable for packing by pulling on cords at either end.

The launch programme was run as part of Project Shotput using sounding rockets. This was not without its problems, as there were seven launch failures. But problems were sorted out – spin stabilisation was achieved using a yo-yo approach, and inflation in space by sublimation (change from solid to gas without passing through the liquid phase) of powdered benzoic acid. Only six pounds were required per 100ft satelloon – this slightly over-pressurised the satelloon, but compensated for subsequent loss of pressure due to micro-meteorite strikes. But finally, everything was ready, and on October 12th 1960, Echo 1 was launched from Cape Canaveral (under Bell Labs control) in a 26in sphere. A three stage rocket put it into an orbit with an altitude of 1000 miles. Communication between Holmdel NJ and Goldstone CA was achieved, and path loss was within 1dB of the calculated figure. Because of the non-focussed reflection from the satelloon, the signal proportion reflected at the received end was small, and it was necessary to employ a helium cooled maser as a receive pre-amplifier. Being a non-synchronous orbit, a continuous path was not possible – however 15 minute passes between Holmdel and Goldstone were achieved. A short film entitled “The Big Bounce” (available at <https://youtu.be/sY8MeZ6lpwl>) was produced - typical American gung ho stuff but worth a look. (It is also of historical note that the horn antenna employed at the Holmdel end was used in 1965 by Penzias and Wilson to discover the cosmic microwave background at a wavelength of 7.35cm, earning them the 1978 Nobel Prize for Physics).

A subsequent satelloon (Echo 2) was launched in 1964. This remained in orbit until 1968, and performed valuable service by collecting accurate data on the shape of the earth, target information for ICBMs and drag in the upper atmosphere.

Since Project Echo, use of comsats for a wide range of applications has burgeoned. A major step forward was the introduction of active satellites in geosynchronous orbits. The first geosynchronous satellite (SYNCOM) was launched in 1963, and the first commercial service provided via Early Bird (a.k.a. INTELSAT 1) delivering 240 duplex voice channels or one TV channel, in 1965. These and subsequent satellites (there are now 1100 active satellites and 2600 defunct ones - one going back to 1958 - in orbit) have enabled global distribution of worldwide newsworthy events such as the 1969 moon landings and several Olympic Games plus a range of other services, many not even envisaged at the time of Project Echo.

More information on Project Echo is available at:

<https://www.nasa.gov/centers/langley/about/project-echo.html>

Second Meeting Monday 17 September Fix-it and Skills Night with John G8MNY.

No report

First Meeting: Monday 14 May Pirate Radio by Mike Senior G4EFO Summary by Quin G3WRR – catching up after several long summaries – Tnx Quin

The meeting was attended by 25 members and visitors. Much of the presentation involved pictures of the ships used and playing of jingles from various stations, which brought back memories (mostly fond...) to SRCC members of a certain age!

Mike opened by saying that most of us probably think of pirate radio as dating from Radio Caroline at Easter 1964, but in fact it goes back several years before that. The first station, Radio Mercur was on air between July 1958 and August 1962 in international waters between Denmark and Sweden, transmitting in VHF in Swedish and English (and later on TV!) from the ship *Cheeta Mercur* and later *Cheeta 2*. The success of Radio Mercur spawned, amongst others, Radio Antwerp, Radio Veronica, Radio Northsea and Radio Nord off the Dutch and Swedish coasts. Unfortunately in 1962 *Uilenspiegel*, the host ship for Radio Antwerp, which had been ballasted with concrete to provide stability, ran aground and could not be refloated! Focussing on the situation in the UK, the idea for pirate radio arose from the wish to provide some alternative listening options to the then monopoly provider BBC, which offered three programmes – the Home Service (equivalent to today's Radio 4), the Light Programme (equivalent to Radio 2), and the Third Programme (equivalent to Radio 3). There was what we would now call a market gap (broadly equivalent to Radio 1) for “teen and twenty” type listeners. The idea was that existing laws could be circumvented by setting up transmitting stations outside UK territorial limits. The first on air, on 28th March 1964 (Easter Sunday), was Radio Caroline on 199m from *MV Frederica* (later renamed *MV Caroline*) moored in international waters 3 miles off Frinton. Next on the air was Radio Atlanta on 9th May from *MV Mi-Amigo*, also off the Essex coast. Atlanta and Caroline merged on 2nd July, with *MV Caroline* sailing to the Isle of Man and *MV Mi-Amigo* remaining off Frinton, to become Radio Caroline North (on 197m) and Radio Caroline South respectively. The period between March 1964 and August 1967 saw growth of pirate radio activity (with nine ultimately on the air) claiming an audience of 14 million listeners, mostly in their teens and twenties. Some of these were not strictly “pirate stations” in law, as they were moored outside UK territorial waters. And not all were ship-borne, a couple being based on wartime defence towers. However, with the approach of the Maritime Broadcasting (Offences) Act (which became law on August 15th 1967, and meant that pirate radio stations were illegal in the UK, and criminalised anyone trading with them) stations began to close down.

Some stations continued broadcasting after August 15th, operating from the territorial waters of countries such as the Netherlands (which did not introduce its equivalent of the Maritime Broadcasting Offences Act until 1974) but things were getting difficult (with both Radio Caroline ships – by that time broadcasting as Radio Caroline International - being raided by creditors in March 1968, and jamming of Radio Nordzee International by the UK Government in 1970), and the glory days of pirate radio were over. A final irony is that Radio Caroline is still on air today as a satellite radio station *and also on 648 kHz AM from Norfolk – 5 & 7 copy in Sanderstead with my 40m Inverted L antenna and TS990. Ed.*

CHAIRMAN'S RAMBLINGS

Lots to talk about this month, so let's get right in.....

Radio Contesting - the results have been published for the August UKAC which I had been eagerly awaiting following my best-ever claimed score. I lost a couple of hundred points (incorrectly logged a locator and another station didn't record the QSO – was he actually in QSO with someone else???) but still finished 40th of 106 entrants. Not my highest ever position but comfortably in the top half. My entry plus that of Quin 'WRR has enabled SRCC to climb above the Leicester Club into 19th position in the overall Club table.

Surplus Equipment Sales – as the Club has acquired a significant number of “good”/high value items, the committee decided to try an “on-line auction”. This is currently running as I am writing this and some of us are slightly disappointed at the small number of bids. Some members of the committee spend a long time preparing for the Club Sales and one of the “perks” of membership is you get “first go” at many of the items. We have another collection of items soon-to-become available and we are going to try the same system i.e. on-line auction first followed by the normal “live” auction.

Training – the main agenda topic at our last committee meeting was training and how the club can best help newcomers to the hobby. As many of you know, SRCC was at the forefront of training some decades ago with members running the Theory courses at local Technical Colleges and teaching Morse Code at the “Bute Road Academy”. There are currently several other establishments running courses leading to Foundation, Intermediate and Full Licences so we felt there was little point in SRCC also offering anything. However, we will make a conscious effort to make things as easy as possible for people to get their licence and improve their skills in a number of ways. The website now contains a page devoted to Training, with links to local courses and to the syllabus. Incidentally, the syllabus is changing next year to reflect the changing world of Amateur Radio – detail of some older technologies (including valves) will be dropped in place of modern developments (such as SDR). New topics (including more emphasis on safety) will be added. It is not intended that the new examinations will be any easier or harder but it might be beneficial for anyone considering taking any of the exams to do it sooner rather than later. We are also looking at ways of “beefing up” the “Skills” aspect of our “B” meetings in future.

Bye for now; hope to see lots of you participating in the various Surplus Equipment Sales taking place. **73 and 88, Peter G3ZPB.**

SRCC LEAGUE TABLE – RESULTS FOR AUGUST 2018

The August session of the SRCC League Table attracted entries from six members – three down on last month. Hopefully this drop was due to a combination of poor HF conditions (often worse in summer), the end of the sporadic E season on VHF, and the holiday season.

The two table approach introduced last month has been maintained, as one entrant said he liked it, and nobody complained!

ENTRANT	TOTAL SCORING QSOs	SCORING CONTEST QSOs	SCORING INTRA-SRCC QSOs	POINTS THIS MONTH
G4FYF	33		1	70
G4LZE	23			46
G3EUE	14	13		42
G3ZPB	11	11		36
G3WRR	8	8		24
M0LEP	8		2	20

ENTRANT	5/18	6/18	7/18	8/18	9/18	10/18	11/18	12/18	CUMULATIVE
G4LZE	110	238	218	46					612
G3WRR	168	42	105	24					339
G4FYF	70	78	86	70					304
G4WGE	130		165						295
G3EUE	19	53	83	42					197
G3ZPB	63	36	27	36					162
G8IYS		84	16						100
M0LEP	14	14	20						48
G4FFY			26						26

We have a new leader for the month, in the form of Steve G4FYF. His entry consisted of HF contacts only, but although he comments “not much to enthuse about” he nevertheless managed 33 DXCC entities in four continents (Europe, Asia, Africa and South America), the best DX being PY (Brazil). Ted G3EUE found 10m very quiet except, as noted before, when a contest stirs up a bit of activity.

Looking at the cumulative results, Colin G4LZE continues to hold his top spot based on cumulative score, with almost double the score of the next entrant.

That’s all for now – hopefully with the arrival of autumn HF conditions will perk up a bit – and maybe cycle 25 will start showing signs of life soon.....

73, Quin G3WRR

Further Special Catalogue Sale for SRCC Members only.

Through the generosity of the family of the late Derek Sheen G4CCW, we are able to announce a further Special Catalogue Sale of Radio Equipment and a few other items. In total, about 60 items will be on offer and the Committee is currently assembling the Catalogue – which will include photographs, descriptions and guide prices. The structure of the on-line sale will be similar to that running currently, but a few days shorter in duration, followed by a live physical bid-topping auction. The Catalogue and further information on the process will be launched on Tuesday 2 October – that is the day following the October First Meeting.- to all members currently receiving their SRCC Newsletter by email. The latest bidding position on each item will be published on the SRCC website on a daily basis. On-line bidding will close on Friday 12 October. The live auction will take place during the October Second Meeting on Monday 15 October. At the end of the live auction, the “Members Only” restriction will cease and any items remaining unsold will be considered for offering at CATS Bazaar on 18 November. Anything further remaining may be advertised on eBay or similar marketplaces.

41st CATS Bazaar 18 November

This event will be held at Oasis Academy Coulsdon, Homefield Rd, CR5 1ES Coulsdon. £1.50 entry and plenty of free parking! Applications from traders, clubs and private sellers most welcome. Contact bazaar@catsradio.org or ring Andy G0KZT on 07729 866600.

Future SRCC Meetings

01/10/18	Autumn Surplus Equipment Sale and Special Catalogue Sale
15/10/18	Final Auction Stage of G4CCW SK Catalogue Sale plus Fix-it, Move-it-on, Skills and Advice Night
05/11/18	Inter-Club Quiz v CATS and Sutton & Cheam RS
19/11/18	Fix-it, Move-it-on, Skills and Advice Night, Social Chat
03/12/18	Construction Contest
17/12/18	Pre-Christmas Social
07/01/19	FT8 with Alan G0TLK
21/01/19	Fix-it, Move-it-on, Skills and Advice Night, Social Chat
07/02/19	Millimetric Microwaves with Chris G0FDZ
21/02/19	Fix-it, Move-it-on, Skills and Advice Night, Social Chat
04/03/19	Spring Surplus Equipment Sale
18/03/19	Fix-it, Move-it-on, Skills and Advice Night, Social Chat
01/04/19	Annual General Meeting
15/04/19	Fix-it, Move-it-on, Skills and Advice Night, Social Chat

Other Local Club Meetings.

16 Oct	<p>Bromley & District ARS</p> <p>SDR/Construction</p> <p>Normal Meetings are held on third Tuesdays 7.30 for 8.00pm @ Victory Social Club, Kechill Gardens, Hayes, Bromley, Kent.</p> <p>Contact Andy G4WGZ on 01689 878089 or enquiries(at)bdars.co.uk.</p> <p>Website: www.bdars.co.uk</p>
12 Nov	<p>Coulsdon ATS</p> <p>Apollo 13: Terry G4CDY</p> <p>TBC</p> <p>Meetings are held at 8pm on 2nd Monday each month at St. Swithun's Church Hall, Grovelands Rd, Purley.</p> <p>Contact Terry Giles G4CDY via secretary@ catsradio.org</p>
18 Oct	<p>Sutton & Cheam RS</p> <p>Solar power for Radio Amateurs Milton G1RUV</p> <p>Meets 8pm on 3rd Thursday every month. They also run a practical group most Monday evenings at the Banstead Scout Hut.</p> <p>Contact John Puttock G0BWV on 020 8644 9945 or email info(at)scrs.org.uk</p> <p>Website: http://www.scrs.org.uk/</p>
04 Oct	<p>Horsham Amateur Radio Club</p> <p>Junk Sale</p> <p>Normally meets on the first Thursday of each month at the Guide Hall, 20 Denne Road, Horsham, West Sussex, RH12 1JF. NRQ TQ172304 at 20.00hrs local time. Contact Alister Watt G3ZBU at g3zbu(at)hotmail.com</p> <p>Website: http://www.harc.org.uk/</p>
23 Oct	<p>Dorking & District Radio Society</p> <p>Practical evening - Making antenna traps by Tom Ellinor G4DFA</p> <p>Meetings at 7.45pm. Contact: David Browning (M6DJB) at djb.abraxas(at)btinternet.com.</p> <p>Website: http://www.ddrs.org.uk</p>

05 Oct	<p>Crystal Palace R&EC</p> <p>Introduction to Electronics - Power Supplies by Bob G300U</p> <p>All Saints Church, Beulah Hill (Normally meets monthly on first Friday). Contact: Bob G300U 01737 552170</p> <p>Website: http://www.g300u.co.uk</p>
04 Oct	<p>Cray Valley Radio Society</p> <p>Annual surplus 'junk' sale</p> <p>1st Royal Eltham Scouts HQ, Rear of 61-71 Southend Crescent, Eltham, London SE9 2SD</p> <p>Website: www.cvrs.org</p>

Sign Off

Well, only 11 pages this time, I have been a bit busy helping to set up the CCW Catalogue Sale in parallel with this production.

I am always delighted and surprised to get copy for publication. Copy date for the November issue is Saturday 27 October.

73 John G8IYS Newsletter Editor and Hon Sec.