

The newsletter of the
Crystal Palace Radio & Electronics Club

Affiliated to the Radio Society of Great Britain
Established January 1956

Meetings are held on the first Friday of each month.
The room opens at 7:30pm for an 8pm start at:
All Saints Parish Church,
Beulah Hill, London, SE19 3LG
(opposite the junction with Grange Road).
Visitors are always welcome.

Web sites: Club Admin: <http://cprec.btck.co.uk/>
Club Technical: <http://cprec.btck.co.uk/OurTechnicalSite>
Email: crystalpalaceradio.club@gmail.com
Club Net: Each Wednesday at 20:00 on FM on 145.525MHz (S21) ± QRM
Twitter @BobFBurns or www.twitter.com/bobfburns

Club annual subscriptions are now due. If you have not already done so, please send your £12 payment to our Treasurer Ian or bring it to the next meeting.

Next meeting: Friday 2nd March 2018

Compact HF and VHF Aerials

In this issue: *Future Meetings & Events, Recent Event News, Boxed by 'Theorist', Technical Snippets, Members News, Miscellaneous, Noticeboard, Diary of External Events, News from other Clubs, Local Training Courses and Club Contact Information.*

Dear Reader

Future Club Meetings and Events

02 Mar 18	M	Club Project - Compact HF and VHF Aerials - Bob G300U and Damien 2E0EU1
06 Apr 18	M	'The British Vintage Wireless and Television Museum'
04 May 18	M	How Not to Win National Field Day by Quin Collier G3WRR
01 Jun 18	M	Introduction to Electronics - Power Supplies by Bob G300U
06 Jul 18	M	Practical Session - Building a compact VHF Aerial
03 Aug 18	M	Summer Social
07 Sep 18	M	Whisper (WSPR) Evening - Damien 2E0EU1

C = Contest, CM = Committee meeting, E = External event, M = club meeting, R = Rally, T = Training course, V = Visit.

01 Jan 2018 - Annual Subscriptions

Our new club year commences on 1st January and subs have now become due so please send your payment of £12 to our Treasurer Ian or bring it along to the next meeting. Members who have not paid by the end of March will be deemed to have resigned.

02 Mar 2018 - Club Project - Compact HF and VHF Aerials - Bob G300U and Damien 2E0EU1

I will present a short illustrated talk on HF aerials that may be reduced in size to fit modern suburban gardens and bring along some aerial related items for members to inspect.

Damien will present a talk on a compact VHF aerial that resulted from the brain storm session after the Design Process talk in 2017. It is planned to hold a construction evening during 2018 to enable interested members to make this aerial.

Recent Event News

02 Feb 2018 - Annual General Meeting

The CPREC Annual General Meeting took place on Friday 2nd February 2018 at All Saints Church and was well attended.

Owing to an oversight (sack the editor?), the officers reports were omitted from the last newsletter so are included with the AGM minutes in club members copies of this newsletter.

The 2017 committee were re-elected unchanged for 2018 and our Chairman Damien thanked the committee for their efforts on behalf of members during 2017. Our Secretary Alan outlined the thinking behind the club programme for 2018 with more emphasis on practical activities and on-air operations.

Our Treasurer summarised the club financial state as healthy and stated that no increase in the Annual Subscription was planned this year. However, we do make a loss on meeting fees which was covered by income from 2017 sales. We attended Kempton Park

Rally in April 2017 and the CATS Bazaar in November 2017. Damien also made some direct sales of donated items.

Ian was unable to complete the accounts by the AGM because the bank suddenly refused to send him some of the 2017 bank statements, a problem that has now been resolved. Ian will complete the accounts and arrange for them to be audited, following which we will call an EGM to get the accounts agreed by members.

The committee will give some thought to re-instating the annual construction competition at the AGM if there is sufficient interest and entries.

Boxed by 'Theorist'

Why do you put a loudspeaker in a box? Have a think about it before going on, especially if you are uncertain about the answer(s). Throughout I am talking about cone-type speakers, not horn loudspeakers or any other type.

A loose unenclosed loudspeaker will of course produce sound, but as a speaker cone vibrates it produces two sound waves, one going forward and one going backward. These will be 180 degrees out of phase, and the 'back' signal could easily bounce off nearby surfaces and cause interference with the forward signal, either reinforcing it or causing some cancellation. Even if not near a surface, because of a diffraction effect the back wave can still partially cancel out the front wave – notably in the bass region. The first reason to put a speaker in a box is thus to contain the back wave and stop it going anywhere. If you do it is a good idea to have some sound absorbing 'acoustic wadding' lining the walls of the box, to get rid of as much back wave as possible. This is known as a 'closed baffle' design.

If a speaker is in a sealed box or 'cabinet' then in effect the system is like a piston [1]. As the cone moves back into the box the air inside is compressed, and as it moves forwards it is expanded. Either way this acts to hinder the movement of the speaker cone. At high frequencies it does not affect things much as the air does not have time to react, but at low frequencies the compression/decompression really does dampen the frequency response, causing a roll-off of about 12 dB/octave, as the diagram indicates.

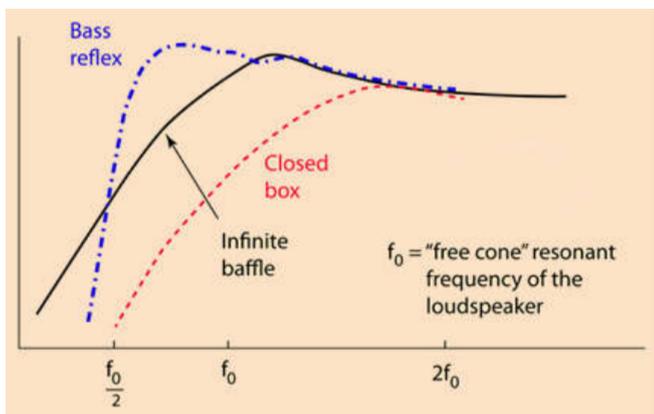
I hope it is obvious that this effect will be worse, in the sense of starting at a higher frequency, if a speaker is in a smaller box. In that case, as there is less air to compress or expand, the pressure change inside will be greater for the same movement of the cone than if the speaker were in a larger box. The best case would be a box of infinite volume (called an 'infinite baffle'); failing to find one of those you could mount the loudspeaker in an external wall, so that the outside represented the box! The infinite baffle response is also indicated in the diagram.

Unenclosed speakers have difficulty reproducing wavelengths greater than the diameter of the speaker. For a 4 inch speaker this means increasing difficulty reproducing frequencies less than about 3.4 kHz; for a 16 inch speaker about 840 Hz. By enclosing a speaker in a box you are effectively increasing the dimensions of the speaker, resulting in extended lower frequency

performance. This is another reason for boxing a speaker.

Two frequencies are of special interest in loudspeaker design. One is the cavity resonant frequency of the box. Think of blowing across the top of a bottle to get the idea of what is meant. The other is the free cone resonant frequency (FCRF). Because the speaker cone is effectively free to move it too has a natural frequency, like a weight attached to a spring. The speaker will respond more to frequencies near the FCRF, which distorts the sound. This is especially true if the speaker is unenclosed, where a large peak in the frequency response will occur at the FCRF. Enclosing the speaker alleviates this effect although the result is two small increases/humps either side of the expected peak. I cannot think of a completely satisfactory physical explanation for this phenomenon. Anyway, this is a third reason for enclosing a speaker. Note that boomy bass can occur if the FCRF is in the bass region, and by altering the relative intensities of the harmonics the FCRF affects the timbre of the speaker as well.

One way of extending the bass response of a speaker without drilling holes in your walls is to use what is termed a 'bass reflex' design. In this the box is not sealed but has a tube leading to a hole in the front of the cabinet, allowing the back wave to be funnelled to the front, and alleviating the piston effect. The dimensions are chosen so that the FCRF is tuned to the cavity resonant frequency, the effect of which is that as the back wave emerges it is in phase with the front wave, avoiding interference effects, but is one wavelength behind. The effect is to move the bass roll-off point to a lower frequency, but when it does start to roll-off the decrease is about 24dB/octave – see the diagram, but don't ask me why this is steeper than the boxed response.



The reflex design has gained popularity since the 1970's as problems with the design have been overcome. They are now as popular as closed baffle designs and seem to be most popular for the sort of small units you might plug into the back of a desktop PC to give better quality than that you would get from the monitor - you get extra bass but probably at the expense of absolute sound quality, which is likely to be objectively rather poor in any case. The photo shows the front of one of my B&W Hi-Fi units with the exit port clearly visible in the lower area.

Loudspeakers are very inefficient at producing sound. One analogy is to liken the operation of a speaker to

punching a handkerchief. The hanky moves but it is difficult to impart much energy to it, and a speaker has the same difficulty with air. The speaker cone is weakly coupled to the air – the term often used for this is 'impedance mismatch' [2]. I have seen various figures quoted for speaker efficiency ranging from 0.5% to 5%, but it depends on a variety of factors including frequency. The up-to 99.5% of energy lost is dissipated largely as heat in the speaker driving mechanism itself.



[1] Now I come to think about it, it would make no sense to have a completely sealed box as the pressure in the box would change and differ from the outside pressure depending on the temperature – highly undesirable, so I assume there must be an incomplete seal even in a 'sealed box' unit

[2] The ratio of acoustic pressure to acoustic volume flow, in units sometimes called 'acoustic ohms', to make them analogous to electrical impedance

Technical Snippets

a) Speakers - Theorist's article on loudspeakers has come at an opportune moment because I have been looking for small loudspeakers that are specifically designed for communications (non-hifi) applications with mounting centres of about 85mm. HiFi speakers are designed to have a reasonably flat frequency response to accommodate music and speech and as a result are significantly less efficient than speakers designed for just speech applications.

Having put the word out on some radio forums I was sent one speaker which meets my requirements and has a significantly higher acoustic output than a hifi speaker for the same audio driving power. The problem now is to find several more to replace the hifi speakers in my various rigs.

Members News

Club member Jim M0JFL was awarded the Sandell Whitehead trophy for his exceptional progress and achievement in the recent Advanced licence course and exam at Cray Valley Radio Society (CVRS). On the left of the picture below is Frank G0FDP who is the CVRS exam secretary.



Club Net - we have a small but regular number of members and one non-member attending the club net on Wednesday evenings. A lot more club members hold amateur radio licences and at least one member has passed his exam but not yet applied for his licence so we would like to get more members on the net. If the current band or time is not convenient for whatever reason then that can be addressed.

Miscellaneous

a) Paul Berkeley of Radio Fairs writes - After much thought we have decided that the November rally will not take place at least for this year.

Moving forward, we want to stage one strong event a year rather than two second rate rallies a year. This no doubt will please some of the sellers and not others. One thing for sure is that the visitors will come in the same numbers as always.

As a seller if, for example, you hired two tables at each rally (four per year) in the past, you may have wished to have hired three at the one event to accommodate extra stock build up, and clearly this will save you money over the year.

You will have noticed that whilst the number of sellers attending the rally has not really changed, we are aware that an increasing percentage only attend one of the two events each year. This is due to a number

of factors which include the costs associated with staffing and fuel, in addition other events may have clashed with our dates.

When we started fifteen years ago we launched at Epsom and Kempton. We very quickly found that Epsom was not viable so we moved the Epsom event to Kempton, hence the bi-annual rally was borne.

As the years go by we are sad to see that some of our well-known sellers are not attending mainly due to ill-health, silent keys, retirement and business closures. Happily new businesses are attending to fill the void.

Gone are the days when visitors came along to see and purchase new equipment. Much of this is done on-line now. However, visitors still come along to see, touch and seek advice on the latest radios on offer. That is why the OEMs and larger dealers are pivotal to the rally success. We are happy to report that they are still supporting us in every possible way.

There is an emerging business in selling small components and accessories, and that is what the event is leaning towards, but the returns are smaller and the cost of attending these events are increasing. We have been playing our part in keeping the costs to the seller virtually the same over the years in spite of increasing overheads levied upon us.

With your continuing support we will continue to stage a buoyant happy event for all.

Paul Berkeley

Chairman, Radio Fairs

b) London Museum - Cathy and I visited the Postal Museum in London (15-20 Phoenix Place, London WC1X 0DA) and the Mail Rail Museum which is just across the road and took a 15 minute trip on one of the old underground post trains. The mail rail building work commenced in 1915 but was delayed due to shortages following WW1 and eventually came into service in 1927. It ran for up to 22 hours per day, including during WWII, until the late 1980s when it was closed down.

If you do decide to make a visit, the local area has many cafes and restaurants for lunches and teas.

Notice Board – Wanted and For Sale

The Notice Board is for all club members to use so if you have one or more items that you wish to buy or sell then please send in the details. Some of the current list of items may be viewed at:

<http://cprec.btck.co.uk/SaleofClubEquipment>

All excl P&P.

For Sale

a) From the shack of Victor G1PKS:

- RF dummy load and watt meter
- SEM Z match £60
- Yaesu FT-101ZD HF transceiver £150
- SWR meter
- Trio R2000 receiver with HF & VHF £250
- Alinco 6m DR-M06 20W FM transceiver £75
- Heathkit Oscilloscope

- PSU with variable output
- Advanced Morse Trainer MM2 by Microwave Modules Ltd plus power supply £60
- 2 Morse keys with sounders for training Cubs and Brownies £25
- A few variable capacitors left

Offers to Bob G300U on 01737 552170 or email [g300u\(at\)aol.com](mailto:g300u(at)aol.com)

b) From the shack of Bob G300U:

- Commercially designed and made precision permeability tuned solid state VFO with built-in reduction drive, 7.6 - 8.8MHz, £75 ono. A photo may be seen at <http://www.qsl.net/g300u/pto.html>
- 1.4MHz crystal filters for USB & LSB, all tested, £15 each
- Pye 455KHz LC filter, 15KHz wide, £3

Offers to Bob G300U on 01737 552170 or email [g300u\(at\)aol.com](mailto:g300u(at)aol.com)

CPREC has a large bank of fundamental and overtone quartz crystals, from 1.0 – 99.91MHz. The list has now been completely updated with case classifications, sorted in frequency order and placed on the club web site as a downloadable file. Prices are £1 each to club members and £2 each to non members, both exclude P&P.

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G300U

Diary of External Events

25 Feb - BRATS Medway Radio Rally

The Victory Academy, Magpie Hall Road, Chatham, Kent ME4 5JB. Open 10am-2pm, disabled visitors 9.30am. Entrance £2.50. Free parking, talk in on 145.550 using GB4RRR. Trade stands, RSGB bookstall, Catering on site. Details from Hugh H, G0BRC on 0782 583 8877 or by email to Secretary@bratsqth.org

11 Mar - Dover Radio Club Rally

Whitfield Village Hall, Sandwich Road, Manley Close, Whitfield, Nr Dover CT163LY. Talk in, catering, trade stands. Open 10am, entry £2. Auction starts at 12.30pm. Aaron Coote, 2E0FQR, 0771 465 4267 or aaroncoote@hotmail.co.uk. [www.darc.org.uk].

15 Apr - West London Radio & Electronics Show (Kempton Rally)

Kempton Park Racecourse, Staines Road East, Sunbury on Thames, TW16 5AQ. Talk in station, on site free parking. Open 10am, disabled visitors 10 minutes earlier. Trade stands, Bring & Buy and SIGs, lectures, raffle and catering on site. Details from Paul, M0CJX on 0845 165 0351, info@radiofairs.co.uk. [www.radiofairs.co.uk]. Note that there will **not** be a similar event at Kempton Park November this year.

22 Apr - Cambridge Repeater Group Rally

Foxton Village Hall, Hardman Road, Foxton, Cambridge, Cambs CB22 6RN. Free parking, opens 9.30am, traders access from 7.30am. Entry £2. Talk in station. Traders, Bring & Buy, RSGB book stall, Catering on site. Contact Lawrence M0LCM on 07941 972 724, or email

rally2018@cambridgerepeaters.net
[www.cambridgerepeaters.net]

6 May - Southern Electronics & Radio Fair-Eastbourne Rally (SERF)

Eastbourne Sports Park, Cross Levels Way, Eastbourne, East Sussex BN21 2UF. Transport via buses from Sussex Downs College on Cross Levels Way and Kings Drive and by rail to Hampden Park station, a 10 minute walk from the Centre. Traders, clubs, outside car boot & table-top sale, catering, camping and caravanning. Details from <http://www.serf.org.uk>

17-20 May - Dayton Hamvention®

Greene County Fair & Exposition Center, Xenia, Dayton, Ohio, USA. Details by email from international@hamvention.org.

1-3 June - Ham Radio Show

Messe, Friedrichshafen, Germany. Trade stands, SIGs, IARU Member Societies have stands in the main hall. Large flea market. Lectures each day, some in English. Large RSGB book stall. More information from www.hamradio-friedrichshafen.de.

10 June East Suffolk Wireless Revival (Ipswich Radio Rally)

Kirton Recreation Ground, Back Road, Kirton IP10 0PW just off the A14. Opens 9.30am, free car parking, entry £2. Trade stands, car boot sale, Bring and Buy, SIGs, GB4SWR HF station and an RSGB bookstall. Catering on site. Contact Kevin, G8MXV, 07710 046 846 [www.eswr.org.uk].

24 Jun (new date) - 31st Newbury Radio Rally

Newbury Showground, next to Jcn 13 of M4, Berkshire. Amateur radio station, exhibits, SIGs, clubs and societies. Opens to sellers at 8am, visitors 9am. Free parking, entry £2.50 visitor, £12.50 CBS sellers pitch. Advance bookings (with discount) via www.nadars.org.uk/rally.asp On-site catering, disabled facilities. Contact: email: NewburyRally@nadars.org.uk [www.nadars.org.uk]

28 - 29 Sep - National Hamfest

Newark & Nottinghamshire Showground, Lincoln Road, Winthorpe, Newark, Nottinghamshire NG24 2NY. Brought to you by the RSGB in association with the Lincoln Short Wave Club. Free car parking, disabled facilities, trade stands, Bring & Buy, car boot area, flea market, SIGs and RSGB bookstall. Representatives from the RSGB Services and committees. Morse proficiency tests, on-site catering outlets and a seating area. Information from www.nationalhamfest.org.uk

12-14 Oct - RSGB Convention

Kent's Hill Park Training and Conference Centre, Swallow House, Timbold Drive, Kent's Hill Park, Milton Keynes, Buckinghamshire MK7 6BZ. The Convention programme of lectures for all interests will be available on the website. Principal sponsor Martin Lynch & Sons. [www.rsgbevents.org].

News from other Clubs

Club Secretaries – please ensure that your future meeting details are present in your newsletters, on your websites or sent to our newsletter editor Bob G300U. Palace Pulse is published about ten days before our club meeting which is on the first Friday of each month and closes for editorial contributions a few days before publication. Due to differing publication dates and short lead times it is getting increasingly difficult to include other clubs' events although we will endeavour to do so if

advised in time. We do not have time to go chasing each club for the information.

Readers - If you plan to visit one of these club meetings please check with the club concerned in case of any last minute changes.

Bredhurst Receiving and Transmitting society

Meet on Thursday night from 8:30pm at the Parkwood Community Centre, Long Catlis Road, Rainham, Kent, ME8 9PN. Contact secretary@brats-qth.org or <http://www.brats-qth.org/brats/>

08 Mar From Hill to High Water: searching for vulnerable missing persons
10 May AGM

Bromley & District Amateur Radio Society

Meets at 19:30 on the third Tuesday of each month at the Victory Social Club, Kechill Gardens, Hayes, Bromley, BR2 7NH. Contact Andy G4WGZ on 01689 878089 or enquiries@bdars.co.uk. Web: www.bdars.co.uk

20 Mar Technical Lecture
19 Jun Direction Finding
17 Apr RSGB
15 May FT8
19 Jun Direction Finding by 2E0DIZ

Chelmsford Amateur Radio Society (CARS)

19:30 on the first Tuesday of each month at Oaklands Museum, Moulsham Street, Chelmsford, Essex, CM2 9AQ. Contact: secretary@g0mwt.org Web: www.g0mwt.org

06 Mar Andy Tyler G1GKN will talk about using ex-military radios for amateur radio

Coulsdon Amateur Transmitting Society (CATS)

8:15pm on 2nd Monday each month. Contact: Andy Briers G0KZT on 07729 866600 or secretary@catsradio.org. Web site: <http://www.catsradio.org/>

12 Mar HF Aerials and ATUs by Bob Burns G3OOU
10 Apr Offshore Pirate Radio Stations by Mike Senior G4EFO
14 May DF Receiver Construction Evening by Terry G4CDY
11 Jun DF Hunt using the equipment made at the May meeting. Venue to be confirmed.

Crawley Amateur Radio Club (CARC)

Every Wednesday 20:00 – 22:00, every Sunday 11:00 – 13:00. Formal events are on the fourth Wednesday of the month, 7-30pm for 8pm. Phil M0TZZ on 07557 735265 or secretary@carc.org or Web: <http://www.carc.org.uk/>

28 Feb The History of the Magnetron from WWII Radar to the Kitchen by Mike, G3LHZ
28 Mar Space weather effects on HF propagation by Dr Colin Forsyth
25 Apr Police Communications by Steve Shorey G3ZPS

Cray Valley Radio Society (CVRS)

Meets at 8pm on the 1st and 3rd Thursday of each month at 1st Royal Eltham Scouts HQ, Rear of 61 - 71 Southend Crescent, Eltham, London, SE9 2SD. Contact: Richard on [secretary\[at\]cvrs.org](mailto:secretary[at]cvrs.org). Web www.cvrs.org

01 Mar CVRS Annual Construction Contest 2018
05 Apr Heathkit Restoration by Bob Burns G3OOU

Dorking & District Radio Society

Meetings at 7.45pm. Contact: David Browning (M6DJB) at djb.abraxas@btinternet.com. Web site:

<http://www.ddrs.org.uk>

27 Feb Practical evening - Making antenna traps by Tom Ellinor G4FDA
27 Mar One Route Through Product Design by Bob Burns G3OOU
24 Apr The future of amateur radio by Nick Henwood G3RWF
22 May Meteor scatter by Nick Read M5DND

Echelford Amateur Radio Society

Meetings on 2nd and 4th Thursdays of each month at the Weybridge Vandals Rugby Football Club. Enquiries to John at jho_g4gsc@btinternet.com or 01784 451898.

Web site: <http://www.qsl.net/g3ues/index.htm>

08 Mar Annual Construction Contest
26 Apr AGM

Hastings Electronics & Radio Club

Meetings held at the Taplin Centre, Upper Maze Hill, St Leonards on sea, TN38 0LQ, 7pm for 7:30 on the fourth Wednesday of each month. Information from Gordon Sweet M3YXH on 01424 431909, email:

sionet3344@hotmail.co.uk

Web: <http://herc-hastings.org.uk/>

28 Feb AGM followed by "Bring Your Mystery Thing"
28 Mar Hubble-15 years of Discovery - DVD from European Space Agency
25 Apr Talk by Richard Pollard
23 May Talk and demo by Tony Lunn on SOTABEAM's Portable Antenna System

Hereford Amateur Radio Society

Meets on the first Friday of each month at Hill House, Newton, Nr Leominster, HR6 0PF. Contact:

enquiries@herefordradioclub.uk or

<http://herefordradioclub.uk/>

02 Mar Annual General Meeting

Horsham Amateur Radio Club

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@hotmail.com or

<http://www.harc.org.uk/>

01 Mar Junk Sale
05 Apr Breakfast Machine - Mervyn 2E0WVE
03 May High Power Small Transmitting Loops – the secret is two parallel turns! - Mike Underhill G3LHZ

Mid-Sussex Amateur Radio Society (MSARS)

Meet most Fridays in the Millfield Suite, Cyprus Hall, Burgess Hill, RH15 8DX from 7.30pm till 10.00. Contact Stella on 01273 844511, M6ZRJ@msars.org.uk or

www.msars.org.uk

09 Mar Computer Logging by Phil G4UDU

23 Mar Radio Night and Table Top Sale

06 Apr Surplus Equipment Sale

South East Essex Amateur Radio Society (SEARS)

Contact Mark Callow 2E0RMT on 07842 336444 or secretary@southessex-ars.co.uk or

<http://www.southessex-ars.co.uk/>

Meetings: 7pm 2nd Tuesday each month at The White House, Kiln Road, Benfleet, Essex, SS7 1BU.

13 Mar "Log40M software" by Terry Genes G4POP

- 10 Apr "Computers in Amateur Radio" by Henry Kleynhans
 08 May "Public Safety Comms" by Steve Shorey G3ZPS
 12 Jun "The Birth of Broadcasting" by Tim Wander

Andrew G4ADM on 020 8335 3434 or
 andrew.maish(at)ntlworld.com

Please replace the (at) with @ when using any email addresses shown in this newsletter.

Surrey Radio Contact Club (SRCC)

7.30 for 7.45pm on 1st. and 3rd. Mondays every Month.
 Contact John Kennedy G3MCX on 020 8688 3322 or
 secretary(at)g3src.org.uk. Web: <http://g3src.org.uk/>

- 05 Mar Spring Surplus Equipment Sale
 09 Apr AGM
 14 May The Role of an RSGB Regional Manager by
 Mick Senior G4EFO

Sutton & Cheam Radio Society

8pm on 3rd Thursday every month. Contact John Puttock
 G0BWV on 020 8644 9945 or email info(at)scrs.org.uk
 Web: <http://scrs.org.uk/>. SCRS run a practical group
 most Monday evenings at the Bandstead Scout Hut.

- 15 Mar An Introduction to Operational Amplifiers by
 Bob Burns G3OOU
 19 Apr BITX40 by Martin Butler – M1MRB
 17 May AGM & Construction Competition

Wimbledon & District Amateur Radio Society

Meets on the 2nd and last Friday in the month at Matin
 Way Methodist Church Hall, Martin Way Merton Park,
 London, SW19 9JZ at 19:30hrs for 20:00hrs. Contact:

Crystal Palace Radio & Electronics Club is a member of the South East Tutors training group.

Local Training Courses					
Licence Level	Dates	Location	Club Provider	Format	Further details
Intermediate	25 Feb, 11, 18 Mar 2018	Bromley	Bromley & District ARS	3 days (Sunday)	www.bdars.org
Foundation	14 Mar, 28 Mar, 11 Apr, 25 Apr, 09 May, 23 May with the exam on 13 Jun	Crockenhill Village Hall	Darenth Valley	Seven evenings, 8pm start	http://darenthvalleys.org/training.html
Foundation	07 and 21 Oct	Bromley	Bromley & District ARS	2 days (Sun)	www.bdars.org
Intermediate	Nov 2018 dates TBC	Eltham, SE9	Cray Valley RS	3 days (Sat)	www.cvrs.org
Intermediate	Feb & Mar 2019 TBC	Bromley	Bromley & District ARS	3 days (Sun)	www.bdars.org
	= course commenced				

CPREC Committee Contact Information

Officers:

Chairman: Damien Nolan 2E0EUI 7 Fonthill Court Honor Oak Road London SE23 3SJ 07900 242541 Gorby928(at)gmail.com	Secretary: Alan O'Donovan G8NKM 2 Mackenzie Road Beckenham Kent BR3 4RU 020 8778 9660 Alan.odonovan(at)btinternet.com	Treasurer: Ian Skeggs M6FZC Ground Floor Flat, 24 Kendall Road Beckenham Kent BR3 4PZ 020 8650 9049 ian.skeggs(at)btinternet.com
Committee Members: Bob Burns G3OOU Nick Stapley	Newsletter Editor	01737 552170 or G3OOU(at)AOL.COM