

G3WSC  
G6RC  
GX3WSC

# CARC News Bulletin

Crawley Amateur Radio Club

October - November 2017

Editor: John G4PEO

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## Other Clubs

### Horsham ARC (HARC)

[www.harc.org.uk](http://www.harc.org.uk)

5th Oct: Junk Sale

2nd Nov: HARC/CARC Challenge

### Crystal Palace REC

[www.g300u.co.uk/cprec](http://www.g300u.co.uk/cprec)

6th Oct: SDR Without Maths, Alan G0TLK

3rd Nov: Millimetric Microwaves, Chris, G0FDZ

### Sutton & Cheam

<http://scrs.org.uk>

19th Oct: TBA

16th Nov: TBA

### Mid Sussex ARC

[www.msars.org.uk](http://www.msars.org.uk)

13th Oct: AGM

3rd Nov: Surplus Equipment Sale

### CATS (Coulston)

[www.catsradio.org](http://www.catsradio.org)

9th Oct: Swimming Pool

Maintenance, David G6VMI

13th Nov: CATS Quiz vs Sutton & Cheam

19th Nov: 40th Annual Bazaar

### Dorking & District Radio Club

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

24th Oct: Hobbies - The Rise & Fall of Amateur Radio, David, M0SXD

28th Nov: AGM

### Bromley & District ARS

<https://bdars.wordpress.com/>

17th Oct: Skills Night

21st Nov: Regenerative Receivers, Adrian, M0YRG

## Other Meetings/Events

5th Nov: West London Radio & Electronics Fair, Kempton Park Racecourse

<http://radiofairs.co.uk/>

19th Nov: 40th CATS Bazaar

[www.catsradio.org](http://www.catsradio.org)

## CARC DATES

October 25th (Wednesday)

How the www Works, Stewart - G3YSX

November 2nd (Thursday)

HARC/CARC Challenge @ HARC

November 22nd (Wednesday)

Transmission Lines - Richard G3ZIY



CARC meetings are held in our clubroom at Tilgate Park, Crawley, West Sussex.

Every Wednesday: 8pm

Every Sunday: 11am - 1pm

Formal events are normally held on the last Wednesday of the month, 7-30pm for 8pm.

Updates to the CARC Programme:

<http://carc.org.uk/events>

or contact **Richard, G3ZIY:**

[Richardg3ziy@gmail.com](mailto:Richardg3ziy@gmail.com)

For further information about CARC, please

Contact the Hon Secretary, **Phil, M0TZZ:**

[secretary@carc.org.uk](mailto:secretary@carc.org.uk)



Andy, G4JNT, receiving the Derek Atter G3GRO Trophy from Sam, G4DDK, for his winning entry, (6cm Transverter), in the Crawley Heat of the UK Microwave Group Project Contest at the Microwave Round Table held in September at CARC. See page 2 (Photo G0FDZ)

## Local Repeaters

**GB3MH:** 145.625/88.5(FM) **GB7MH:** 439.6375(D-Star/DMR)

**GB7EG:** 439.7625(DMR) **GB3WS:** 145.750/88.5(FM) **GB3NX:** 430.850/88.5 (438.450)(FM)

**GB3NS:** 439.675/82.5(FM) **GB7NS:** 439.1625(DMR) **GB7ID:** 430.975 (438.575)(FM/Fusion)

**GB3HO:** 430.8875/88.5 (438.4875)(FM) **GB3HY:** 430.900/88.5 (438.500)(FM)

## Local DX Cluster

**GB7DXS :** Telnet 81.149.0.149 Port 7300

**Chairman:** Keith Evans (G3VKW)

**Vice Chairman:** John Pitty (G4PEO)

**Training Lead Instructor:** Malcolm Harman (G3NZP)

**QSL Manager/News Editor:** John Pitty (G4PEO)

**Committee Member:** John Longhurst (G3VLH)

**Shack Manager:** Mike Davies (G0KAD)

**Hon Secretary:** Phil Moore (M0TZZ)

**Hon Treasurer:** Howard Palmer (G4PFW)

**Exam Secretary:** Phil Moore (M0TZZ)

**Committee Member:** Richard Hadfield (G4ANN)

**Committee Member:** Alex Sheppard (M1YAP)

**Programme:** Richard Drinkwater (G3ZIY)

## Calendar Items - October and November 2017

### Wednesday October 25th: How the www Works - Stewart G3YSX

These days access to the world wide web is something we all take for granted without giving a second thought as to the process involved delivering information to your computer screen/tablet/smartphone etc. Stewart will unravel the complexities of how this all 'magically' happens, so maybe next time a server takes longer than usual to respond to your request you will know why!

### November 2nd (Thursday) - HARC/CARC Challenge

This year it is the turn of the Horsham club, at their usual meeting venue, The Guide Hall, 20 Denne Road, Horsham, RH12 1JF, to devise and host this fiendishly fun event, where a team, or teams, from CARC pit their wits against a team from HARC with some kind of fun technical challenge which usually requires a degree of lateral thinking....! If you would like to be part of the CARC team(s) please contact **Keith, G3VKW**.

### Wednesday November 22nd - Transmission Lines, Richard G3ZIY

Richard will be telling us everything we wanted to know but were afraid to ask on the subject of transmission lines. If you would like to expand your knowledge on an often overlooked subject then don't miss this opportunity..

## Previous Meetings & Events

### Microwave Round Table

On account of the August break, only two events to report on this time round, one being the always interesting Microwave Round Table.

Five Round Table events, organised by the UK Microwave Group, (UKuG/Chris, G0FDZ), are held at various locations during the year throughout the UK, and for the September meeting, CARC are the hosts, as originally arranged by Derek, G3GRO, who was a great microwave aficionado.. Over 20 UKuG members attended the event, the furthest travelled being Doug, VK4OE, although he was visiting the UK anyway..!

The timetable for the event comprised of bring and buy in the morning together with the UKuG Project contest judging, followed by lunch, ably provided by **Dick, M0RXH**. A series of short talks took place in the afternoon together with the presentation of the G3GRO Trophy Plate to the winner of the project contest, this year won by Andy Talbot, G4JNT, for his 6cm transverter.

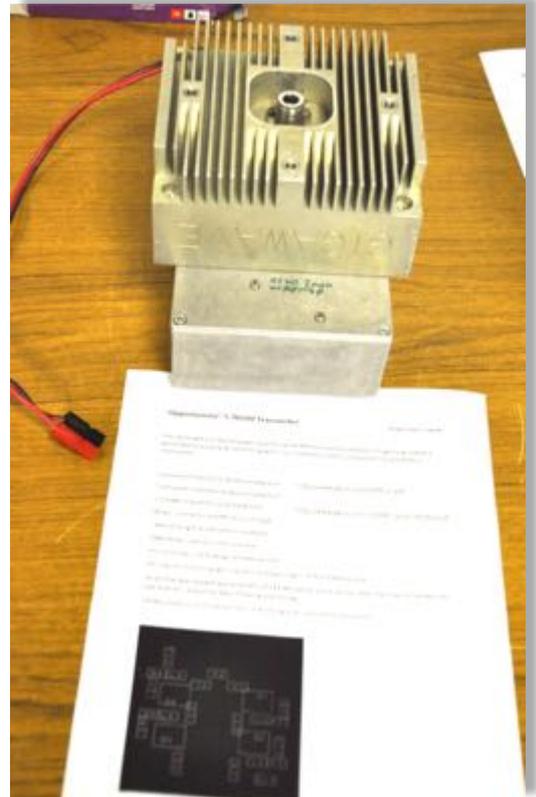
**Peter, G4FYY, John, G4PEO, Richard, G4ANN and Mike G0KAD**, together with 'catering manager' **Dick, M0RXH** looked after the attendees at various times throughout the day to ensure another successful Round Table event.



The Morning Session



Afternoon Session:  
The last lecture of the day - Brian, G4NNS and his extremely interesting talk on EME and ISS operations from Goonhilly.  
(Photo's G4PEO)



G4JNT 6cm Transverter - Project Contest Winner  
(Photo - G0FDZ)

**Previous Meetings & Events - cont:**

**Dayton and Friedrichshafen 2017 - Stewart G3YSX**



Many thanks to Stewart who presented a very interesting insight to this years Dayton and Friedrichshafen shows, with Dayton being at its new venue for the first time. Whilst at Dayton, Stewart took the opportunity to visit the Museum of the USAF, so as a bonus, we were first treated to a quick but very interesting photographic tour of the museum. It is worth taking the time to visit if attending the Hamvention, as apart from the standard fare of unusual/'normal' aircraft and missiles, there is also a selection of oddball/failed/cancelled projects that never saw the light of day, which, on their own make a visit worthwhile. More details can be found on the link below:  
<http://www.nationalmuseum.af.mil/>



This year Dayton moved to a new venue, the Greene County Fairground, south east of Dayton in Xenia, (it is believed the Hara Arena has now been bulldozed), where there was a mixture of cowsheds (clean!) and large tents employed to house the exhibitors, with an equally diverse range of temperatures dependant on which 'building' you were in. Road access on the first morning was virtually gridlocked, but this had been resolved by the second morning. There were though quite often queues for the catering outlets. The ever popular flea market, on grass, was slightly smaller and divided up across a number of plots within the show ground. Dayton being Dayton, meant it rained overnight and during the following day, with the inevitable consequences for the flea market and car park where 200 cars had to be towed off the grass (mud).. No doubt there will be a few tweaks to next years event, but overall, Stewart gave the new venue his seal of approval. <http://hamvention.org/>

Stewart then moved onto Southern Germany and Friedrichshafen, located on the northern banks of Lake Constance and home to the Zeppelin. The ham radio exhibition takes place in the purpose built convention centre and coincides with the Maker Faire Bodensee, in an adjacent hall, described as 'a playground for tinkers and hobbyists', and well worth paying a visit. Also worth looking out for are the Zeppelin airships that can be frequently seen flying around the area. This event is now a permanent feature on the calendar for some CARC and HARC members to visit, and certainly with its attractive location and additional attractions in the area makes the trip well worthwhile. <http://www.hamradio-friedrichshafen.de/ham-en/index.php>

Photos - G3YSX



Two Views of Friedrichshafen - Note the Zeppelins in Each

## Club News

### CARC at CATS (Coulsdon Amateur Transmitting Society) Bazaar - Sunday 19th November

Although not a CARC club event as such, we will again have a table at the CATS Bazaar, (10:00hrs - 13:00hrs, The Oasis Academy, Homefield Road, Old Coulsdon, CR5 1ES), where we normally do quite well in raising funds for CARC by disposing of surplus club/members equipment and items.

This will be the second year the Bazaar will have been held at the Oasis Academy, which has proved a great success in comparison to previous locations, and hopefully will remain at this location for the foreseeable future. If you would like to help your club by offering your services to man the CARC table, then please let **Keith, G3VKW** know.

Further details: <http://www.catsradio.org/>

### CQ WW SSB Contest

The annual CQ World Wide DX contest (SSB) takes place over the weekend of October 28th - 29th, 0000hrs UTC Saturday to 2359hrs UTC Sunday. To quote from the contest web page, this is the largest Amateur Radio competition in the world, the goal being to make as many contacts with as many different DXCC entities and CQ zones as possible. Basically a lot of fun to be had if you are into HF and DXing, so, if you would like to have a not too serious go at the contest, or just want to build up experience and learn more about HF operating (and contests), or perhaps just want to get on the air, then see **Keith, G3VKW**, or **Mike, G0KAD**, as it is proposed to operate in the contest from the club station. More details of the contest here: <http://www.cqww.com/index.htm>

### Next CARC Construction Project - Alan Jamieson, M/VK5ZFJ

Members will recall the list of suggested projects that was included in the August CARC News Bulletin (page 5). No further ideas were forthcoming so now it is time to select the project which would be of interest to the most people.

Please cast your vote at <https://www.surveymonkey.co.uk/r/BPZ7LRB> You may select as many projects as are of interest to you or just one if you like to vote strategically. We'll keep the survey open until close of play on Friday 20th October.

## Member News

From **David, M0WID** - Whilst at Friedrichshafen this year, Stewart, G3YSX, purchased a large number electrolytic capacitors mainly targeted at Alex who is building a High Voltage PSU for a 23cm PA. Four of the 1000uF 450V capacitors found their way to me, and my use for them is to build a high voltage PSU for my T1154.

I needed a way to test and reform these at the working voltage. Having no suitable adjustable high voltage supply I considered making one, then came across these on the usual auction site.

The version I ordered has two outputs (45 to 390V and -45 to -390V), requires DC feed between 10 and 32V, cost £4.59 including postage and arrived in about 3 weeks. The dual output means it can generate up to 780V – in my example it will actually go up to 820V (+- 410V relative to 0V). Looking at the circuit it looks as though regulation is only provided for the positive output, the negative one just follows. The module is described as being suitable for eradication of mice.

I installed it in a plastic food container, with a hole drilled in to allow the trim pot tool access to the multi-turn pot and adjusted the output to provide 100v. This was connected to one of the capacitors via a 470K high voltage resistor to limit current. No bangs so after allowing the voltage on the capacitor to settle and establishing that the leakage current was reasonable (measure voltage across the 470K resistor) the voltage was wound up to 400V. Again after allowing the voltages to stabilise the resistor was bypassed to ensure the cap was fully charged and then a 10K resistor put back into the circuit and the leakage current measured. Initially this was about 2mA, but reduced to about 0.1mA after a few hours, so reforming definitely took place. After about 10 hours at voltage the capacitor was discharged via 470K resistor. Same process repeated on the other three capacitors, all with similar results.



The PSU regulation is a little unstable with the very low leakage current and the high Capacitance, tending to inject some current then overshooting, turning off until the voltage dropped again. With a constant load current via a resistor it works much better, but no tests have been done to establish the limits of power and regulation or even how much noise is produced by the switching.

Conclusion – the capacitors seem to be good, and do benefit from reforming. It will be worth casing this supply up with switch to select charging via limiting resistor, discharge via resistor or no connection, and 4mm sockets to connect the meter(s) for measuring voltage and current.

## Chairmans Report - Keith, G3VKW

Well what happened to summer? I missed it but at last band conditions are slowly improving, and during the last few days of Sept I managed to worked quite a few Dx-ish stations, including QSOs on 10 and 12mtrs.

As I write this on Sept 28th there has been another solar disturbance. Which is not good, the SFI= 89 A=37 K= 4 !! However after things settle down it normally means the HF Bands have an improvement for a couple of days.



I have not been to active at the club as I was on a family holiday in Florida, sadly cut short due to Hurricane Irma. However I understand the Microwave Round Table was again well attended. If you have never been interested in that area of the amateur spectrum perhaps you may consider attending next year and listen to the lectures. It is a fairly niche area of the hobby, but never the less is very interesting, with a lot of home brew equipment still being constructed.

This year as we will be having two tables at the C.A.T.S. Bazaar we have not quite as much gear to dispose of as in the past, So any club member can sell gear on our tables, there is a small commission to the Club though. See Howard G4PFW if you wish to do so, we need to keep an orderly list.

The last weekend of October is the CQ Magazine SSB Dx Phone Contest. Mike G0KAD are wondering if anyone in the club would like to partake? This is to "Elmer " club members both new and old to find out how much fun can be had in one of the year's biggest contest. This will be a no pressure operation we may submit an entry, but that is not the main reason, but to educate the operators, and get rid of "stage fright". Basically all you need to do is say for example is :-

*G3VKW You are 5 and 9, One Four. i.e. the stations call you are working, his signal report (always 5/9 don't ask why ) and our CQ Zone which is 14. Easy isn't it?*

Anybody interested contact Mike G0KAD or me, it is a 48 hour contest, but we won't be doing the who thing. Unless we get a big team together !

November which is not long away means the HARC / CARC Challenge, this is an inter-club event held annually, and is good fun, this year Horsham are the hosts, and we never know what it is all about until the night. It is a good team fun event.

Ted G7OBF and myself have been discussing how we could improve the toilet facilities in the club, If you have any ideas on what you would like to see.

There is a new digital Mode which is taking off called FT8, it is quicker than JT65 but not quite as sensitive for weak signals but very very good. If you are interested in finding more information about this Mode, ask Mike G0KAD to give you a demonstration on the clubs station, it is fascinating.

That's all for now 73 BCNU Keith G3VKW.



David, M0WID, spotted this aerial farm whilst on a tandem cycling holiday abroad - and no, it's not in W land...

You may be surprised to learn it's actually in a European country roughly the same size as Northamptonshire, namely Luxembourg. A little bit of research via QRZ.COM reveals it's actually the station belonging to the Luxembourg DX and Contest Club. Very impressive..