

COULSDON AMATEUR TRANSMITTING SOCIETY
G4FUR  **M1FUR**

CATS WHISPERS



November
2013



Affiliated to the RSGB

CATS Committee

Chairman: Glenn Rankin, G4FVL
Secretary: Steve Beal, G3WZK
Treasurer: Steve Conway, G7SYO
Members: Stuart Barber, G6CJR
Andy Briers G0KZT
Dennis Noe, M0NDJ
James Flint G0SDB

CATS Whispers Editor:

Steve Beal, G3WZK

email address for contributions: newsletter@catsradio.org

Regular Society Meetings

These are held on the second Monday of each month at:
St. Swithun's Church Hall, Grovelands Road, Purley, Surrey, CR8 4LA at 20:15 to 22:15

Society Nets

1st Saturday of month - 17:15 - Crescenta Valley / CATS Net on Echolink/ GB3NS
Sunday mornings - 11:00 - Call on 145.400 MHz \pm QRM – *but see page 6*
Sunday evenings - 17:00 - Call on 3.700 MHz \pm QRM
Wednesday evenings - 21:00 - Call on 70.425 MHz

CATS Website

www.catsradio.org

Email

enquiries@catsradio.org

Forthcoming Meetings

Monday Nov 11 Acrobatic Flying by Julian Murfitt
Monday Dec 9 AGM
Monday Jan 13 CATS Annual Dinner At The Fox, Coulsdon Common



CATS is twinned with the Crescenta Valley Radio Club
Glendale California USA www.gsl.net/cvrc

CATS October Meeting

In October CATS member Terry Giles G4CDY gave the presentation that he had recently developed to help commemorate the RSGB's centenary entitled "The Dud Charman G6CJ Antenna Circus Revisited."



Terry G4CDY

Development

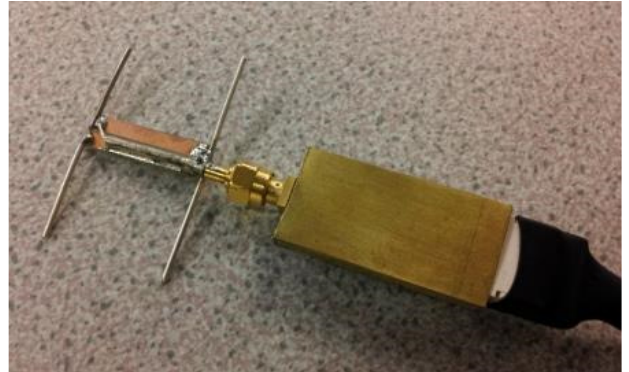
Terry began by explaining how he had come to be asked to recreate the "Aerial Circus" that had first been presented in the late 1940's. He explained how receiving and transmitting technology had developed since the RSGB began in 1913, noting that while receivers and transmitters had developed a great deal, aerials had developed very little – except that they were more often called "antennas" now.

Fred "Dud" Charman had been RSGB President in 1938. During the war he worked first for EMI on airborne radar and subsequently on developing an aerial distribution amplifier for a government receiving station at Hanslope Park using an 807 valve. He received a BEM (British Empire Medal) for this work.

Terry then showed us a video in which Dud described how he came to be asked to devise the original "Aerial Circus". The first demonstration was given at the IEE in 1945 and was very well received.

Dud had used a klystron functioning on 3 GHz to feed an antenna in the middle of a metal "deck". For receiving he used what he described as a "magic wand" detector which included a germanium diode, the output of which was fed to an audio amplifier based on a 6V6 valve.

Dud's equipment fitted into a wooden box which required power AC supplies at 6.3 V, and DC at 100 V, 300 V and 1000V. In contrast, Terry's transmitter consisted of a single transistor oscillator and buffer amplifier generating 5 milliwatts of RF, while his receiver included a logarithmic RF power detector and a PIC microcontroller with C++ software, all running off a 5V USB connection to his laptop.



The receiver head: a two element beam with Pawsey stub. Note the USB plug on the right for scale

Terry used a large aluminium sheet, hinged at the centre for ease of transportation, to replicate Dud's "deck." On the top is an SMA socket connected to the 3 GHz transmitter which is underneath. This sheet is the equivalent of an 8.5 acre groundplane on the amateur 20 metre band – ie it extends for several wavelengths in all directions so as to reduce "near field" RF effects. (See below).

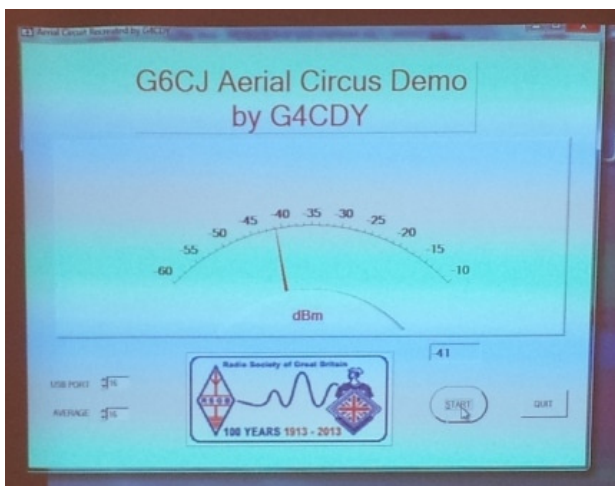


Terry's setup – folding aluminium groundplane with copper reflector "ionosphere" used later in the evening to demonstrate QSB (fading) effects

In developing the project, the first snag that Terry hit was that his miniature transmitting antennas didn't work as expected. This was found to be due to imbalance and was overcome by using a Pawsey stub as a balun for every antenna. G6CJ had used a balanced output from his klystron and balanced antennas, so would not have experienced this difficulty. However, once Terry had started using the Pawsey stubs, he found that all his antennas actually performed very well, due in part at least to the relatively large diameter of the antenna elements compared with the wavelength of RF in use.

Demonstration

One key element of Terry's presentation was the audio/visual display. The output level of the receiver was converted to an audio tone whose pitch varied with signal strength, with a higher pitch indicating more RF. The RF level was also shown on a computer-generated image of an analogue meter and projected onto a screen for all to see – see below:



Computer-generated field strength meter

The first transmitting antenna that Terry demonstrated was a half wave dipole, mounted horizontally a quarter wave above the ground plane. The doughnut shaped pattern with nulls off the ends of the radiating elements was readily evident but much of the RF energy went vertically upwards: all right for NVIS working but not for DX.

Next, Terry demonstrated a half wave dipole, mounted instead a half wave above the ground plane. The nulls of the end of the radiating elements were still readily evident but now there was also a null vertically above the antenna. The radiation peak was at about 25 degrees to the horizontal – much better for DX working.

Then, after showing the radiation pattern around a quarter wave vertical antenna, Terry returned to the half wave dipole and demonstrated the increased strength to be gained by adding a reflector element ten per cent longer than the driven element.



Halfwave dipole used as a transmitting antenna

Next up was a gamma-matched 3 element beam as the transmitting antenna. This had nearly 10 dB gain and its directivity was readily evident when Terry rotated it about a vertical axis. The front-to-back ratio was nearly 20 dB.

Terry then demonstrated helical aerials. Directivity was shown as before and the combined system gain was now so great that a pad (attenuator) had to be inserted into the receive system. However when one of the antennas was changed for one with the opposite polarisation, transmission was very poor indeed.



Helical antenna for 3 GHz

Terry reminded older members (myself included) of how the first attempt to transmit television across the Atlantic using the Telstar

satellite had failed because initially the UK receiving antenna at Goonhilly Down used the opposite hand of circular polarisation to that of the transmitter on the satellite. Terry then used a piece of copper PCB as a reflector to demonstrate that when a signal is reflected, the handedness of the polarisation flips from one hand (eg left-handed) to the other (eg right-handed).

As a finale, Terry used a piece of copper PCB as an artificial "ionosphere" to show how QSB (fading) can be caused by the interference of two or more waves arriving at the receiver via different routes of continuously varying path length.



Terry raises and lowers his copper "ionosphere" to demonstrate the origin of HF QSB

Overall, this was a fascinating evening with a good turn-out of members and a worthy successor to G6CJ. Thank you and well done, Terry!



Dud Charman G6CJ presenting his original "Aerial Circus"

CATS November Meeting

In November, Julian Murfitt will visit CATS to give a talk about Acrobatic flying. Born in 1964, Julian grew up fascinated by aircraft hanging on to the coat tails of his father who was flying for the RAF on Vulcans. He joined the Air Training Corps at 13 and went onto fly solo aged 16 in a Kurby Cadet Mk 3 glider at Little Rissington.

This led to a long period of civilian gliding at Cambridge Gliding club where he later instructed new students for some years.

This promises to be a very interesting talk. The date for your diaries is Monday November 11th, starting at 8:15 pm.

CATS December Meeting **Advance Notice Of AGM**

Annual General Meeting Of The Society

In accordance with the rules of the Society, notice is hereby given that the Annual General Meeting of the Coulsdon Amateur Transmitting Society will be held on Monday 9th December 2013 at St. Swithun's Church Hall, Grovelands Road, Purley, Surrey CR8 4LA, commencing at 20:15 hours.

Now is a good time for all members to consider any issues they may wish to raise at the meeting and whether they might wish to nominate someone new, or perhaps stand themselves, for election to the CATS Committee.

Serving on the committee members is not as onerous as you might think, because most committee meetings are now run using Skype so you can take part from the comfort of your own home. Please give it a thought. CATS needs YOU ...

CATS 2014 Annual Dinner

The Committee have decided to make a booking for The Fox Public House on Coulsdon Common, as a venue for the 2014 CATS Annual Dinner. The date for your diaries is 13th January 2014, 7:30 for 8:00 pm. An email will be sent to all members about the event.

The Bug has bitten

In my previous article, I described how I made my first crystal set with transistorised audio amplifier stage (ACS – Amplified Crystal Set) and which I was thrilled to be able to receive foreign radio stations. At about the same time, one of my parents' mains radios developed a fault. The set - a Bush DAC90A- had been my grandma's but she had passed away.



A Bush DAC90A similar to the one I used. Note the wavechange switch just visible on the right hand side of the cabinet.

The set had a large internal frame aerial which normally provided good directivity and sensitivity. I used to listen to Radio Luxemburg on it after "lights out." The fault that had arisen was a loss of sensitivity. However, every cloud has a silver lining and in this case the hidden benefit was that I started to pick up radio amateurs on medium wave at very good strength. The amateurs were clearly operating on a wavelength of 160 metres and on a good day I could find several QSOs at different points on the medium wave tuning scale. I discovered that I could enhance reception considerably by placing my normal wire aerial close to the set's internal aerial, but on the outside of the cabinet. I began to hear the occasional amateur mobile station on Top Band too.

This experience prompted me to modify the tuning coil of my amplified crystal set (ACS - described last month). I found I could receive several amateurs on Top Band (using AM of course) with one of the locals (G3SDK) even audible when he came up on 80 metres. But all of these stations could be received much better on the Bush set. I tried to add additional

audio amplifying stages to my ACS but without any significant success.



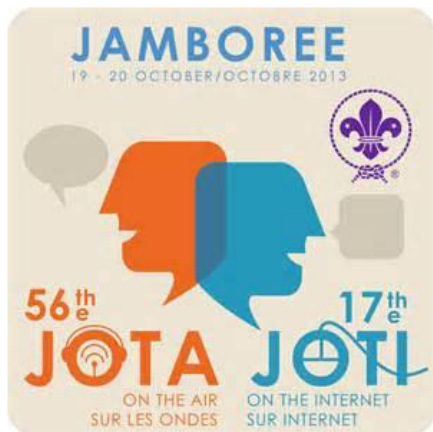
SWL me with (L:R on desk): Ever Ready 1289 battery, amplified crystal set, headphones

As my technical knowledge grew, I began to understand how superhet radios worked and became painfully aware of how much more efficient they are, even when faulty, than an amplified crystal set. Then it dawned on me that the Bush set was picking up local amateurs because of poor image rejection. Looking inside the set, I discovered a broken tag on the rotary wavechange switch, the result of which would be poor/non-existent front end selectivity on medium waves. This would make the set able to receive signals 930 kHz higher in frequency than indicated on the dial, in addition to the normal medium wave transmissions. Thus the lower band edge (then 1.8 MHz) would be receivable on 870 kHz or 345 metres, while the upper band edge (2.0 MHz) would be receivable on 1070 kHz or 280 metres. The remedy would be to replace the wavechange switch, but in the meantime I was more than happy to use the set to receive local amateurs, the vast majority of amateurs used AM (amplitude modulation) in those days of course. One such was another local (G3RPB). He had an enormous vertical antenna for top band and would frequently appear on AM describing how he had worked stations in the USA the night before – using CW of course. Yet all I could hear on 160m with my set-up was a handful of locals. This was very frustrating. Grrrrr...

With all these tantalising glimpses into the world of amateur radio, I was desperate to get a proper receiver but there was simply nothing in my price range.

To be continued.

Jamboree On The Air (JOTA) 2013



Last month CATS member Stuart G6CJR organised a JOTA/JOTI event for the 7th Banstead Scouts, supported by members of the Sutton and Cheam Radio Society and CATS.

Stations were provided on VHF and HF so that the Beavers, Cubs, Scouts, Brownies and Guides present could talk to fellow members of the Scout and Guide movement at JOTA events elsewhere. Skype was also available to fulfil the JOTI element of the event.

All visitors were given the opportunity to construct a camping light. This consisted of a light dependent resistor, electronics and LED housed in an old plastic milk container, constructed so that the LED lit up automatically in the dark.

Steve G3WZK ran a Morse code demonstration, beginning by slowly sending a short CW message to the boys and girls in groups of 3 or 4, for them to decode using a crib sheet. Then they each sent him a short message of their own for him to decode. This is always a lot of fun and this year Steve received a total of 60 CW messages from 32 youngsters, including the following:

- My sister is so annoying and she's in the room right now
- Today is fun
- Un deux trois
- My dogs are called Woodie and Banjo
- My brother stinks
- I like jamboree on the air
- Hi I am at JOTA 56
- Rainbow sloths eat sushi
- Would you like a cup of tea
- Take me to your leader
- I am a vampire

After the event Stuart G6CJR told *CATS Whispers*, "I would like to thank all the volunteers who turned up to support this event. We achieved all of our objectives and everyone had a great time!"

Kempton Park rally and CATS bazaar

It's now only a matter of days until these two regulars in the CATS' calendar. If you would like to help at either or both of these events, please contact Graham 2E0XDZ (who will be in charge of the Bring & Buy stands at both events) or any committee member.

The dates for your diary are:

Kempton Park - November 10th - Help needed on B&B stand

CATS Bazaar - November 24th - Help needed to set up on the early evening of 23rd November and to run the event, including the B&B stand, on 24th November.

IET Meeting

The November 2013 issue of Radcom states that there is to be a joint meeting with the IET on 5th December 2013. The location is Imperial College and there will be two lectures of interest to radio amateurs. The first will deal with a history of amateur radio technology over the past 100 years, while the second lecture will examine what the future may bring to our hobby. The meeting will run from 6:30 pm until 9:00 pm but you must book in advance.

Andy G0KZT has kindly offered to coordinate a response on behalf of CATS members, so if you are a CATS member and would like to attend, please send an email to him at the address on page 1 of *CATS Whispers* by 17th November.

CATS Nets

The Committee decided that, as an experiment, the first two CATS nets of November 2013 would be held on the repeater GB3NS. The remaining affected date is

Sunday 10th November at 11:00 clock time

Access the repeater directly or via Echolink.

Contest Calendar

(2014 now included)

| <u>Tuesday Activity Activity</u> <u>Contests 2013/14 – all begin</u> <u>at 8pm local time</u> | |
|--|-------------------|
| Nov 5 | 2 metres |
| Nov 12 | 70 cm |
| Nov 19 | 23 cm |
| Nov 26 | 6 metres |
| Dec 3 | 2 metres |
| Dec 10 | 70 cm |
| Dec 17 | 23 cm |
| Dec 26 | Christmas |
| Dec 27 | Cumulatives: |
| Dec 28 | 70cm, 2 metres, 4 |
| Dec 29 | metres, 6 metres |
| Jan 7 | 2 metres |
| Jan 14 | 70 cm |
| Jan 21 | 23 cm |
| Jan 28 | 6 metres |
| Feb 4 | 2 metres |
| Feb 11 | 70 cm |
| Feb 18 | 23 cm |
| Feb 25 | 6 metres |
| Mar 4 | 2 metres |
| Mar 11 | 70 cm |
| Mar 18 | 23 cm |
| Mar 15 | 6 metres |
| Apr 1 | 2 metres |
| Apr 8 | 70 cm |
| Apr 15 | 23 cm |
| Apr 22 | 6 metres |
| Apr 29 | 4 metres |
| May 6 | 2 metres |
| May 13 | 70 cm |
| May 20 | 23 cm |
| May 27 | 6 metres |
| Jun 3 | 2 metres |
| Jun 10 | 70 cm |
| Jun 17 | 23 cm |
| Jun 24 | 6 metres |
| Jul 1 | 2 metres |
| Jul 8 | 70 cm |
| Jul 15 | 23 cm |
| Jul 22 | 6 metres |
| Jul 29 | 4 metres |
| Aug 5 | 2 metres |
| Aug 12 | 70 cm |
| Aug 19 | 23 cm |
| Aug 26 | 6 metres |
| Sep 2 | 2 metres |
| Sep 9 | 70 cm |
| Sep 16 | 23 cm |
| Sep 23 | 6 metres |
| Sep 30 | 4 metres |
| Oct 7 | 2 metres |

| | |
|--------|-------------------|
| Oct 14 | 70 cm |
| Oct 21 | 23 cm |
| Oct 28 | 6 metres |
| Nov 4 | 2 metres |
| Nov 11 | 70 cm |
| Nov 18 | 23 cm |
| Nov 25 | 6 metres |
| Dec 2 | 2 metres |
| Dec 9 | 70 cm |
| Dec 16 | 23 cm |
| Dec 26 | Christmas |
| Dec 27 | Cumulatives: |
| Dec 28 | 70cm, 2 metres, 4 |
| Dec 29 | metres, 6 metres |

Other Contests 2013

Nov 2-3: 144MHz CW Marconi
 Nov 9: Club Calls
 Nov 13: 80m Club Sprint SSB
 Nov 16-17: 2nd 1.8MHz Contest
 Nov 28: 80m Club Sprint CW
 Dec 1: 144MHz Affiliated Societies Contest
 Dec 26-29: 50/70/144/432MHz Christmas
 Cumulatives Contest

Other Contests 2014

Jan 12: AFS Contest CW
 Jan 18: AFS Contest PHONE
 Feb 2: 432MHz AFS
 Feb 3: 80m CC SSB
 Feb 8/9: 1st 1.8MHz Contest
 Feb 12: 80m CC DATA
 Feb 20: 80m CC CW
 Feb 23: 70MHz Cumulatives #1
 Mar 1/2 : March 144 432MHz
 Mar 3: 80m CC DATA
 Mar 8/9: Commonwealth Contest
 Mar 9: 70MHz Cumulatives #2
 Mar 12: 80m CC CW
 Mar 20: 80m CC SSB
 Apr 6: First 70MHz Contest
 Apr 6: RoPoCo SSB
 Apr 7: 80m CC CW
 Apr 13: First 50MHz Contest
 Apr 16: 80m CC SSB
 Apr 24: 80m CC DATA
 May 3/4: May 432MHz-248GHz Contest
 May 3: 432MHz Trophy Contest
 May 3: 10GHz Trophy Contest
 May 5: 80m CC SSB
 May 11: 70MHz Contest CW
 May 14: 80m CC DATA
 May 18: 1st 144MHz Backpackers
 May 22: 80m CC CW
 May 25: 70MHz Cumulatives #3
 Jun 2: 80m CC DATA

Jun 7/8: NFD
 Jun 8: 2nd 144MHz Backpackers
 Jun 11: 80m CC CW
 Jun 19: 80m CC SSB
 Jun 21/22: 50MHz Trophy Contest
 Jun 29: 50MHz Contest CW
 Jun 29: 70MHz Cumulatives #4
 Jul 5/6: VHF NFD
 Jul 6: 3rd 144MHz Backpackers
 Jul 7: 80m CC CW
 Jul 16: 80m CC SSB
 Jul 20: 70MHz Trophy Contest
 Jul 20: Low Power Contest
 Jul 24: 80m CC DATA
 Jul 26/27: IOTA Contest
 Aug 2: 144MHz Low Power Contest
 Aug 2: 4th 144MHz Backpackers
 Aug 3: 432MHz Low Power Contest
 Aug 3: RoPoCo CW
 Aug 10: 70MHz Cumulatives #5
 Aug 13: 80m Club Sprint CW
 Aug 28: 80m Club Sprint SSB
 Sep 6/7: 144MHz Trophy Contest
 Sep 6/7: SSB Field Day
 Sep 7: 5th 144MHz Backpackers
 Sep 10: 80m Club Sprint SSB
 Sep 21: Second 70MHz Contest
 Sep 25: 80m Club Sprint CW
 Oct 4: 1.2GHz Trophy / 2.3GHz Trophy
 Oct 4/5: Oct 432MHz-248GHz Contest
 Oct 5: 21/28MHz Contest
 Oct 8: 80m Club Sprint CW
 Oct 29: 50MHz AFS Contest
 Oct 23: 80m Club Sprint SSB
 Nov 1/2: 144MHz CW Marconi
 Nov 8: Club Calls (1.8MHz AFS)
 Nov 12: 80m Club Sprint SSB
 Nov 15/16: 2nd 1.8MHz Contest
 Nov 27: 80m Club Sprint CW
 Dec 7: 144MHz AFS

Local Rallies & Events

10 November 2013

West London Radio & Electronics Show

Kempton Park Racecourse.
 Open 10:00. Parking, trade stands, catering, disabled facilities. Contact info@radiofairs.co.uk
NOTE: CATS involvement in this event. The CATS bring and buy sale is a permanent feature of this rally.

www.radiofairs.co.uk

24 November 2013

CATS 36th Annual Radio and Electronics Bazaar

1st Coulsdon Scout Group headquarters, Lion Green Road in Coulsdon, Surrey. [Map](#)
 Open 10:00 to 13:00
 Parking, trade stands, bring and buy, refreshments
 Contact: enquiries@catsradio.org or www.catsradio.org

2 February 2014

29th Canvey Radio & Electronics Rally

The Paddocks Community Centre, Long Road, Canvey Island, SS8 0JA
 Open 10:30
 Parking, Catering, Disabled Facilities, Trade Stands
 Major Amateur Radio and Electronic component exhibitors Selling New and S/Hand equipment .
 Freshly made refreshments. (And by popular demand the famous Canvey Radio Rally Bacon Rolls are back on the Menu).
 Free car parking with space outside main doors for disabled visitors
 Contact: Vic Rogers G6BHE Tel 01702 308562
NVR@blueyonder.co.uk
www.southessex-ars.co.uk/canveyrally.html

9 February 2014

Harwell Radio and Electronics Rally

Didcot Leisure Centre, Mereland Road, Didcot, OX11 8AY, Oxfordshire.
 Radio, electronics and computing trade stalls, secondhand stalls, special interest groups, displays.
 Refreshments. Entrance £2.50.
 Open 10:30 to 15:30.
 Contact: Ann Stevens 01235 816379 or rally@g3pia.org.uk
www.g3pia.org.uk

23 February 2014

Rainham Radio Rally

Rainham School For Girls, Derwent Way, Gillingham, Kent, ME8 0BX
 Talk in on 2metres using G0BRC.
 RSGB RAIBC RSARS RNARS Peter Weatherall / QRP club, Clifton ARS contest Group
 Traders incl Sycom
 Contact Trevor, G6LYW, 07717 678795 or trev@wig1.co.uk
www.brats-qth.org

15 June 2014

27th Newbury Radio Rally & Boot Sale

Newbury Showground, M4 J13.
 Newbury Showground is located right next to junction 13 of the M4 Motorway.
 Nearest Post Code: RG18 9BB
 Open 09:00. Free parking, trade stands, catering, disabled facilities.
 Contact rally@nadars.org.uk
www.nadars.org.uk/

27-29 June 2014

39th Hamtronic Show, Friedrichshafen

Messe Friedrichshafen, Germany
 Open 09:00 each day

- 63rd DARC Lake Constance Meeting
- with lectures and meetings
- HAM RALLYE - Friday and Saturday
- HAM tent camp
- HAM NIGHT - Saturday

www.hamradio-friedrichshafen.de/ham-en/index.php

6 July 2014

Norfolk ARC Barford Radio Rally

Barford Village Hall
 Barford 9 miles SW of Norwich close to A11 and A47
 Open 09:00 (traders from 8am), CP, TI, CBS, B&B, C, TS, RSGB Bookstall, Demos.
 Contact: David G7URP 01953 457322 or radio@dcpmicro.com
www.norfolkamateurradio.org

13 July 2014

McMichael Rally & Boot Sale

Reading Rugby Club Holme Park Farm Lane, Sonning Lane (B4446), Sonning on Thames, Reading. RG4 6ST off A4 east of Reading

Open 09:30.

Large Boot Sale on Level Site

Big Boot Sale Pitches

Special Interest Groups - Special Interests McMichael Radio Owners

Computer Equipment

Demonstrations & Lecture

Catering Services

Barbecue (weather dependant)

Fully Licensed Bar

Plenty of Parking Areas with Disabled special parking on level ground.

Easy access from Reading & A4, A329(M) and M4

First Aid Post

Talk in Station on VHF

Parking, trade stands, catering.

Contact: Pete G8FRC 01189 695 697

www.mcmichaelrally.org.uk

Other Club News & Contact Information

BROMLEY & DISTRICT ARS

Website: www.bdars.org.uk/

Email: info@bdars.co.uk

Meetings: 3rd Tuesday of every month at Victory Social Club, Kechill Gardens, Hayes, Kent, 19:30 for 20:00.

19 Nov - Build-a-thon

17 Dec - Mince Pie Night/Quiz

CPREC (CRYSTAL PALACE)

Website: www.qsl.net/g3oou/ or <http://www.g3oou.co.uk/>

Club Net: Wednesdays 20:00 on 145.525 MHz

Meetings: 1st Friday at All Saints Church Parish Rooms, Beulah Hill at 19:30

1 Nov - Maxwell's Equations and their Practical Applications by Nick Stapley

6 Dec - Computer Construction by Alan O'Donovan G8NKM

3 Jan - TBC

7 Feb - AGM and construction contest

CRAY VALLEY RS

Website: www.cvr.org

Contact: Lawrie Atkinson G4FAA. (see website)

Club Nets: Wednesdays 21:00 on 145.500/QSY and 22:00 on 3.720 ± QRM, and Sundays 11:00 on 3.720 ± QRM

Meetings: 1st and 3rd Thursdays at 1st Royal Eltham Scouts HQ, Rear of 61 - 71 Southend Crescent, Eltham, London, SE9 2SD.

7 Nov - Surplus Sale

21 Nov - Maritime AIS

19 Dec - Christmas Social

DORKING & DISTRICT

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

Email: ddrs.secretary@yahoo.co.uk

Contact: George Brind, G4CMU

Club Nets: Sunday 08:15 on 3.770 MHz & Thursday 20:00 on 144.775 MHz

Meetings: Friends Meeting House, Butterhill, South Street Dorking at 19:30.

26 Nov - AGM/How Valves Work by M0SXD

6 Dec - Christmas Dinner at the White Horse, Dorking

HORSHAM ARC

Website: www.harc.org.uk

Club Nets: Saturdays 21:30 on 144.725MHz and Sundays 10:00 on 3.722 MHz

Meetings: 1st Thursday at The Guide Hall, Denne Road, Horsham, Sussex

7 Nov - CARC - HARC challenge

21 Nov - Club curry night

5 Dec - AGM

MID SUSSEX ARS

Website: www.msars.org.uk

Club Nets: Sundays 08:00 on 3.740 MHz and at 11:00 on 145.350 MHz, Wednesdays 20:00 on 145.350 MHz and Daily 13:30 on 21.330 MHz

Meetings: Every Friday at Cyprus Hall, Cyprus Road, Burgess Hill, West Sussex for 19:45

8 Nov - AGM

13 Dec - Christmas Dinner

SRCC

Website: www.g3src.org.uk

Contact: John Kennedy G3MCX, 020 8688 3322

Club Nets: Sunday 09:30 on 1905 kHz

Daily natter channel - 144.215 MHz at 19.30.

Meetings: 1st & 3rd Mondays at Trinity School, Shirley Park, Croydon CR9 7AT 19:45 for 20:00

4 Nov - Short Talks Evening - Rick M0LEP + Stuart G0LRX

2 Dec - 4-square phase steerable beam antenna for 21MHz by Garth Swanson G3NPC

6 Jan - GB3NS by Denis G0OLX

3 Feb - Talk TBC

3 Mar - Surplus equipment sale

SUTTON & CHEAM RS

Website: www.scrs.org.uk

Contact: John Puttock G0 BWV 020 8644 9945

Club Nets: Monday 20.00 on 145.500 MHz

Saturday 11.00 on 145.500 MHz

Meetings: 3rd Thursday at Sutton United Football Club, The Borough Sports Ground, Gander Green Lane, Sutton. 19:30 for 20:00

21 Nov - HF Aerials and ATUs' by Bob Burns G3OOU

12 Dec - Christmas Junk Sale

16 Jan - Loops and small antennas by Mike G3LHZ

20 Feb - TBC

20 Mar - ALMA by Neil Phillipson of Astronomia

WIMBLEDON & DISTRICT ARS

Website: www.gx3wim.org.uk (currently unavailable also checked 28.10.13))

Contact: Andrew Maish G4ADM
020 8335 3434

andrew.maish ATntlworld.com

Club Net: Mondays 20:45 on 145.500 MHz

Meetings: 2nd & last Friday of each month at

Martin Way Methodist Church, Buckleigh Avenue, Merton

8 Nov: Morse Code On The Air

29 Nov: Surplus Equipment Sale

13 Dec: Christmas Social

CATS Whispers is published monthly by
S J Beal G3WZK on behalf of the
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