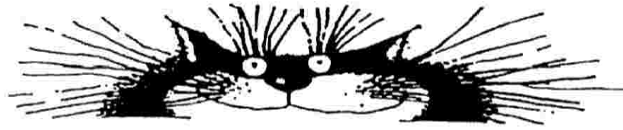


COULSDON AMATEUR TRANSMITTING SOCIETY

G4FUR



M1FUR

“CATS WHISPERS”

April 2017



Affiliated to the RSGB

CATS Committee

Chairman: Stuart Barber G6CJR

Secretary: VACANT

Treasurer: Steve Conway G7SYO

Members: Terry Giles G4CDY

David Milne G6VMI

Vacancies: Currently remains at **THREE**

CATS Whispers Editor: Andy Briers G0KZT

email 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

Sunday mornings - 11:00 - Call on 145.400 MHz ± QRM

Sunday evenings - 17:00 - Call on 3.700 MHz ± QRM

Wednesday evenings - 21:00 - Call on 70.425 MHz

CATS Website www.catsradio.org

Email enquiries@catsradio.org

Forthcoming Meetings

Monday 10th April – 432MHz DF receiver club project by Terry Giles G4CDY

Monday 15th May – To Be Announced



CATS are twinned with the Crescenta Valley Radio Club

Glendale California USA www.qsl.net/cvrc

February Meeting Debrief –

The GB3XP Repeater Project by Martin Rothwell M0SGL

At the time of going to press, a debrief is still anticipated.

March Meeting – Debrief -

Roll Your On PCB's by Matthew Nassau M0NJX

A total of 9 members and 2 guests were pleased to be able to welcome Matthew to give his presentation on how he developed a technique of making his own PCB's in his own shack (well, in a safe working area!). He called it, "his novel approach".

But Matthew first introduced himself to his audience. He has been licenced for three years having studied the syllabus using a distance learning course run by a club in Bath. He was born in Wales but his family moved to Ontario, Canada. He has two university degrees. He currently divides his time between the UK and Spain, where his wife and family currently reside. Matthew's profession is in the field of computer software.

In essence, Matthew's system is quite simple. He develops a circuit using CAD software, prints in onto photographic paper using a laserjet printer, transfers that onto a PCB, and uses chemicals to remove the unwanted copper. His system was first published in October 2015 edition of Practical Wireless.

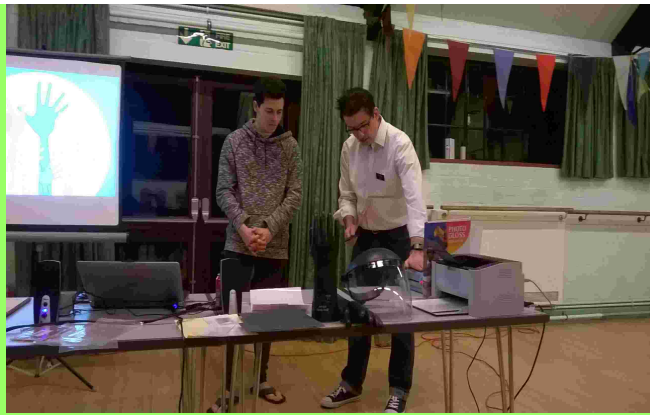
Matthew's first question was, why bother? His answer was that Amateur Radio is inherently electrical and encourages self training, a fundamental aspect of our hobby. Being able to develop your own PCB's allows experimentation and development of home brew projects.

The first part of the talk featured how to put a circuit together. He gave two examples of free circuit plotting software that are available, fritzing.org and, his preferred one, Diptrace.com. Diptrace has a professional version but also a free version that allows 300 connections. Matthew added that, once you reach that 300 connection limit, you can then build on the project by developing a further circuit and join them together. Matthew gave us a quick demonstration of Diptrace.

Matthew gave out a sheet of copper coated PCB to a member of the audience (Peter M0PWW duely volunteered) and a piece of wet/dry sandpaper (600 grade). Peter was tasked to prepare a clean, grease free surface with the additional help of nail polish remover for the next stage of the process.

The next stage of the development was the printing of the circuit design. For his system to work, a laser printer is required (the expensive bit) and ink jet photo-paper (the cheaper bit). Matthew explained that the laser printer toner leaves a thin layer of plastic and not ink. The ink jet paper allows this thin layer of plastic to be transferred. So, having printed the inverse circuit design, the magic of the transfer began.

This involved another volunteer. Owen M6ICZ, and son of our Chairman Stuart, who put himself forward. Using a standard laminator, the newly cleaned bare circuit board was passed through the laminator with the printed design. Matthew recommended passing the PCB "sandwich" through the laminator around 10 times.



Owen M6ICZ wonders what he's let himself into!



After several passes, the PCB became a little hot to handle!



The transferred image

The final stage, which for safety reasons was not conducted in the church hall, is to remove the unwanted copper. To do this, Mathew has a small "laboratory" set up in his garage. The area needs to be well ventilated and safety always has to be paramount. The chemicals required are Hydrochloric acid 33% (extreme caution) and Hydro peroxide 3%.

Matthew stated that he can obtain these chemicals via eBay. Now, because the mixtures of the chemicals is quite critical, I would advise visiting Mathew's YouTube video before advancing to this stage as my notes made on the evening are not concise enough.

www.youtube.com/watch?v=L732rxR6cXo

Matthew's youtube videos can be found under the name Queuerious Guy. He finished off by adding that he drills the holes out using 0.8mm tungsten bits and that it is possible to print the boards double sided.

Matthew's presentation had a combination of PDF slides, an edited version of his youtube video, a demonstration of the circuit design software and of course, the audience participation. It was all delivered in a relaxed and informative way. On behalf of all the audience and members of CATS, I would like to express our sincere thanks to Matthew for giving up his evening for us.

April Monthly Meeting

Monday 10th April – Terry G4CDY has offered to give his talk on Direction Finding, which went down well recently at a neighbouring club. He will also use it to launch his 432MHz DF receiver club project.



- A) Very simple to build, only has 12 components (3 of which are the aerial elements !)
- B) Costs less than £6 in components
- C) Fully synthesised and can be tuned between 400 and 928MHz.
- D) RX can also be used as a Fox transmitter
- E) When tuned to 433.92MHz ISM band, it can be used without the need for a licenced operator.

Terry will provide the first 6 kits available on the night as a first come first served basis.

Future Meetings

Topics for the year are still being arranged by your Committee. More news next month.

Bring & Buy – Kempton Rally Sunday 30th April

It's not long now until the Kempton Radio Fair and once again we will be running the Bring & Buy.

We need YOU! To volunteer to help run the stand, and the most help is required prior to the show with setting up but most importantly, to get the items being sold booked in and displayed.

As a small reward, you'll be able to take time out to go around the show and therefore you'll not have to pay the entrance fee.

If you feel you can help, please contact a Committee member as soon as possible.

Echolink News

Possibly, by the time this edition of "CATS Whispers" is published, Echolink will once again be established on GB3NS, our local UHF repeater. It has been some time since Trevor G7ELZ, the previous provider had to close his link down due to moving to a new QTH. Denis Stanton G0OLX had been looking for a new provider and, I am pleased to announce that Adam G7CRQ has kindly offered to take it on.

Denis has already informed the RSGB Repeater manager and Adam needs to apply for his NoV. The hardware is going to be donated by Trevor and Adam just has to install a dedicated antenna to point at GB3NS.

Echolink is VoiP software that can be run on computers, tablets and apparently Smart Phones. But in addition, it is accessible using a radio in repeater mode using DTMF tones to dial up direct stations, nodes and conferences.

Here are a summary of the key commands :-

Type the node number to attempt to connect to that node

Type "# " to disconnect from the node

Type "## " to disconnect all stations

Type "08 " to get the status – each person connected

Type "09 " to re-connect to the most recently disconnected station

Type "*" to get the Echolink ID

FOR SALE

KENWOOD TS2000X FOR SALE LESS THAN TWO YEARS OLD AND IN VERY GOOD CONDITION
BOXED WITH ALL IT MANUALS

THERES A PHOTO OF IT ON MY QRZ.COM PAGE

£1100 OVNO. contact adam G7CRQ at adam.haywood@blueyonder.co.uk

To A Good Home

I have an old yaesu ft101zd and a heavy old ATU to give away if anyone is interested.
Collection only from his QTHR in CR2 land.

Please contact Gerry G4SXY on 020 8657 8494 for more details.

Membership News

Although we are now four months into 2017, there are still a number of 2016 members who are yet to renew their memberships. We can only summarise that this maybe an oversight or an intention not to renew their membership. The club rules provide a two month grace period (with subs renew falling on 1st January of each year) so we're well past the grace period. However, The 2017 Committee have decided to send out **ONE MORE FINAL REMINDER** and those 2016 members who have not paid will be contacted directly by our Treasurer.

Southern Electronics and Radio Fair

SERF 2017 - Cancelled

It is with regret to announce that due to circumstances beyond our control and too late to rearrange some required alternative services, **we have unfortunately had to cancel SERF 2017** – Southern Electronics and Radio Fair – Eastbourne Radio Rally, which was booked for Saturday, 6th May 2017.

The traders, clubs and visitors support has been very encouraging and as such, a new date for next year has been booked. **SERF 2018 will be Saturday, 5th May 2018.** Services which failed us this year will be revised so we are not in the same situation, and so sincere apologies for any inconvenience but look forward to seeing you at our next event.

We look forward to meeting you all at SERF 2018

Dave Williams, G8PUO, +44 78 0707 4538

[The SERF Team.](#)



Youngsters on the Air (YOTA) 2017

We are proud to be hosting YOTA 2017 the prestigious IARU international summer camp at Gilwell Park, the UK Scouting HQ, from 5-12 August 2017

What is YOTA?

There will be 80 young people under the age of 26 from 30 countries – from all over [IARU Region 1](#) as well as Japan – representing their national amateur radio societies at this event.

By taking part in a mix of amateur radio and intercultural activities, the young people will be able to build relationships with like-minded people from other countries and develop international friendships through amateur radio—and have a lot of fun!

Mike Buckley M1CCF has suggested that CATS make a donation to the fund as the RSGB have sought funding from RSGB members. The Committee has agreed to match CATS members' donations to a maximum of £50.00.

Please send your cash or cheques to your Treasurer or, if you prefer, do a bank BACS transfer to the CATS account Sort Code 20-05-57 Account Number 90864722 making the reference YOTA + your callsign.

Contest Update

Date	Band	Period of Operation
Tuesday 11 th April	432 MHz FMAC	1800 - 1900hrs UTC
Tuesday 11 th April	432 MHz UKAC	1900 – 2130hrs UTC
Wednesday 12 th April	80m Club Championship SSB	1900 – 2030hrs UTC
Thursday 13 th April	50 MHz UKAC	1900 – 2130hrs UTC
Tuesday 18 th April	1.3 GHz UKAC	1900 – 2130hrs UTC
Thursday 20 th April	70 MHz FMAC	1800 – 1900hrs UTC
Thursday 20 th April	70 MHz UKAC	1900 – 2130hrs UTC
Tuesday 25 th April	SHF UKAC	1900 – 2130hrs UTC
Thursday 27 th April	80m Club Championship DATA	1900 – 2030hrs UTC
Monday 1 st May	80m Club Championship SSB	1900 – 2030hrs UTC
Tuesday 2 nd May	144 MHz FMAC	1800 – 1900hrs UTC
Tuesday 2 nd May	144 MHz UKAC	1900 – 2130hrs UTC
Saturday 6 th May	10 GHz Contest	1400 – 2200hrs UTC
Saturday 6 th May	432 MHz Trophy Contest	1400 – 2200hrs UTC
Sat 6 th – Sun 7 th May	May 432 MHz – 245 GHz	1400 – 1400hrs UTC
Wednesday 10 th May	80m Club Championship DATA	1900 – 2030hrs UTC
Tuesday 9 th May	432 MHz FMAC	1800 - 1900hrs UTC
Tuesday 9 th May	432 MHz UKAC	1900 – 2130hrs UTC
Thursday 11 th May	50 MHz UKAC	1900 – 2130hrs UTC
Sunday 14 th May	70 Mhz Contest CW	0900 – 1200hrs UTC
Tuesday 16 th May	1.3 GHz UKAC	1900 – 2130hrs UTC
Thursday 18 th May	70 MHz FMAC	1800 – 1900hrs UTC
Thursday 18 th May	70 MHz UKAC	1900 – 2130hrs UTC
Sat 20 th – Sun 21 st May	144 MHz Contest	1400 – 1400hrs UTC
Sunday 21 st May	144 MHz Backpackers	1100 – 1500hrs UTC
Tuesday 23 rd May	SHF UKAC	1900 – 2130hrs UTC
Thursday 25 th May	80m Club Championship CW	1900 – 2030hrs UTC
Sunday 28 th May	70 MHz Cumulatives	1400 – 1600hrs UTC

CATS Caption Competition (Just For Fun)

Following the publication of Steve Conway G7SYO's photograph last month, below are the captions that were suggested.



Tom Ellinor G4DFA suggested :-

" I thought a bird was an in-line power meter" or " Bird loading! I wonder what the slug is rated at for this one"or "my bottom keeps going alternately warm and cold this continuous wave (CW) heating isn't very reliable!"

Mike Buckley M1CCF suggested :-

"Great for the Pigeons who absolutely love it to view the garden for grub (s?)"

Thanks to Tom and Mike for their contribution.

Rallys & Events

23 April 2017 Andover ARC's 17th Wildhern Rally

Village Hall, Wildhern, just north of Andover, SP11 0JE. Map reference: SU350510

Open 10:00/Sellers 09:00. Admission £2. Tables in the hall £10, £8per Boot.

Free Raffle. (See also 10 September).

Details:arac@arac.org.uk Club Website <http://www.arac.org.uk>

30th April 2017 Cambridge Repeater Group Rally

Foxton Village Hall, Hardman Road, Foxton, Cambridge, CB22 6RN.

Entry £2. Open 09:30/07:30 traders. Free on-site parking. Trade. B&B.

Car boot sale. RSGB books. Catering.

Details: Lawrence, M0LCM, 07941-972724, rally2017@cambridgerepeaters.net

Web:<http://www.cambridgerepeaters.net>

30 April 2017 West London Radio & Electronics Show (Kempton Rally)

Kempton Park Racecourse, Staines Road East, Sunbury on Thames, TW16 5AQ.

Open 10:00/09:50. Free parking. Talkin. Trade. B&B. SIGs. Lectures.

Raffle. On-site catering.

Details: Paul, M0CJX, 0845-165-0351, info@radiofairs.co.uk

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

6 May 2017 SERF 2017 Southern Electronics & Radio Fair - Eastbourne Rally **[Saturday] CANCELLED**

18 June 2017 30th Newbury Radio Rally

Newbury Showground, Priors Court, Hermitage, Thatcham, Berks. RG18 9QZ.

by M4,J13 - follow the AA signs.

Open 09:00/08:00 sellers. Admission £2.50/£12.30 for car boot area. Free parking.

Exhibits. SIGs. Amateur radio display. Clubs & societies. No on-site catering or

disabled facilities. Discounted advance bookings via the website:

<http://www.nadars.org.uk/rally.asp>

Other Club News & Contact Information

BROMLEY & DISTRICT ARS

Website: www.bdars.org.uk/

Email: info@bdars.co.uk

Club Net: Wednesdays 9:00pm - meet on 145.500 MHz FM and QSY

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

Apr. 18 Frequency Counter Construction 2E0EUI

May 16 Fix-it Evening G8MNY

Jun. 20 Direction Finding 2E0DIZ

Jul. 18 Morse Code G4NPD

CRYSTAL PALACE & DISTRICT RADIO SOCIETY

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

7th Apr - Club project - Frequency Counter Design Considerations and the use of KiCad
by Alan O'Donovan G8NKM

5th May - One Route Through Product Design - Part 1 by Bob Burns G3OOU

4th Aug - Summer Social

1st Sep - Antenna Modelling by Quin Collier G3WRR

6th Oct - SDR Without Maths by Alan G0TLK

1st Dec - Christmas Social

CRAWLEY ARC

Website: www.carc.org.uk

Meetings: Every Wednesday at Hut 18, Tilgate Forest Recreational Centre, Tilgate Forest, Crawley from 19:30, and Sundays, 10:30 to 13.00.

26th Apr - 3D printing for amateur radio by Stewart G3YSX

24th May - VHF propagation by Mike G0KAD

CRAY VALLEY RS

Website: www.cvrs.org

Contact: Richard Cains G7GLW rcains@btinternet.com

Club Net - 10m Sunday morning net @ 10:00 local: 28.570 MHz +- QRM

4m net – Fridays in weeks where there is no club meeting @ 20:30 local: 70.450MHz, then QSY to 70.425 or 70.475MHz

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

6th April - From Top Band to 198 kHz – Jim G4AEH

20th April - Annual General Meeting

4th May - The basics of contesting – Ed G3SQX

18th May - Botswana 2017 – The A25UK team

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

25th Apr - Constructing a 40 meter loop antenna by Colin Berry M0GXV

29th Apr - Anniversary lunch - Denbies wine estate

23rd May - Digital modes demonstration by Keith Bell 2E0GBK & Walter Blanchard G3JKV

27th Jun - Wireless, my early days by Ken Tythacott M3CFC

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

6th Apr - The Magnetron : From Radar to the Kitchen - Mike Underhill G3LHZ

4th May - Vive La Difference : Life and Amateur Radio in France - Mike G8CKT/F8VON

1st Jun - DMR (Digital Radio) Dennis Stanton G0OLX

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

7th Apr Friday - Surplus Equipment Sale

21st Apr - Radio Night & Table Top Sale

28th Apr - Quiz & Cakes night

5th May - Guide Dogs for the Blind

2nd Jun - Construction Contest

SURREY RADIO CONTACT CLUB

Website: www.g3src.org.uk

Contact: John Kennedy G3MCX, 020 8688 3322 email secretary@g3src.org

Club Net: Sunday 09:30 on 1905 kHz , 70.300 MHz Thursday 8:00 pm, 145.35 MHz +/-
25kHz Friday 8:00 pm

Meetings: 1st & 3rd Mondays at Trinity School, Shirley Park, Croydon CR9 7AT 19:30 for
19:45.

3rd Apr - AGM

8th May - The Architecture & Functionality of Low Cost Digital Storage Oscilloscopes

Sutton & Cheam Radio Society

Sutton United Football Club. The Borough Sports Ground, Gander Green Lane, Sutton,
Surrey, SM1 2EY

Web site: <http://www.scrs.org.uk> General Enquiries e.mail: info@scrs.org.uk

Nets – Wednesday 20.00hrs 145.500 MHz , Saturday 10.00 7.125 MHz, Saturday 11.00
145.500 MHz

20th April - Home Construction & Finishing' – Bob Burns – G3OOU

18th May - Annual General Meeting and Constructional Contest

15th June - The Sun & The Sky - How Space Weather Affects Radio Signals –

Dr Colin Forsyth.

20th July - ICQ PodCasts – Martin Butler – M1MRB

Wimbledon & District Amateur Radio Society

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

Contact: Andrew G4ADM on 020 8335 3434 or andrew.maish@ntlworld.com

Submissions are most welcome from CATS members, Local clubs and societies

*CATS Whispers is published monthly by Andy Briers G0KZT on behalf of the
Coulsdon Amateur Transmitting Society.*

© CATS 2016

CATS fully support the RSGB Child Protection Policy