

COULSDON AMATEUR TRANSMITTING SOCIETY

G4FUR



M1FUR

“CATS WHISPERS”

May 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 still 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 8th May – Check out your radios, a chance to measure their performance with some professional test gear by Terry Giles G4CDY

Monday 12th June – 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 & Neil Horton M0ZEY

The story of the GB3XP repeater in Morden started as a “wouldn’t be nice” discussion at one of the Sutton club Monday technical meetings. It was felt that we didn’t have access to many VHF repeaters in this area of NE Surrey, despite the fact that the RSGB said that there were no channels available on 2metres. This didn’t put off Martin and Neil and they decided to create a database of all the “local” repeater channels with their distances to repeaters, CTCSS tones etc. and giving each one a score of suitability for the project.



Neil M0ZEY & Martin M0SGL

The analysis revealed that channel RV55 was a very good compromise and this information was kept secret, just in case any other local group came to the same conclusion. Through a club member they already had offer of a good site at St Helier Hospital in Morden. In March 2015 with the help of Dave G7UZN the group acquired a Nokia BSR-150 analogue repeater. Steve Butler kindly donated an ARX2 antenna, Rob Martin loaned a set of cavities which Dennis G0OLX tuned.

By June 2015, after sourcing a 19” rack, the repeater was installed on the roof of the Hospital and some testing could begin. There were some initial problems with the CTCSS and the RX performance of the unit.

Improvements were made to the system, including a special power supply charger designed and made by Neil and a ‘phone line to allow remote control and rebooting.



St Helier Hospital, Wrythe Lane Carshalton

Later the repeater was moved to a superior location on the roof, which improved the coverage and reports were now being received for as far away as the M11 in Essex. Martin very graphically described trauma involved in moving the system between the dilapidated building on the roof and rewiring it, but the end result definitely gave superior results.

The final twist in the story is that in late 2016 the group including Martin Butler M1MRB were at the Lincoln RSGB convention and they were approached by the MD of Yaesu UK, offering a good deal on a brand new Yaesu Dual Mode Fusion Repeater. At this point Martin B went into negotiation mode and was offered an even better deal, but maintained his stance that they didn't have any money. He explained benefits to Yaesu of having one of their Fusion nodes, on what is probably the best repeater site in London. Needless to say they got a free repeater!

The total cost of the project to date is £375 and the group are to be congratulated surmounting all the financial, bureaucratic, technical and environmental challenges, to provide us all with a superb resource.

Please use GB3XP and support the Sutton and Cheam group after all their hard work:-

- TX Frequency : 145.6875 MHz
- RX Frequency : 145.0875 MHz
- CTCSS : 82.5 Hz
- Deviation : Narrow

Use either analog FM or Fusion digital and it will automatically reply in the same mode.

PS. I was so impressed with GB3XP and the possibilities with Fusion, that I went out and bought a Yaesu FTM-100DR/DE transceiver. However to date, I have not worked or even heard anybody in the Fusion C4FM digital mode!

Terry Giles G4CDY

April Meeting Debrief

432 Mhz DF Receiver Project by Terry Giles G4CDY

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

Next Meeting - Monday 8th May – Check Out Your Radios

Terry Giles G4CDY has kindly offered to bring along his professional test equipment to allow club members to check out their radios and a chance to measure their performance.

So why not bring your favourite piece of equipment and give it an "MOT".

Future Meetings

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

Editorial Apology

I compile the newsletter to the best of my ability and spend a considerable amount of time into making it something you would want to read but also to make it factually correct.

For some reason, I have made an error in the date of our May meeting. The May Bank Holiday fell on May 1st and as we meet on the **second Monday of each month**, the date should have been the 8th.

I sincerely apologise for this error. I know several members have already informed me that they are now unable to attend the meeting next week as a result.

Sutton & Cheam Radio Society Trip to Bletchley Park

On **Saturday 24th June**, members of the **Sutton & Cheam Radio Society** have arranged a trip to the **RSGB Bletchley Park Museum**. They are **inviting members of CATS** to join them.

Entry is free to RSGB members and anyone wishing to take advantage of the offer will have to download the voucher via the membership services section of the RSGB website.

Our Chairman, Stuart G6CJR will act as a liaison for interested parties. Transport will be by means of car sharing, so if you either need transport or can spare space in your car, please let Stuart know.

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.

FOR SALE

Robin Sykes G3NFV, who has been one of our most loyal traders and who has supported many of our Radio & Electronics Bazaars has a number of items privately for sale.

KENWOOD TS-950S as new inc box, mic, lead & manual	£725.00
KENWOOD TS940S inc box, mic, leads & manual	£425.00
YAESU FT-897 inc box, mic, leads & dust cover	£495.00
YAESU FT-950 inc mic, leads, manual + non original box	£595.00
HF2V 80/40M Vertical antenna 'NEW'	£325.00
60ft Telescopic mast 'NEW' (2 available)	£100.00 or £180 the pair
COLLINS KWM2A inc PSU + 3128-5 VFO in Samsonite cases	OFFERS
COLLINS 30L 1 Linear (wired for 100V AC but simple rewire for 240V)	£450.00
CUSHCRAFT A3WS 12m/17m 3 element beam	£100.00
CREATE RC5-1 Rotator NEW and BOXED	£405.00
CREATE MC2 Mast Clamp	£75.00
30ft VERSATOWER plus Ground Post	£180.00
20 AMP(?) VARIAC (Heavy)	£45.00

Contact Robin on 01372 372587 (leave message) or email robin@sycomcomp.co.uk

RADIO DAYS and The CATS Fish and Chip Supper Night

Well, The Smugglers was packed out at 6.30pm, indeed had even half of the CATS members attended it would have caused a problem! (I did not realise that Pubs ever look so full today, but it seems they do in Coulsdon!) So the Beer was great, the fish and chips was not bad, but freshly cooked and convenient, and the performance of RADIO DAYS bringing back a number of memories from the war years, by the Coulsdon Theatre Workshop was really excellent - the Community Hall looked so different to our show there, filled with sales tables.

Yes, there were some spare seats so you missed a good evening out for all the family - I gather they intend an open air show at the Coulsdon Court Hotel in the summer, so may be we could have a CATS Evening out there in place of the BBQ this year?

It would be good to see more of you coming along, we try to be varied in what we do!

Mike M1CCF

PAINTING AND SOLDERING by Steve G3WZK

A new hi-fi system

PART ONE: THE FIRST BOX

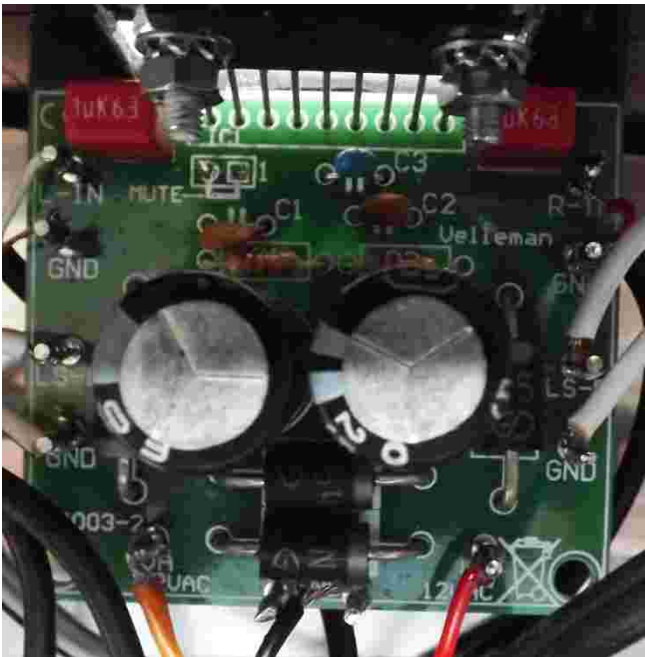
Last autumn, I was getting myself psyched up to redecorate the dining room in time for Christmas but the station manager, fortunately as it turned out, was concerned that I might not be finished in time. "Why don't you fix the hi-fi in the sitting room instead?" she suggested. I couldn't disagree that the hi-fi needed attention: the turntable wouldn't rotate, the CD player (actually a DVD player) wouldn't turn on either, while the amplifier would only turn on after multiple presses of the on/off button and was equally difficult to turn off. I had replaced its mains switch over 20 years ago with the nearest equivalent that I could find from Maplins. It had been tricky to install and what made matters even worse was the fact that it was operated mechanically from the front panel via a push rod linkage system. The temptation to start from scratch was overwhelming, but would I be able to get the new system working in time for Christmas?

I began by searching the internet to see what amplifier kits might be available and the most suitable ones I could find were those by Velleman. Their K4003 dual 30 watt amplifier kit appeared to fit the bill. The "30 watts" referred to was actually so-called "music power" but the detailed specification said that it would produce 15 watts RMS per channel (which would be plenty); THD – total harmonic distortion - was good (0.07 % at 1 watt output); frequency response rather too wide 7 Hz to 60 kHz +- 3dB; and the claimed signal to noise ratio (- 98 dB) was good too. This amplifier uses the TDA2616 IC which, according to the Philips application note produces dual *twelve* watt output (RMS) but this was still plenty. The kit as supplied by Velleman includes a PCB, the TDA2616 IC, associated R's and C's and heat sink. However, although the kit includes the parts to build a bridge rectifier with smoothing capacitors, etc, you need to supply your own mains transformer.

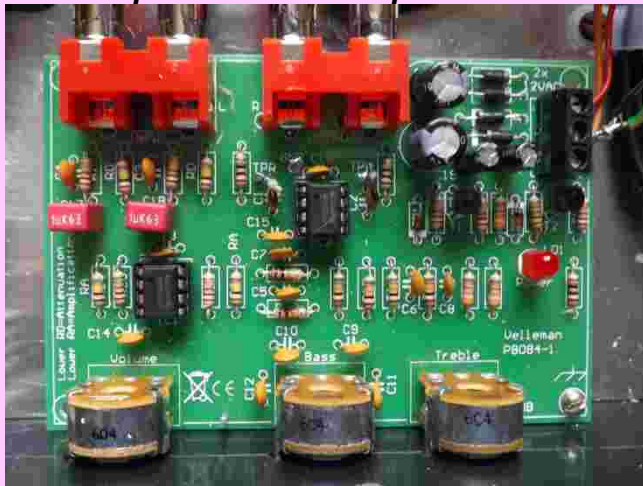
For a preamplifier, I looked at the Velleman K8084 kit. It includes volume, bass and treble controls and similar power supply arrangements to the K4003 (albeit only drawing 100mA total). It has a very wide 3dB bandwidth, good S/N ratio and very low distortion. The basic design has zero gain but is adjustable for both input sensitivity and output level so that it is easy to make it compatible with other units.

I decided to go ahead with the project and ordered both kits; I also bought a toroidal transformer from eBay that was slightly overrated (at 80 VA) so that there would be no problem in using it to power both the amplifier and pre-amplifier. To house the two kits I ordered an ABS box from Maplin, Product Code BZ77J ; the internal dimensions of which are 250 x 175 x 74mm.

Constructing the two kits was fairly straightforward. The main amplifier was quite simple (rated 1 - Beginner) and the only issue I had was how to install it with the heatsink outside the Maplins' box but with the electronics inside it. I solved this issue by making a small square opening in the back of the box so that the IC could be mounted direct to the heat sink after bending its pins slightly. The preamplifier was more complicated but still not difficult although rated 4 in terms of difficulty of construction (5 is the hardest).



The Completed Power Amplifier Board

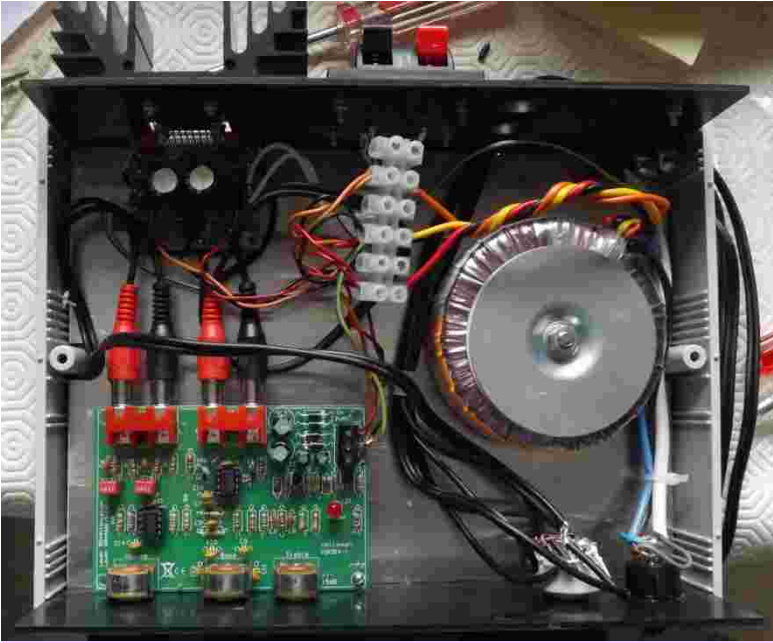


The Completed Preamplifier Board

I used a conventional rotary switch to select the various inputs. At this stage it's worth saying that the plan was that there would be three inputs: LP record turntable, CD and VHF radio. We had already bought a Sony USB turntable – this has a USB output but also conventional audio outputs to phono sockets – in order to transcribe all of our LPs onto a PC, so I used the Sony turntable to test the amplifier. There was significant hum to begin with and I solved this, albeit on a temporary basis, by placing kitchen foil in a very strong plastic bag and wrapping the whole arrangement around the preamplifier. This cured the problem. Otherwise, the audio quality was first class. The speakers I used were a pair of Kefkits 1 I had built in the mid 1970's – roughly forty years ago!

I had forgotten what LPs played through an analogue system sounded like, so was very pleasantly surprised when I heard the new system working for the first time. More importantly, the station manager liked the set-up too! With Christmas approaching, we also needed a CD player. In the end we settled for a Sony DVD player that could also play CDs, as most of them can. It needed a Scart-to-Phono adaptor but I had a suitable one in the junk box that worked perfectly.

The whole amplifier setup was ready for Christmas but there was no high quality radio; that would have to be added later.



Inside the amplifier box: completed except for the addition of an inline fuseholder. Spare space was left inside the back panel to mount input attenuators, if required, to render all sound inputs to the same level.



The completed amplifier
To be continued.

Contest Update

Date	Band	Period of Operation
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

Rallies & Events

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.

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

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.

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.

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

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

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

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.

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

18th May - Annual General Meeting and Constructional Contest

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

Dr Colin Forsyth.

24th June – Visit To Bletchley Park

20th July - The Icom IC7300 SDR Transceiver by Mike Davies G0KAD. (revised date)

17th August 20th - ICQ PodCasts by Martin Butler M1MRB (revised date)

2nd & 3rd September – SSB Field Day

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\(at\)ntlworld.com](mailto: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.*

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CATS fully support the RSGB Child Protection Policy