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CCCCC  A  M  M  BBBBB  EEEEE  A  M  M
C      A A  MM  MM  B  B  E      A A  MM  MM
C      A  A  M M M M  B  B  E      A  A  M M M M
C      AAAAAA  M  M  M  BBBBB  EEEEE  AAAAAA  M  M  M
C      A  A  M  M  B  B  E      A  A  M  M
C      A  A  M  M  B  B  E      A  A  M  M
CCCCC  A  A  M  M  BBBBB  EEEEE  A  A  M  M
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CAMBEAM

January 2005

Newsletter of the Cambridge and District Amateur Radio Club

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Editorial

It was great to see the positive feedback for CAMBEAM. Thank you very much for the encouragement! It sparked much more interest than we thought it would. Having planned 25 copies originally, we are now at 75 copies. And in this issue, we even have an article: Sid G6FKS describes some of the wartime aircraft wireless sets.

Have you got any input for the next CAMBEAM? We would like to get pictures, stories, proposals, ideas or circuits. Also, please contact us if you would like to get CAMBEAM regularly, but are not a CDARC member.

Daniel Schlieper 2E0CAX and/or Elisabeth Stratmann 2E0DMR editor@cdarc.org.uk

>>> The best way to secure your next CAMBEAM is to pay your subs. <<<

Stop press: Ofcom to abandon Amateur Radio

In one of its latest proposals/consultations, Ofcom contemplates a future without Amateur Radio as we know it. At <http://www.ofcom.org.uk/consult/condocs/sfr/>, Ofcom introduces its Spectrum Framework Review: 'Ofcom has been considering carefully its management of this vital resource and is now publishing this "Spectrum Framework Review", a key document setting out its plans for radio spectrum in the medium and long term.' The main idea seems to be as much spectrum liberalisation as possible. Then follows: 'We are also considering the possibilities of removing the need to have a licence in areas such as amateur and maritime although technology and usage restrictions will continue to apply.'

Most of the text is think-tank speak, but fortunately, it is not very long. As this review is meant to set the future of Ofcom's policies, this is a really serious threat to us. We need Ofcom to licence Amateur Radio. Otherwise our hobby will change into something like multi-band CB or taxi communication. It will also make it easier for commercial users to take away our frequencies. Our interpretation (D&E) is that, under the heading of 'liberalisation', Ofcom just wants to save money at our expense. But we shouldn't let them get away with that. Ofcom needs to be reminded of its responsibilities.

The review text cumulates in Question 1, to which replies are invited: 'Q1: Are there any other major medium- to long-term spectrum management issues that this review should be considering? Are there any other significant technological or market developments that this review should be aware of when developing its thinking?'

If *you* think that one of these issues is to keep the licensing of Amateur Radio, write to: consult@ofcom.org.uk, Ofcom Contact Centre, Riverside House, 2a Southwark Bridge Road, London, SE1 9HA.

Apparently Ofcom prefers electronic responses, but we don't see why they shouldn't be able to read letters as well. They seem to be very keen on the Consultation Reply Cover Sheet that can be downloaded from their web site. **If you want to save Amateur Radio, write a reply today. Deadline is 15th February 2005.**

Article

Wireless Equipment in the 'Battle of Britain' by Sid Robinson G6FKS.

A lot has been written about the aircraft used in 'Battle of Britain' and the assistance given by Radar, but how much is known of the wireless equipment the aircraft used? How did the pilots get their instructions once in the air?

The wireless set used was the TR9, not exactly high tech, even in those days. It worked on a frequency of 4.3 to 6.6 MHz and was powered by a 2 Volt accumulator and a 120 Volt HT battery.

The transmitter section used only two valves, a triode Xtal oscillator and a pentode PA. The PA was tuned using a thermo coupled meter on the front panel. This PA inductance was also used as the last tuning stage in the receiver.

My wartime notes stated the TR9 had two channels, normal and special, but I can only remember one Xtal being fitted. It could have had an RF output of only 2 Watts at the most, so its range must have been very limited.

The receiver section was a 'Straight' set consisting of two screened grid RF stages, a triode detector plus three AF stages, the last of which was a pentode. Being a straight set, to increase sensitivity it had a regeneration (reaction) control which was preset on the ground to just below oscillation. The three AF stages were also used as the transmitter modulator (anode). The pilot's microphone was of the moving iron type similar to the headphones. They are not very sensitive hence the three AF stages.

A small number of fighter aircraft, including some at Duxford, were equipped with the new VHF set, the TR1133 (100 to 120 MHz), during the latter part of the battle, but I don't know if they were used.

During the later part of my service in the RAF (1943 to 1947), I was made an instructor and the TR1133 was one of my subjects. If I remember rightly it was not very reliable and it was soon replaced by the more up to date TR1143, but that's another story.

P.S. Look at old pictures of 'Battle of Britain' aircraft. If it has an aerial going from the back of the cockpit to the tailplane the radio is a TR9.

10 GHz: new beacon – and maybe later a new repeater? By Mike G8VCN

On November 19th 2004 the club hosted the Cambridge Repeater Group's AGM. During a discussion relating to the higher frequencies usage locally, it was suggested that the new CDARC 10 GHz beacon could be adopted by the Repeater Group and installed on a local site during 2005.

This offer was made after the necessary removal of the CDARC manned 10 GHz beacon at the Coleridge Community College during building last year. Our old beacon was in use for about ten years and assisted local radio enthusiasts to set up their own receiving equipment. An unattended beacon would be of great benefit to all interested radio amateurs. This would assist in the understanding of microwave propagation and produce a frequency reference over a large area.

The offer from the CRG does however come with a few provisions. The new beacon will require a license by the authorities and the transmitter will have to conform to certain strict criteria including an appropriate frequency allocation. Most

UK beacons operate between 10368.240 and 10368.960 MHz. It was also suggested that if this new beacon is built and deployed successfully, a 10 GHz repeater may also be considered during the next few years to encourage more use of the allocated frequencies.

If any readers would like to be involved in this project please contact CDARC (e.g. the editors, see head of this newsletter, or email contact@cdarc.org.uk), we need all the help we can get on a project this size. Many thanks to the Cambridge Repeater Group for their support.

Programme --- Visitors welcome!

The club meetings are held (almost) every Friday from 7:30 to 9:30pm at the Coleridge Community College, Radegund Road, Cambridge. Morse Code class is available from 7:30pm. Talks start promptly at 8pm. See <http://www.cdarc.org.uk> for updates.

- January 7th 2005: Mapping VHF/UHF coverage with free software - Steve Champion AE6NX
- January 14th 2005: Filters - Dominic M1KTA
- January 21st 2005: Junk Exchange
- January 28th 2005: Informal / 23cm ATV Operating from Club Shack
- February 4th 2005: Improving the DDS SigGen (ALC), Mike M0BLP
- February 11th 2005: New antenna behaving strangely, John G0GKP
- February 18th 2005: Informal
- February 25th 2005: Construction Competition
- March 4th 2005: Informal
- March 11th 2005: Informal/DRM, with Duncan
- March 18th 2005: Rally Preparation
- March 20th 2005: CDARC RALLY - Wood Green Animal Shelter
- March 27th 2005: (No meeting - Easter Bank Holiday)
- ! April 1st 2005: AGM. Come and have your say!**

For your diary:

- April 10th 2005: CRG Rally. We will staff the Bring & Buy table.
- May 7th & 8th 2005: Mills on the Air. (Special Event station), HF & ATV
- June 12th 2005: PW QRP 144MHz Contest
- July 2nd/3rd 2005: VHF National Field Day. Let's win this one!
- August 21st 2005: 70 MHz Trophy. Anybody interested?
- September 3rd/4th: 144 MHz Trophy. A cult event: time to fire up the Big Linear. We will need as many operators as possible.

Please note that our Rally will take place on 20 March 2005. It will be held again at Woodgreen Animal Shelter. The weather will most likely be better than in 2004. As usual, there will be a Bring and Buy table, so bring the equipment you always wanted to sell off. Please take flyers to notice boards/other rallies.

We need staff for the Rally on 20 March and for the B&B table at the CRG Rally on 10 April. Without Rally and B&B table, we couldn't cover the running costs of the Club.

Informal

The Informal meetings are now held under selected topics. They are a great success, and good fun. We have built RF probes, played with the Vector Network Analyser

and tested the Ribbon Antenna for 80m. There is also time and space for chatting, and Morse training. As always, we can operate from the shack on HF or ATV, and use the workbench to repair, align and test your equipment.

Construction Competition February 25th 2005

Win the “Crystal Trophy”: Bring anything that you have built and that is related to amateur radio. One entry per person. The winner will be elected by paper ballot.

News

The Coleridge Community College is threatened by closure because at the moment it is only half full. The decision will be made in early spring. It’s a frightening thought to loose the club shack and the meeting room. This means that very soon the club will be homeless! We must start enquiries to find a new shack in advance of closure notice from Coleridge.

Contests

Great results in the VHF National Field Day: runner up with the A station and 9th with the B station in the overall results table (Low Power section). Band leader on 6m for the A with runner up on 23cm for the B station. This is a brilliant result for the club and probably the best the club has ever done in a National contest.

The weather was better than we feared it would be. We were well prepared for the event and had stations on the air on all 5 bands. Still, there is room for improvement, so let’s *win* the contest this year!



Gesa, Anne and Daniel making coffee. And yes, it was as cold as Anne looks. More pictures can be found on our homepage <http://www.cdarc.org.uk> -> Contest. Thanks David!

We also took part in the Practical Wireless QRP 144MHz contest and got 56th out of 86. Mark M1MPW, David G6KWA, Daniel M3CAX, Elisabeth M3DMR and Mike M0BLP operated from Haslingfield. It was good fun and the weather was fab. We even got yummy cake from Mark’s parents. All in all a good warm up for the VHF NFD.

Who entered the 80m RSGB Club Championship for CDARC? Well done: we got 46th (of 62) for 2004 (CW only, see RadCom Jan 05, p. 59). A good idea: maybe we should join for 2005 with more stations and on SSB and Data as well. As can be read in RadCom (Jan 05): 'The basic idea behind this contest is that RFGB Affiliated Societies should get as many as possible of their members to come on the air for these short weekday evening events. Every club member's log counts towards the overall score for each club. Events are run on SSB, CW and Data modes on 80m in an attempt to get people to try something new. The entry requirement for these 80m contests stipulates e-mail logs only within 10 days of the contest'. The exchange is RS(T) and serial number. The time is 20:00–21:30 UTC.

We only need more than 79 points to improve our last score. Next dates are:

January: 3rd CW, 12th SSB, 20th Data
February: 7th SSB, 16th Data, 24th CW
March: 7th Data, 16th CW, 24th SSB
April: 4th CW, 13th SSB, 21st Data
May: 2nd SSB, 11th Data, 19th CW
June: 6th Data, 15th CW, 23rd SSB
July: 4th CW, 13th SSB, 21st Data

ATV

Mike M0BLP started to video-tape club talks. Some of it could be seen on the ATV repeater. The club ATV station is fully operational, and we will be on the air during informal meetings and during the Mills on the Air event (May 7th & 8th 2005).

Workbench

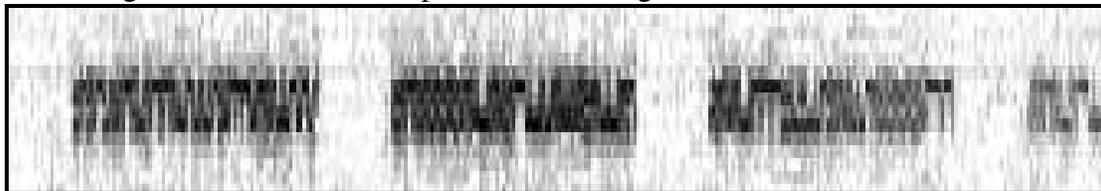
Mike M0BLP made and donated a two tone oscillator for the workbench, and Ron G3KBR donated an AVO. More about the workbench soon.

Cambridge Repeater Group News

The CRG held their AGM during one of our club evenings. The future of the CRG looks bright: they are going high tech! Most likely, they will install a digital ATV repeater (On the evening we even had a live demonstration of digital ATV.) Also, the 2m FM repeater GB3PI will be modified soon. Watch this space for further news.

Linux software: xspectrum

<http://www.scintilla.utwente.nl/~vincenta/xspectrum/> has a program that displays the spectrum of the soundcard's input signal in the form of a waterfall display. The screenshot shows a SITOR signal on 20m. Way more sophisticated is LinRad (see RadCom, Jan 05, p. 63, <http://www.nitehawk.com/sm5bz/linuxdsp/linrad.htm>). More interesting Linux software on <http://radio.linux.org.au/>



Club Nets

Currently, there are two CDARC nets: first on Sunday mornings, 09:30–10:00 local time (calling on 144.300 and later moving to around 144.370 MHz USB). The second

is from about 11:00 or 11:30 local time on 145.550 MHz FM. Recent topics were refurbishing computers, GPS navigation systems, Linux, the Club programme, and many others. Meet you there!

Let's start a new net: on 80m LSB. All suggestions about frequency and time welcome.

Courses

John G0GKP has now tutored more than 30 Foundation Licencees, and is very helpful for those of us who go on for higher licences. Thank you very much, John!

Adverts

FT101Z for sale. Yaesu HF transceiver 100W. Tested and fully operational. Offers over £50 to Ron G3KBR

Kenwood/Trio TS-120V HF transceiver for sale. 10W out on the bands 10m, 15m, 20m, 40m and 80m. £175 ono. Marcus G0IJZ

CDARC is selling two yagis: 17 element Tonnas for 2m. £30 each (email: contact@cdarc.org.uk or the editors).

For sale: Heathkit 'scope, FT290R (mk I) 144MHz multimode TRX, 30 W amplifier for above, Swan HF TRX SSB/CW, 5A PSU, 35A PSU, homemade RTTY box, Hustler mobile antenna for 20/40m, SWR meter, old domestic radios, el-keyer, TNC, other stuff. Sam Clift G0ECL

Urgent Appeal (with an Extra Special Offer)

From RSGB's website: 'RSGB appeals for new members to help combat PLT & Spectrum threats to the hobby. With the major threats to amateur radio posed by PLT and the recently announced Ofcom Spectrum Review, the Society needs new members more than ever before. Help the Society and join today and give us this credible voice in government.

The RSGB is therefore making a special offer: join today and get a free RSGB 2005 yearbook worth £16.99. We are also offering a 3 month free trial if you join and choose to pay by direct debit – contact sales@rsgb.org.uk for a form. Make a Difference!' For more information, see RSGB's journal RadCom (available at the club meetings) or www.rsgb.org.uk

Subs

The subs are currently £20 per year. Have you paid up for this year? If you haven't, why not send a cheque to John G0GKP. Remember, if you aren't a paid-up member, you are not allowed to vote at the AGM.