



Chelmsford Amateur Radio Society

Established 1936

Affiliated to the RSGB
President: Harry Heap G5HF
Secretary: Martyn M3VAM

Club Call Sign: G0MWT
Chairman: John Bowen G8DET
Treasurer: Brian Thwaites G3CVI

Newsletter No 484

Web Address: www.g0mwt.org.uk

June 2006

This Month's Meeting - Tuesday, 6th June. 7-30pm at the MASC Constructor's Competition by CARS Members

This is a fairly light-hearted affair and usually attracts a wide range of entries. There are money prizes and a 'First Time Entry' prize. The judges are YOU so it is openly democratic!

Bear in mind that we don't expect a home built transceiver (go on, surprise us!) and often the very simple entries win the prizes! Some years ago a special brick won a prize! Have a go and good luck! A projector will be available so you can bring a laptop instead of the entire Shack!

As a special request the time after the Raffle is "Natter Time". A chance to have a chat with members of CARS Committee or someone you do not normally have a chat with.

Dates for Your Diary

Sunday 28 th May	W&S Open Day, Hockley - Doors Open 10am
3/4 June	RSGB National Field Day/CW Contest
Wed 14 th June	CARS Committee Meeting - Danbury Village Hall at 7.30pm - All invited.
5 & 14 & 22 nd June	RSGB Club Championship Contests
17/18 th June	VHF Contest
17/18 th June	JAL All Asian DX/CW Contest

Christmas Social Dinner

After having a couple of Buffet Social Christmas Events, we are having a change - we have booked the Rettendon Bell for a full sit-down CARS Dinner for the evening of Thursday, December 14, 2006.

The detailed menu is yet to be confirmed but will probably be around £18 per person for three courses, based on pre-ordering and a £5 deposit. Usual main choices cover Turkey, Steak, Salmon, Ribs etc.

More details later. If someone would like to assist organising this Social Event, please contact anyone on the CARS Committee.

Committee Recruits

The AGM will see a number of posts becoming vacant, in addition to the Editorial post that has still not been filled yet. It's getting time for YOU to contribute to the continuation of the society....

Our grateful thanks to Denis and Joy for posting this Newsletter. Could it have gone by E-Mail?

Please keep our Membership Secretary, informed of any changes to your callsign or E-Mail addresses, etc.

For further details contact our Programme Secretary: Martyn M3VAM on 01245-469008 or look on the CARS Web Site.

Club Nets: Tuesdays 8-30pm: (2nd) 145.375 : (3rd) 1.947 : (4th) 1.947 : (5th) 145.375. All +/- QRM.

QRP & Home Brew Equipment.

By Hans Summers, G0UPL.

Hans started by apologising for not being able to demonstrate much of his homebrew equipment but used the computer projector to enthral us with descriptions of projects from a very early age. He reminded us that QRP was 5 Watts CW or 10 Watts SSB and then gave a plug for the QRP Club and their excellent magazine, SPRAT, £6 a year and worth every penny.

He has been licensed since 1994 and being a Physics Graduate, had no formal electronic tuition. He wanted to show us his enthusiasm for radio and homebrew in particular. Years ago he made up his mind that he would not be a "black box man" and would pursue the hobby with only his own built kit.

Hans said his first introduction to radio was when he was six, when for his birthday his Father bought him a crystal radio set kit, and with his help he made it up and was able to receive Medium wave signals. This started him off on a hobby of dismantling old radios and electrical gear for parts to construct his many projects, which were scavenged from rubbish dumps, jumble sales and gifted from friends.

When he was eleven and with help from his Father he built a short wave regenerative receiver, which he showed us on the screen mentioning a Jackson Bros. variable capacitor and dial on the front panel. He then related a story about him getting an Email from a man in South Korea asking where he could obtain one. Hans searched the Net and made other enquiries to find Jackson's were now part of the Mainline group. When he phoned them they sent him a catalogue, he told them they ought to have a web site and he somehow got talked into setting up one for them. Refusing payment and other perks they offered but accepted their offer of their junk box. This was delivered to his work address and turned out to be a 4x4x4 ft crate causing some embarrassment to the facilities manager being delivered by a lorry with a crane and weighing several tons.

Hans started his first digital project at about 13 which was a clock for his Father using CMOS individual logic chips, which was converted to a Sidereal Clock as his Father had now developed an interest in astronomy. He went on to construct other digital and logic projects including a frequency counter. He did not get back into radio until he was at University in 1994 when he met up with the Chairman of the University Ham Radio Society while visiting the shack and was addicted to it - and obtained his licence.

After leaving University, getting a job and a Wife, he did not do any radio for eight years apart from reading Radcom every month and being fascinated by Pat Hawker's Tech Topics articles. Eventually he

felt he must build something and incorporate the techniques he had learnt. The receiver he had with him featured Huff Puff stabilisation and Polyphase Phasing methods for direct conversion. Utilising his junk box supply of valves he built a one valve transmitter to a design by a Swedish Amateur, SM5GNN and had his first QSO with a station all of 12 miles away. During this he discovered that his homebrew ATU (which he had made at University and never tested) was labelled wrongly and resulted in the aerial being tuned for maximum reflected power and minimum transmitted power. It worked much better after that and 10 watts to 30 ft of wire in the attic produced many German, Swedish and other station on the 80 meter band despite being crystal controlled.

Hans then gave us an intensive run down on his developments of circuits for Huff and Puff and oscillator stabilisation using digital counter techniques as used in his direct conversion receiver and minimise projects.

After the break Hans set up a demonstration of his small receiver made only last week to receive the QSS slow Morse using Fourier Analysis and a computer display. He was confident that signals from across the world would be displayed and he and we were not disappointed.

He told us of his single chip transceiver from a Sprat article that he took to America on a business trip. He operated it from his hotel room using a micro-switch as a key and a battery pack of D cells rolled up in the New York Times and held together with Sellotape. The antenna was various bits of stripped cable thrown into a nearby tree using a plastic bottle of water from the room fridge as a weight. One of his Internet friends said if he had had 2 weeks notice he would have put up an aerial at home to work him when in fact Hans had provided his within hours of arriving at the QTH Hotel!

His current project that he showed us was a Pixie Sprat design for 20 metres, which he intended to produce in a box with self contained key, phones battery, and a space for aerial wire.

He concluded with a story of a redundant computer CRT monitor left on his desk. After many requests to remove it he took it to pieces, and built a transceiver to high standard using only bits salvaged from the monitor. Many ingenious adaptations included using the bottoms of electrolytic capacitors for knobs to operate the trimmer type potentiometers.

An excellent presentation most enthusiastically put over. I have heard it said from one listener the best he had heard at the club meetings.

Write-up by Tony G4YTG.

Follow up to Hans QRP Talk

This is an edited version of emails between John G8DET and Hans Summers after our last Club meeting.

J. Just a note to say "Thank you very much from your excellent presentation last night"

H. It was an honour to be invited to talk to you, and I enjoyed it immensely. You have a very active and well-organised club there; I was surprised by the massive attendance. You should be very proud of CARS!

My only regret is that I was insufficiently prepared - so the whole thing was just "off the top of my head". I had hoped to have with me a large number of homebrew projects which attracted a great deal of interest at my Crawley talk in February when set up and operational on the table at the front of the room. But unfortunately as I said, I left them at my old employer and did not have a chance to go back and get them, since I realised too late.

J. Your enthusiasm was very catching & I hope that it will motivate some of our Members to produce something for our Constructors Competition in June.

H. If I could motivate just one or two people to build something then I think it would have been very well worthwhile. I love to share my enjoyment of the hobby via my website and now via a couple of talks that I have done.

J. We wish you all success with your new work venture.

H. Many thanks for that! I am sure that it will be a long hard road, as is any new business venture - but I have confidence that we will be successful. You can rest assured though that however successful, I will always be building my own radios, not buying them!

It was fun trying to copy the QRSS stations on my newly built mint tin 30m receiver. I set it up in my garden yesterday, with the 30m dipole at about 4m high. I successfully copied IK4IDP, IW0HK and DL6JAN. I subsequently wrote a web page about the receiver, with circuit diagram and the screenshots I was able to receive. See <http://www.hanssummers.com/radio/qrssrx/index.htm>.

Now with my beacon project AND companion 30m receiver project, I think I have everything I need to write another SPRAT article on the subject of simple QRSS homebrew equipment!

One more thing - I forgot to mention yesterday that I am running the New York Marathon in early November, raising money in aid of Mencap. In fact

my day yesterday was even longer than you mentioned. I started the day with a 40 lengths swim (1000m) in the Epsom leisure centre, then a business lunch at my Islington office in central London, drive out to some way Northeast of Cambridge, then back to you in Chelmsford! This morning I did a 10km run in the Epsom gym where I am a member. The reason I mention all of this is that I remember your treasurer asking me if I had expenses - I did not want any petrol money, I enjoyed my evening too so don't need any recompense - I remember your treasurer then said he would contribute to a charity instead. Well I suddenly thought afterwards, if that's the case, then why not make that charity Mencap in the form of a sponsorship for my New York Marathon attempt, for whatever amount he was going to send off to charity? Since I have to get to a £2500 target, for Mencap to be happy about paying for my plane ticket etc, and I am currently somewhere around the £1400 mark with the pledges I have managed to raise so far. If you think this is a good idea and if your treasurer still wants to contribute to charity, then please would you mention this to him (I forget his name, sorry, I'm terrible about names).

Finally on a similar subject (forgetting names), I forgot to thank the fellow who provided the computer projector - without that I would have been really sunk. I forget his name/callsign too. Could you thank him sincerely on my behalf since he really saved the day. Thanks again for the opportunity to talk to such an enthusiastic audience, it was really an honour!

73 Hans G0UPL

International Marconi Day **By Geoff Lovegrove,** **FCM Committee Member**

IMD is the first Sandford Mill Open Day of the year and its main purpose is to celebrate Marconi's birthday with radio amateurs setting up radio transmitting and receiving equipment at locations with a Marconi connection. The organisers are located at Poldhu, Cornwall the site of the first wireless transmitting station to span the Atlantic. The Chelmsford Amateur Radio Society has the great privilege of setting up their station in the famous Writtle Hut, used for the first wireless broadcasts in the early 1920's.

Each year Geoff Bowles tries to have something new to attract visitors and this year was no exception. Last year he started to redecorate the interior of the Writtle Hut and with the aid of the Monday Morning gang the interior of one of the rooms was cleaned up and the walls painted in the original colours using authentic materials. It has now been completely transformed. Peter Watkins has painted two topical backdrops that

can be viewed through the rear windows. With velvet drapes the room looks just like a 1920's sitting room.

As usual our two friends from the one-time Marconi Marine Company, Joe Ryan and Jimmie Leadbitter were manning the ship's radio room and meeting former radio officers and their families, and explaining maritime communication to visitors.

There were two new 'hands on' demonstrations this year. One was a demonstration of automatic Morse transmission and reception, with the help of Colin Page from CARS, which created quite a lot of interest, particularly with the younger visitors. The other was a re-vamped demonstration of the modulation process used in medium and short wave broadcasting. Unfortunately this suffered interference generated by the amateur transmissions but this problem will be overcome by the next open day.

Members of CARS operated two stations, coming on the air at midnight and carrying through 'till closing time. Although propagation conditions were not ideal, both stations managed in excess of 250 contacts each. An example of the way the ionosphere can vary by the minute was demonstrated dramatically. Contact using voice was made with Australia and New Zealand but due to the erratic propagation conditions this only lasted for about 15 minutes and then went dead for the rest of the day. This sort of thing adds fascination to amateur radio but it can also be a source of frustration!

Although it is unusual to find the cutting edge of technology displayed in a museum, the live demonstration of a display from the latest weather satellite EUMETSAT-8 by Harry Heap, CARS President, proved very popular with both young and old, keeping him busy all day. The data is sent back to earth via the HOTBIRD satellite and is viewable on low cost equipment. Over the course of the day, six hours worth of weather movement could be seen on the laptop screen, together with land, sea and cloud-top temperatures and other weather data. A storm over northern Australia was depicted where the cloud top was at minus 63 degrees Celsius with a severe thunderstorm.

In marked contrast the weather at Sandford Mill was absolutely ideal and with 580 visitors it was probably the most successful IMD on record, possibly helped by increased publicity throughout the town and in the amateur radio press.

As usual the Friends provided refreshments throughout the day under the expert supervision of Kathleen Selby, assisted by Pauline Keiff and Janet and Alastair Goss. Their combined efforts produced a stunning profit for FCM funds of £99.13 and with publication sales the total was £102.63.

The Friends were out in force throughout the day and our thanks to Michael Clark, Gordon Iles, John Jay, Jim Selby, Ian Walker and Peter Watkins all dressed and looking very smart in light blue Sandford Mill sweat shirts. Together with our other friends from the Monday Morning Gang it all went to make a very enjoyable and successful day.

Sandford Mill will be open every Sunday afternoon, from 2 to 5 pm, in August and all day on Sunday 24th September for Science Discovery Day

Feedback

This section is reserved for items where more information has come to light since a previous Newsletter has been published.

Received from well-known radio journalist, Godfrey Manning G4GLM's to Sec Martyn, G1EFL.

Sandford Mill - Thanks!

I visited Sandford Mill today (IMD) having found it without difficulty. It's hard to believe that I was standing in the actual hut from which the first broadcast took place in 1922! Also, I was impressed with the various demonstrations to help youngsters experiment with simple mechanics, Morse, etc.

The association between the Museum and your Radio Society is obviously of enormous benefit. As promised, I popped a little something in the "Donations" box at the entrance. Also, I'm sending a spare roll of Undulator Tape to Colin G0TRM so as to keep the Morse "inker" going. Well done to all.

73 de Godfrey Manning, G4GLM.

Intermediate Exam Success

Congratulations to all those who passed the last Intermediate Course at Danbury on May 11th. The CARS course tutors were particularly pleased that the nine that took the exam, all passed. All who attended worked extremely hard and very much deserve the extra privileges the Intermediate course brings them. A picture of the successful candidates can be seen under "Intermediate" at: <http://www.g0mwt.org.uk/training/photos/>

To book a place on the next CARS Foundation, Intermediate or Advanced course contact Clive Ward, G1EUC Tel: 01245-224577 Mob: 07860-418835 E-mail: training2006@g0mwt.org.uk

Edible Radios?

Well maybe not, but there is currently an exhibition running at the Science Museum in London that showcases some new technologies.

Highlighted in the latest Engineering & Technology magazine these technologies are designed to assist with the disposal of the increasing number of waste electronic products, specifically mobile phones. They allow product parts to be made from biodegradable material that will break down harmlessly when buried. Examples include mobile phone casings made from corn and kenaf, a relative of the hibiscus plant and a lasagne-based circuit board. One wonders what happens if it gets wet?

To assist in the dismantling of end-of-life products fasteners made of "Smart Metals" will help the product to take itself apart although personally all the phones I've had seem quite capable of accomplishing this already!

So there it is, if you're stuck on a remote mountain with no coverage to call for help you can at least suck on your phone for nutrition assuming of course that it hasn't already dismantled itself!

The 'Dead Ringers' exhibition runs until 31 August.

David, G8OQW

Information courtesy of the Institution of Engineering and Technology May 2006 magazine.

Editors Note – From July 2006 The RoHS directive also bans the use of tin/lead solder in all new domestic electronics

M3's Gain 10 Metres

Whilst not as well known as BR68, IR-2028 is the Ofcom Interface Requirements document that controls Amateur Radio. It recently been updated on the Ofcom website at:-

http://www.ofcom.org.uk/radiocomms/ifi/tech/interface_req/

It gives Foundation Licence holders access to the 28 MHz band from 1st October 2006.

Trevor, M5AKA

June Contests by Steve G4ZUL

RSGB National Field Day/CW

3/4 June, 15.00 - 15.00 UTC (24Hrs)

Bands 1.8, 3.5, 7, 14, 21 & 28Mhz

Exchange RST + Serial Number

Sections: a) Open, b) Restricted, c) Low Power.

All Sections are Multi Operator and Portable only.

For all other information on equipment, scoring and general rules see:- <http://www.rsgbhfcc.org/>

RSGB Club Championship

Dates for May as follows:

DATA 5th June. 20:00 – 21:30 Local

CW 14th June. 20:00 – 21:30 Local

SSB 22nd June. 20:00 – 21:30 Local

Further information from: <http://www.rsgbhfcc.org/>

VHF Contests

Saturday 17/18th June: 50MHz Trophy Contest

Starts 14.00 - Finishes 14.00 UTC (24hr)

Sections: SF, O, M, 6S, 6O. (Special rule M4, S7)

More info from:- <http://www.blacksheep.org/vhfcc/>

JAL All Asian DX/CW

17/18th June (24Hr)

Bands 1.8, 3.5, 7, 14, 21 & 28Mhz

Exchange RST + Age

Full detail: - <http://www.jarl.or.jp/>

All other VHF contests are listed in January Radcom, Page 33. For any further information please email Steve G4ZUL - contests2006@g0mwt.org.uk

Steve says to enter 'sm3cer' into Google, and look on his website - it is very comprehensive

Ring Ring - Ring Ring

Went the telephone the other day.

"Hello" said G8DET.

"Hello" said Brian, G3CVI "There is a hum on the line".

"Don't worry" said G8DET, "I know, it is my phone"

"No" said Brian, "it is MY telephone"

"No," said G8DET, "it is MY telephone".

Both telephones had a hum and were not connected to the mains in any way. It sounded like 50/100Hz.

A couple of days later Brian phoned G8DET and the line was answered on a hum-free telephone. No hum from G3CVI either, thanks to Argos and a new telephone. G8DET's telephone has yet to be replaced. Has anyone any ideas how this can occur?

Can you read this?

Can you read this?

If you can read this, you have a strange mind!

I don't believe that I could actually understand what I was reading. The phenomenon of the human mind, according to research at Cambridge University. It doesn't matter in what order the letters in a word are, the only important thing is that the first and last letter be in the right place. The rest can be a total mess and you can still read it without a problem. This is because the human mind does not read every letter by itself, but the word as a whole. Does this also apply to Morse?

BBC Charter Review

I went to the BBC Charter Review meeting on Friday, 5th of May at 2-4 Cockspur Street, just off Trafalgar Square. Lord Grade and other luminaries were present; numerous aspects were discussed. Disturbingly only ten genuinely independent members of the public were present; the other 100-odd were media professionals.

There was earnest concern about the lack of teens and young adults watching TV; to slightly nervous laughter I said I thought they ought to be outside playing rugby, tennis or badminton (or even radio!).

More seriously, I expressed concern about the closing down of more BBC Overseas (AM) Shortwave Services. Recently six such European ones went to be replaced by a satellite TV service for the Middle East. It seems that the overall argument is that BBC local FM stations and also satellite broadcasts can replace the short-wave services.

I beg to differ as these older services reach the parts others cannot reach and can even be accessed by crystal sets. Satellites are owned; transmitter sites overseas can be compromised; no one owns the airwaves. (Indeed, jamming tells its own unhappy story.)

I had the impression that my views were well received by engineers on the panel, but they said nothing.

Report by Patrick M0XAP

Free Eddystone 830

Free to a good home - a big heavy old Eddystone 830 general coverage valve receiver. The 830 included an option for using switched crystals to lock first VLO, this one has crystals in it for some amateur bands. This makes it very stable for receiving SSB signals, it was always very good on 160 / 80 / 40 metre bands.

Contact Ian Cox

Tel: 01245 275270 Mob: 07963 121056

Email: ian.cox@SELEX-Comms.com

For Sale

Yaesu Transceiver FT DX560 in working order complete with Mike, Handbook and spare valves. Tested on air by Brian CVI. A good starter! £50 ONO

Hameg Oscilloscope HM 412-5, Two channel, 20MHz. Photocopied Handbook and probes. GWO. A bargain at £45. View both items at my QTH.

Geoff G7KLV 01245-473822

Contributions are appreciated for the Newsletter. Cut-off date for the July N/L is Friday, 16th June.

**Edited by John G8DET with the aid of
Colin G0TRM, Trevor M5AKA & Murray G6JYB.**

Ofcom Licence Fees, CARS Reply

As highlighted in the last newsletter another consultation has been in progress regarding amateur radio, maritime and CB – this time on licence fees. This is the CARS response. It is now expected that another one will follow on major revisions to BR68.

See Ofcom Site:-

<http://www.ofcom.org.uk/consult/condocs/internetlicence/>

Question: *Do you agree that the simplification and removal of fees for amateur radio and ship radio licences issued via the internet will be beneficial to users of these classes and do you support the objectives for licence simplification?*

Answers:-

Many respondents including CARS welcome the prospect of a secure and reliable online licensing system. However we are unhappy on a number of aspects as follows

Licence Fees and Value

Results from the main Amateur Licensing Consultation showed that the majority of respondents were in favour of licence-fees as it underlined the value/status of an Amateur Licence. Many respondents commented on the perceived value of a licence (which nowadays takes upto three exams) and funding support for interference enforcement and international representation. Whilst accepting that a free system reduces internal Ofcom IT/Transaction costs, this fact seems to have been ignored in this new document and the RIA.

Incentives & Discrimination

CARS objects to the introduction of new £20 Charges for Postal applications by U-21s and Over-75s. Many of the latter in particular are unlikely to be Internet users – Given the previous discount that applies to these groups, this also constitutes NEW regulation and will be seen as regressive.

Accessibility

It seems clear that Ofcom blithely assumes that 100% of users not only have Internet access, but are also fully conversant with and can fathom the depths of the Ofcom website. Our regular experience from Club Members and Trainees show that the website is still cumbersome to navigate and has material in the Amateur section which is long overdue for updating and consolidation.

For such a large number of potential users (Amateur and Maritime), Ofcom should give consideration to a dedicated simpler mini-site with a unique top-level url such as 'ofcom-licensing.com' rather than having to click down to several levels.

Amateur Radio Exams & Training

CARS Tutors have put hundreds of candidates through the exam system. Arrangements for handling issue of new licences from the RCF-administered exam system continue to be unclear. As this is currently wholly paper based it would be a major disincentive and seen to be unfair if arrangements are not put in place for an Internet option, and one which includes appropriate verification of exam passes.

NoVs

CARS potentially welcomes free NoVs but remains concerned regarding coordination processes as this is highly dependent on under-resourced volunteer RSGB effort to avoid frequency chaos.

Security and Acceptance

It remains most unclear how secure PDF certificates will be from forgery and how acceptable they will be by foreign administrations.

Citizens Band

Some of our members also hold CB licences that are adjacent to the Amateur 10m band. This consultation seems rather out-of-order in that it pre-empts an un-issued consultation on CB deregulation, nor does it reference the impact of managing the inevitable conflict between CB and new CADS* users – the latter being the topic of a number of pro-active Ofcom activities

*CADS – Community Audio Distribution Systems

See: http://www.ofcom.org.uk/consult/condocs/cads_scheme/