



# Chelmsford Amateur Radio Society

Established 1936

Affiliated to the RSGB  
President: Harry Heap G5HF  
Secretary: Martyn Medcalf G1EFL

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

Newsletter No 509

Web Address: [www.g0mwt.org.uk](http://www.g0mwt.org.uk)

August 2008

**This Month's Meeting – Tuesday, 5<sup>th</sup> August. 7.30pm at the Marconi Club.**

## **Constructor's Competition by Carl, G3PEM**

Yes it is soldering iron and construction time already!

80% of a project is often completed in 20% of the time – the last few minutes of the allowed time!

CARS gives away real money. £10, £7, £5, and £5 for 1st, 2nd, 3rd & First Time Winners Award, respectively. This is good money for your efforts doing what you like doing.

Basically anything entered can win (don't forget a house brick won in the 1980s) but there is a better chance if it is: a)Safe; b)Connected with Radio; c)Electrical or Electronic or d)Interesting.

Each Entrant is requested to tell the audience something about the entry, if you prefer, someone else can read it for you.

CARS will have our now famous Raffle with lots of very useful goodies.

After the Raffle has been drawn, CARS President Harry, G5HF will show us how to make an Electrolytic Rectifier. These were used during the 1920s and 1930 to rectify up to 1,000 Volts but Harry will limit his to only 180 Volts!

### **Dates for your Diary**

Sunday 27 <sup>th</sup> July	Colchester Rally – 10am Start
Sunday 3 <sup>rd</sup> August	Sandford Mill – CARS HF Radio with the Public at 2pm to 5pm
Sunday 10 <sup>th</sup> August	Sandford Mill – CARS VHF/UHF Radio with the Public at 2pm to 5pm
Wed 13 <sup>th</sup> August	CARS Committee Meeting in Danbury Village Hall – All Members are welcome
Sat & Sun 16/17 <sup>th</sup> Aug	Operating from the Tollesbury Lightship. 9.30am to 5pm.
Sunday 17 <sup>th</sup> August	Sandford Mill – CARS HF Radio with the Public at 2pm to 5pm
Sunday 24 <sup>th</sup> August	Sandford Mill – CARS VHF/UHF Radio with the Public at 2pm to 5pm
Thursday 28 <sup>th</sup> August	CARS Advanced Amateur Radio Training Course starts in Danbury, 7 -9pm
Tuesday 2 <sup>nd</sup> Sept	CARS Meeting. Amateur Radio from Brownsea Island by Peter Best G8BLS
Sunday 28 <sup>th</sup> Sept	Sandford Mill - CARS Operating Science & Discovery Day at 10am to 5pm

Thanks to Geoff, G7KLV for arranging the Postal Members Newsletter – could it go by E-Mail?  
Please inform Geoff, G7KLV by E-Mail of any changes to your call-sign, postal or E-Mail address, etc.  
E-Mail him on [g7klv@g0mwt.org.uk](mailto:g7klv@g0mwt.org.uk) Thanks. Only by you sending Geoff your E-Mail address, can we ensure **WE** get it correct!

Club Nets: Tuesdays 8-30pm: (2nd) 145.375: (3rd) 28.375/1,947 (4th) 1.947: (5th) 145.375. All +/- QRM.  
**Net Controller for August is Geoff, G3EDM. Thanks to Colin, G0TRM for doing it in July.**

## **Last Months Meeting:- Solar Observations by Peter Meadows, 2E0ZBU.**

Martyn, G1EFL, Vice Chairman was in the Chair as John, G8DET was on holiday. We were informed that club merchandise was for sale at the back of the hall. Clive G1EUC then explained the nature of our training courses.

Nominations for Amateur of the Year to be handed in to Carl, G3PEM, ASAP.

The main business of the evening was a talk entitled Solar Astronomy, given by Peter Meadows 2E0ZBU, a CARS member.

The sun has a core temperature of 15,000,000 deg C with the outer photosphere having a temperature of 5,500 deg C. There is a thin outer corona with a temp. of 2,000,000 deg C which is measured by speed of the particles in the corona; only at total solar eclipse can it really be observed. The sun is 1.4 x denser than water with a mass 300,000x that of earth. Elements (by mass): Hydrogen is 71% Helium 27% with small amounts of other elements.

Sunspots are a manifestation of cooler regions in the photosphere. A central umbra is surrounded by a penumbra, and is due to magnetic fields within the photosphere. Brighter regions are called faculae. Sunspots can last a few minutes or months. Where the sunspot group magnetic fields become complex, flares occur, and as we know can cause radio interference. The biggest sunspot group recorded was in April 1947, and like many was much bigger than the earth. Sunspots have been observed for 3 thousand years notably by the Chinese but only daily since 1750 (although monthly averages from 1650).

The solar spectrum shows dark lines, notably Hydrogen  $\alpha$  but also many other elements (Helium was discovered on the Sun before being identified in the laboratory).

We were repeatedly warned about looking directly at the sun, but the Baader astro-solar safety film can be put over the OBJECTIVE of a telescope. Welder's glass is also satisfactory. In recent years specialised solar telescopes observing in narrow wavelengths have become available. These Hydrogen  $\alpha$  and Calcium K telescopes enable the much more dynamic chromospheres to be observed. Sunspots can be tracked daily and move from E to W. Flare material spins off, reaching earth in about 48 hours.

The sun rotates in 27.3 days (as seen from Earth) but nearer 27 days at the equator and 29 days at 40 deg latitude. A fixed period of 27.2753 days is used. The solar rotation axis is inclined by 7.3 deg causing the appearance of the Sun to change over one year.

A sunspot number, R, is recognised and is calculated using the equation  $R = 10g+f$  where g is no. of groups and f is no. of spots. R can vary from 0 to several hundred. The solar cycle period is approx 11 years, but if changes in the magnetic field are included it's really 22 years. One cycle can overlap the next by one or two years. Many will be especially interested to know that the first spot of the next cycle appeared on 5.1.2008! Total number of sunspots per cycle varies from cycle to cycle; 1947 was particularly high while the peak in 1968 was lower much. This coming one is predicted to be average to low.

Sudden Ionospheric disturbances or SID's are well known and can be detected by signal strength variation in VLF signals, notably that on 23.4kHz from Ramsloh in Germany. One amateur, Richard 2E0SBU uses a CMPS03 magnetic compass to detect changes in the earth's magnetic field to detect flares.

We were advised of equipment available to amateurs: The Toucam webcam for sunspot imaging or the Coronado telescope for example. The website <http://www.spaceweather.com> was recommended.

Several questions were asked, e.g. What is a sunspot??? A cool area of the solar photosphere. Imagine a horseshoe magnet under the surface, pointing out. Within complex groups, the magnetic lines become mixed which can cause flares, due to discharge of huge amounts of energy. Effects on earth's weather are felt to be small but in the late 17thC a mini ice age occurred during a time when there were only a few sunspots. For us the best time to observe is in the morning when air turbulence is least.

Tony, G4YTG & Martyn, G1EFL ran the Raffle and thanks to Geoff, G7KLV for his part in raising a good sum by selling yards of tickets in his usual persuasive manner

After the Raffle, a question-and-answer session ended a well-attended and popular event.

**Patrick MOXAP**

## The Chelmsford Award

This Award is still running but will close on the 31<sup>st</sup> December 2008 when the monies collected will be given to the Essex Air Ambulance.

If you are interested in gaining this Award, please check out the club web site, or speak to me at the Club Meeting.

## Martyn, G1EFL

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### Sandford Mill – Open Afternoons Aug.

As in the past few years, Chelmsford Borough Council has invited CARS to operate from Sandford Mill as part of their Open to the Public event throughout August.

CARS Committee has suggested that the Marconi, 2MT Hut is used on each Sunday, to get away from the mechanical saw upstairs and to maximise on the publicity.

HF Radio will start off the event on Sunday, 3<sup>rd</sup> August from 2pm to 5pm using the 80 metre Doublet wire aerial that proves so good.

A week later on the 10<sup>th</sup> August it will be the turn of the VHF/UHF party to populate the air waves. Aerials yet to be determined – ideas please?

The 17<sup>th</sup> August is again HF with the VHF/UHF party finishing off on the 24<sup>th</sup> August. CARS is not operating on the 31<sup>st</sup> of August.

### Sandford Mill – Science & Discovery Day

This is on Sunday, 28<sup>th</sup> September when the Public (and their children) are invited to the Museum all day for a Borough Council sponsored day of exploration with Science.

CARS will have HF & VHF stations in operation.

Put these dates in your diary & see/contact Brian G3CVI for a slot to Operate, Log or Host. As with all these events, entrance & parking is FREE.

## CARS Committee

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### CARS Operate from a Lightship!

Would you like a fun-day operating for an hour or two aboard the lightship Trinity moored at Tollesbury?

International Light-ship/Lighthouse day is on the weekend of August 16/17th August.

Andrew says “I operate as and when I feel like it, it is not a Contest. I intend operating CW and SSB, alternating between them”

If you would like a fun time operating on board this unique vessel I can be contacted on 01621 868347 or

E Mail: - [g0ibn@kersey1.freeseve.co.uk](mailto:g0ibn@kersey1.freeseve.co.uk)

## Andrew Kersey, G0IBN

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### Lottery funded D-Star

The Worthing and District Amateur Radio Club has been awarded over 9000GBP in lottery funding towards new radio equipment which will serve a large area of Sussex.

The club, which has more than 100 members, were successful in their application for lottery funding from "Awards For All" and have been awarded £9,019 for their project to install VHF and UHF D-Star repeaters in Worthing.

The repeaters allow digital communication both locally and worldwide using radio and internet technology, and will be situated in the Worthing Borough Council buildings serving an extensive area along the Sussex Coast.

## GB7CD & Murray, G6JYB

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### August Contests from Steve, G4ZUL

#### European HF Championship SSB/CW

Saturday 02 August.

Starts 12:00 UTC Finishes 24:00 UTC

Bands: 1.8, 3.5, 7, 14, 21, 28 MHz

Exchange: RS(T) + Year first licensed.

Further information from [www.lea.hamradio.si/~scc](http://www.lea.hamradio.si/~scc)

#### VHF Contests

02 August, 144MHz Low Power Contest

Starts: 14:00 UTC. Finishes: 20:00 UTC

Sections: SF, SO. (25W max).

03 August, 432MHz Low Power Contest

Starts: 08:00 UTC Finishes: 12:00 UTC

Sections: SF, SO. (25W max)

17 August, 70MHz Trophy Contest

Starts: 09:00 UTC Finishes: 15:00 UTC

Sections: SF, SO, M. (Special rules M1)

full rules from [www.vhfcc.org](http://www.vhfcc.org)

#### RSGB 2<sup>nd</sup> RoPoCo/CW

Sunday 03 August,

Starts: 07:00 UTC

Finishes: 09:00 UTC

Band: 80 Metres

Exchange: RST + Postcode received.

Further information from [www.rsgbhfcc.org](http://www.rsgbhfcc.org)

For full details refer to February issue of CQ magazine or <http://www.cq-amateur-radio.com>

For any further information please email Steve G4ZUL [contests2008@g0mwt.org.uk](mailto:contests2008@g0mwt.org.uk)

### **Not Radio – but of Interest**

Have you ever rented or borrowed a car or driven the Wife's car and when arriving at the petrol station wondered which side of the car has the petrol filler cap?

If you look at your petrol gauge, you will see a small icon of a petrol pump? The handle of the petrol pump will extend out on either the left or right side of the petrol pump.

If your filler cap is on the left, the handle will be on the left? If your filler cap is on the right, the handle will be on the right - simple!

It is usually on the opposite side to the Exhaust pipe as well.

**Mel Frewin, Ex Marconi**

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### **CARS Committee (4th time of asking)**

CARS Committee would appreciate **YOUR** support. Could **YOU** please consider using **YOUR** talents to the benefit of CARS and its hundred or so Members.

CARS have a number of vacancies and would appreciate more help running the Society. We could do with filling the following vacancies:- **Minute Secretary, Programme Secretary, News Letter Editor, Assistant Secretary and Social Organiser**, to quote a few!

Please see any Committee Member at the next Meeting. Tick sheets are available at the Signing- in desk.

### **This advert is slowly working – Thanks!**

**Martyn Medcalf, G1EFL** has signed up as **Vice-Chairman** and Chaired the July Meeting.

**David Davis, G3SVI & Myra, M0MYA** have said they would like to assist with **CARS Publicity**.

**John G8DET. Chairman.**

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### **Thank you Martyn, G1EFL.**

CARS Committee work requires a degree of dedication. I know that there are ongoing appeals for new members to take up some of the duties and the last thing I want to do is to discourage

any bright eyed volunteers! I have always thought that one of the most demanding jobs is that of the Events Organiser. I think it's just about the lousiest job there is, but that's just me! Unfortunately it's one of those jobs that is impossible to please all the people all the time. I know we enjoy some meetings and talks more than others, we're only human after all!

I would like to thank Martyn G1EFL for filling this post for the last few years. I think he's done a wonderful job and I understand that, before he moves on to other duties, he's already got things planned for the rest of the year. That to my mind shows real dedication and is a comforting thought, giving a sense of continuity!

I'm sure our membership will join me in saying, "Thank you Martyn, you've done a grand job."

**Geoff G7KLV**

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### **CARS Training**

Our congratulations to the 10 candidates who passed the **Foundation Examination** on Thursday, 17<sup>th</sup> July in Danbury Village Hall.

CARS are running an **Advance Amateur Radio Training Course** starting in Danbury Village Hall on 28<sup>th</sup> August with the Exam on 4<sup>th</sup> December. Would **YOU** like to attend?

For more information about our courses contact:  
Clive G1EUC  
Tel: 01245-224577  
Mob: 07860-418835  
Email: [training2008@g0mwt.org.uk](mailto:training2008@g0mwt.org.uk)  
Web: <http://www.g0mwt.org.uk/training>

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### **And - Help Wanted – CARS Raffle Table**

Please apply on-site at Club meetings.

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### **Nomination for Amateur of the Year Award**

It is now time to consider who will be awarded the honour this year of the "Amateur of the Year".

Last year Chairman John, G8DET was awarded it and this has been reported in RadCom.

Carl, G3PEM has volunteered to co-ordinate the poll again this year – thanks Carl.

You will find a Voting Form at the Signing-In desk. Please take one and consider who **YOU** would like the Award to go to this year.



Completed Voting Forms are to be handed to Brian, G3CVI or Carl, G3PEM at the July or August Meetings.

Voting will close after the August Meeting to give Carl time to organise the results. The Award will be presented at the AGM in October.

## **Carl, G3PEM**

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### **AMSAT-UK Colloquium to be Web Streamed by BATC**

Thanks to the British Amateur Television Club (BATC) this years AMSAT-UK Space Colloquium will be streamed live on the web.

Peter Blakeborough, G3PYB, President of BATC, will be streaming video of the event live to the Internet so that Radio Amateurs and SWL's can watch it from anywhere in the world. This service will be available at <http://www.batc.tv/>

As well as live video BATC will also be providing a Live Chat web page enabling viewers to post messages.

The 23rd AMSAT-UK International Space Colloquium will be held at the University of Surrey, Guildford, from Friday 25th until Sunday 27th July.

RSGB Microwave Manager and CARS member **Murray Niman, G6JYB** will be taking part in the International Amateur Radio Union (IARU) Satellite Forum starting at **4:45 pm** on **Saturday** afternoon.

Prof Sir Martin Sweeting, G3YJO Chairman AMSAT-UK, will open the Colloquium at 2 pm on the Friday.

At 4 pm there will be a presentation on the UK MoonLITE mission by Dr Adam Baker of SSTL. This will be the first lunar mission by the United Kingdom.

He will be followed at 4:45 pm by Dr Rob Gowen, Department of Space & Climate Physics (Mullard Space Science Laboratory, University College London and Coordinator of the UK Lunar Penetrator Consortium) who will speak on "Science Penetrators for the UK MoonLITE mission".

For further details see <http://www.uk.amsat.org/Colloquium/>  
AMSAT-UK Tel: +44 (0)1258 453959  
Email: [g3wgm@amsat.org](mailto:g3wgm@amsat.org)

#### **Related URL's**

British Amateur Television Club (BATC)  
<http://www.batc.org.uk/>

BATC Video website  
<http://www.batc.tv/>

## **Trevor, M5AKA**

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## **FM Radio closing leaving DAB (Band II)**

A report prepared by Barry Cox, Chair of the Digital Radio Working Group published by Department for Culture, Media and Sport in June 2008, suggests that FM should make way for DAB between 2012 and 2015, with completion by 2020.

Of the 35 million cars only 75,000 to 100,000 are fitted with DAB radios with a further 50,000 fitted with aftermarket sets. 7 million DAB sets have been sold in the UK (excluding Northern Ireland).

At present there is even an argument as to the actual DAB service which should be provided.

## **Murray, G6JYB**

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### **My Dongle**

If you remember in an earlier CARS Newsletter I told of my Dongle. Well I am pleased to hear a number of CARS Members have now got them. Good reception in Danbury Village Hall.

If anyone else wishes to obtain one from "3" then contact me first & we can split the Commission!

I have been experimenting with an aluminium backing tray to make a 2GHz Dish but it has not been straight forward – I cannot really obtain the Polar Plot of the Dongle and being in a poor reception area I suffer with reflections and multiple paths.

The main thing is it works and enables me to update the CARS Web Site quite easily.

How do YOU get on with your Dongle.

PS 100,000 persons signed up for a dongle on June but you heard it here first!

## **John G8DET.**

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### **And Finally...**

John, G8DET edited this edition.  
Material by; Murray, G6JYB, Patrick, M0XAP, Martyn, G1EFL; Trevor, M5AKA; Steve G4ZUL, Carl, G3PEM & Andrew, G0IBN.

Would you like to edit an issue of the Newsletter? If so let us know.

Items for the next Newsletter should be sent to the [editor@g0mwt.org.uk](mailto:editor@g0mwt.org.uk) by Thursday, 19<sup>th</sup> August.