



# Chelmsford Amateur Radio Society

Established 1936

Affiliated to the RSGB Club Call Sign-G0MWT  
President-Carl Thomson, G3PEM Chairman-John Yates, G1UZD  
Treasurer-Brian Thwaites G3CVI Acting Vice Chairman-Geoff Mills, G3EDM



Newsletter No 581

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

August 2014

## This Month's Meeting

**OAKLANDS MUSEUM, MOULSHAM STREET, CHELMSFORD, CM2 9AQ**

**Tuesday 5<sup>th</sup> August, Constructor's Competition**

Carl Thomson, G3PEM and James Beatwell, 2E1GUA will run the Raffle.

### Dates for your Diary

Tues 12 <sup>th</sup> , 19 <sup>th</sup> , 26 <sup>th</sup>	CARS - Evening Radio Nets @ 8:00 pm (Local). See Website for details.
Every Sunday	CARS - Backnang (Germany) Net at 2100 (UTC) on 3.750MHz +/-QRM. Peter DK7SP chairs it - please join in as he's feeling lonely!
Every Monday	Essex Ham 2m Net @ 2000h GB3DA
Monday 21 <sup>st</sup> July	CARS – Skills Night. 7pm to 9pm at Danbury Village Hall <a href="http://www.hamskills.co.uk">www.hamskills.co.uk</a>
Sunday, 3rd August	Operating HF from Sandford Mill to commemorate the UK entering WWI. 9am to 5pm. Public 2pm to 5pm
Sunday, 3rd August	Operating VHF/UHF from Oaklands Museum to commemorate the UK entering WWI. 1pm to 4pm.
Tuesday 5 <sup>th</sup> August	Constructors Competition
10th, 17th and 24th August	Sunday Afternoons, CARS Operating HF Sandford Mill. Open to Members of the Public, 2pm to 5pm.
Monday 18 <sup>th</sup> August	CARS – Skills Night. 7pm to 9pm at Danbury Village Hall <a href="http://www.hamskills.co.uk">www.hamskills.co.uk</a>

To be a Member of CARS, send a Cheque for **£15** – Adult Membership (16s and under are FREE) to:-  
Mr Brian Thwaites, 118 Baddow Hall Crescent, Great Baddow, CHELMSFORD, CM2 7BU.

If you would like a receipt, please enclose a stamped addressed envelope with a 2<sup>nd</sup> class stamp.

Please inform Brian, G3CVI by email at [g3cvi@g0mwt.org.uk](mailto:g3cvi@g0mwt.org.uk) of any changes to your callsign, postal or email address, etc. Only by **YOU** sending Brian your email address, can we ensure **WE** get it right!

**Nets** Tuesdays **19.30h** (2<sup>nd</sup>) GB3DA, (3<sup>rd</sup>) GB3ER, (4<sup>th</sup>) 1.947MHz, (5<sup>th</sup>) 3.750MHz  
Sundays @ 21.00 Backnang net on 3.750MHz  
Also there is the Essex Ham net every Monday @ 2000h on GB3DA

**Net Controller for August is TBA. Thanks to Carl G3PEM for July.**

### CARS Training

A Foundation Course will be starting at Danbury Village Hall on 4 September for six weeks. If you know any friends or family that would like to join the course please contact Clive G1EUC.

An Advanced Fast track course will commence on 30 October and run until 4 December, if you are interested in attending the please contact Clive G1EUC.

Full details and dates at <http://www.g0mwt.org.uk/training/>

Clive's contact details are: Tel. 01245 224577 or 07860 418835 e mail. [clive.ward@btinternet.com](mailto:clive.ward@btinternet.com)

If you use e mail please put the course details in the subject heading.

## Tuesday 1<sup>st</sup> July Launching and Tracking Radio Equipped Balloons.

**Chris Stubbs, M6EDF.**



Tuesday the 1st of July 2014 saw the launch of a high altitude balloon from Oaklands Museum in Chelmsford, as part of the CARS club night.

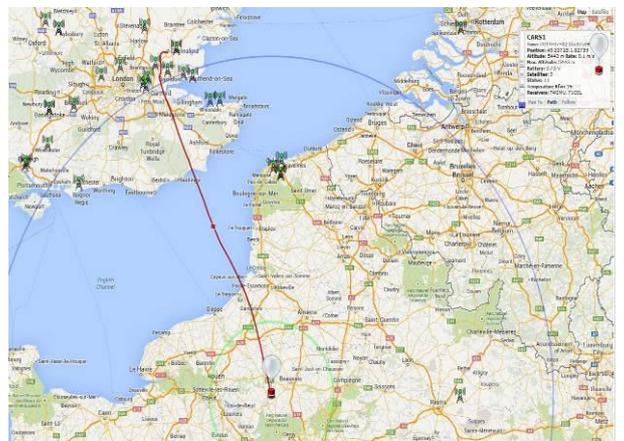
The talk was presented by Chris Stubbs M6EDF, a graduate of the CARS Foundation training course. Before the talk started, members gathered at the rear of Oaklands Museum to see the release of a helium-filled balloon carrying a GPS tracker and a 434.300MHz USB FSK telemetry transmitter. The designation of the balloon flight was CARS-1 and this marked the thirteenth launch by Chris.

The launch was a little bit of a nail-biter, with the balloon heading to the museum's largest tree, but the balloon avoided the obstacles to take flight across the county. Pete M0PSX has prepared a short video showing the launch and subsequent progress, which can be found at [www.essexham.co.uk/CARS1](http://www.essexham.co.uk/CARS1)

*Chris Stubbs launching the balloon*

A network of amateur trackers in the UK and Europe tracked and recorded its progress across Southern England and the English Channel. The signal was lost after 12 hours whilst the balloon was at a height of 5400 metres over France, heading towards Paris. It's hoped that anyone finding the balloon and the radio receiver will get in touch to report the final landing place of the CARS-1 balloon and payload.

During the talk at Oaklands Museum, Chris explained what is involved in building and launching a balloon and tracking the 70cm signal. Chris first became interested in high altitude balloons after seeing TV presenter Jason Bradbury 2E0JAB launching a balloon on Channel 5's Gadget Show.



*Track of the balloon*

Chris, M6EDF, took the Amateur Radio Foundation training course run by CARS in January 2013, and has attended two of the CARS Skills Nights to explain how he constructs and launches his payloads, and to let visitors get hands-on with the technology. You can find more information on HAB and Chris's construction projects at [www.chris-stubbs.co.uk](http://www.chris-stubbs.co.uk)



*Chelmsford Radio Amateurs watching the launch*

The July club night was very well attended, however a number of members were unable to attend as they were involved with Foundation, Intermediate and Full exams in Danbury. A text sent by the training team towards the end of the club meeting confirmed that the two Foundation candidates Lee Marsh and David Sharpe, had both Chelmsford Radio Amateurs watching the launch passed, warranting a round of applause from attending club members.

**Pete, M0PSX**

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*ALL factual content presented is "as received" from the contributors of the articles; the editor accepts no responsibility for its accuracy, errors or omissions.*

## Home-brew aerials for the recently qualified radio amateur

Having obtained your first rig to use on the lower frequency bands, and in particular, 160, 80 and 40m there is the need to radiate and receive a good signal. This is achieved by making or purchasing a suitable aerial. I believe a home-made aerial is the better bet because it can be fitted into your home and garden to best effect. Other benefits are that the aerial will frequently pick up less noise from domestic electronic/electrical appliances so long as a number of factors are understood.

Firstly, most electrical radio noise is radiated from house mains wiring and this is predominately vertically polarised. Since ham radio shacks are usually in a downstairs room in the house in order to be connected to a low resistance earth it follows that your aerial will have vertical components that are near the house and these will pick up the noise most efficiently. If the radio shack is a garden shed, then put the aerial (and shed) as far away from the house as possible in order to reduce noise. If the radio shack is in the house, then use a coax feeder from your transceiver to the aerial. Route it down the garden, as far as possible, by making a 25 cm slot in the soil with a spade and placing the coax at the bottom of the slot. Firmly close the slot by treading on it. Soon there will be no sign of it when you look at your lawn!

Secondly, find or make an insulator (a piece of hardwood set in a concrete block is OK) on which to stand a 6m aluminium tube (a scaffold pole is suitable). Smaller diameter tubes are also suitable but not so strong.



The tube will need to be guyed with strong cord unless a suitable 2m fence post is available that can be used as a support, to which the tube can be braced. Ideally, this tube should be 6m in length (not critical). It can be extended using

bamboo canes or fibre glass rods. A piece of copper wire can be taped to these and an electrical connection made to the 6m tube. This form of construction can easily produce a vertical of up to 15 metres in height that can be tuned for 160m by a home-made coil of some 20 turns and

50 mm diameter which is connected in series between the bottom of the tube and some earth rods. A crocodile clip on a short lead connects to the coil for tuning.

Thirdly, my favourite method of coupling to the coaxial feeder is via a Faraday screen loop. To make this, a piece of coax is used to make a single turn that is positioned over the bottom end of the coil. The inner of this coax is removed; that is to say, both inner wire and insulation. The outer woven sheath plus its outer insulation remains; this metal sheath must be taped so that the single turn does not form a short-circuited turn. Before taping the ends some 4 turns of small gauge wire is connected in series between the bottom of the coil and earth. The coax screen is connected to the same earth connection.

The Faraday loop prevents any capacitive coupling between the coax and the aerial so that transfer of any electrical noise is removed, and only inductive coupling for the transmitted r.f. power and received signal remains. The aerial is tuned to resonance for maximum r.f. using the device I described in a previous newsletter. Other coil sizes will be required for 80 and 40 metres. To minimise visual impact start with a 6m height at first and then a few weeks later you can extend it bit by bit! Alternatively, instead of going higher an acceptable compromise is to take a wire towards the house for a few metres. This provides a capacitive top. However, the nearer you get the end to the house the more noise you will pick up. Hence the compromise.

**Geoff Mills G3EDM**

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### Freeview TV Changes

The Freeview TV guide is being updated on Wednesday, 3 September 2014 to create extra capacity for new services. As a result, Children's and News channels will move to new channel numbers.

On-screen messages will prompt viewers to retune on or after 3 September 2014.

**Murray, G6JYB**

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### For Sale

Does anyone require a 9 metres mast?

It was in a vehicle now being broken up and is going to any offers made. There is no electric pump but a foot pump can be used. I have not seen it but reckon it's similar to my Hilomast.

Please contact **Geoff, G3EDM**. for details

## Would you like to learn Morse by email?

It is not a recommended method of learning Morse code, but if you really cannot make it to Morse classes on a Thursday evening then an "email cw" course will be starting from September 4th.

Assistance can be given via Skype if requested.



Danbury Village Hall Morse classes will be starting on September 4th, starting at 19:00.

If you are complete beginner, do not worry, we will soon have you on the bands. Instruction from square one is given by Andrew, G0IBN.

For the more competent operator tuition is given by Colin, M1OCN, who will give instruction on the correct procedures for a QSOs and how to show "good manners" on the bands.

Paddle and straight key instruction is also given.

If you are interested in learning morse code - or improving your present skills - you will be made very welcome.

Please contact **Andrew Kersey** on 01621 868347 or [g0ibn@kersey1.freeserve.co.uk](mailto:g0ibn@kersey1.freeserve.co.uk)

## Presidential Jottings

Due to the holiday season being upon us our editor has had to move the publishing deadline forward this month; he always has to chase me anyway!

Last month's meeting was an eye opener for me, as sending balloons with transponders on them into space was a part of the wonderful hobby of ours that I knew nothing about. The licence is

issued to all of us on the basis of self-training and technical investigation, sending transponders into space certainly falls under the latter.

Thank you Chris for a very informative talk, and nice to see the balloon nearly reached PARIS!

Next month's meeting is one of my favourites, the constructors' competition, so if you have a radio related project please bring it along as it may win a prize.

Our Chairman is on holiday in OH land so please listen for him on 14325 +/- QRM around 1930 clock time.

If you are going on holiday please have a nice time, a picture of a CARS mug in an exotic place is always welcome for the web site.

**Carl, G3PEM**

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***Closing date for items in the next Newsletter – Sunday 24<sup>th</sup> August.***

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***A Net controller is still needed for August!***

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**And Finally:-**

I would like to mention that CARS, one way or another, got more mentions in RadCom for August 2014 than I can ever remember with photos of Peter Sipple, M0PSX in at least 4 times. I think all should be congratulated for such a tremendous effort – well done!

**John, G8DET**

**Remember, any articles you feel may be of interest to members are welcome as are details of items for sale or wanted. Send to [cars.editor1@gmail.com](mailto:cars.editor1@gmail.com).**

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