



# Chelmsford Amateur Radio Society

Established 1936

Affiliated to the RSGB Club Call Sign-G0MWT  
President-Carl Thomson, G3PEM Chairman- Chris Chapman G0IPU  
Treasurer-Roland Taylor, M0BDB Vice President-John Bowen, G8DET



Newsletter No 588

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

March 2015

## Tuesday 3<sup>rd</sup> March

### The GB3VHF Story by Chris Whitmarsh, G0FDZ

OAKLANDS MUSEUM, MOULSHAM STREET, CHELMSFORD, CM2 9AQ

Doors Open at 7pm – Meeting starts at 7.30pm and Doors Close at 10pm – Gates Close at 10.15pm.

#### Dates for your Diary

Tues 10 <sup>th</sup> , 17 <sup>th</sup> , 24 <sup>th</sup> , 31 <sup>st</sup>	CARS - Evening Radio Nets @ 8:00 pm (Local). See Website for details.
Every Monday	Essex Ham 2m Net @ 2000h GB3DA
Saturday 14 <sup>th</sup> March,	GX0MWT - Science & Engineering Week event at Sandford Mill
Monday, 16 <sup>th</sup> March	Cars Skills Night 7:00 pm Danbury Village Hall
Friday 20 <sup>th</sup> March	Solar Eclipse <a href="#">Propagation Experiment</a>
Sunday 22 <sup>nd</sup> March	GX0MWT - Operating at the Museum of Power, CM9 6QA
Tuesday 7 <sup>th</sup> April	Meeting - "Raspberry Pi" - Peter Onion G0DZB

**Nets** Tuesdays 2000h (10<sup>th</sup>) GB3DA, (17<sup>th</sup>) GB3ER, (24<sup>th</sup>) 1.947MHz, (31<sup>st</sup>) 28.450MHz  
Also there is the Essex Ham net every Monday @ 2000h on GB3DA

**Net Controllers for March are Colin, G0TRM & John, G8DET Thanks to Carl, G3PEM for February.**

**"The GB3VHF Story"**. The March Meeting Talk; propagation beacons provide a vital service, but do you know what is in one? [GB3VHF](#) at Fairseat (formerly Wrotham) in Kent is a prime example and flagship for modern beacon technology. Transmitting on 144.430MHz, it can be heard over 1700km away, reminding us of how propagation can vary and that VHF isn't always line of sight...

Beacon keeper Chris G0FDZ is no stranger to construction, from VHF up to millimetre wave bands. The talk will comprise of some beacon essentials, followed by some history of GB3VHF (which is one of the world's oldest beacons) and then details of the current beacon and its relocation to Fairseat, finishing with details of the new GB3UHF 70cm beacon.

**"British Science Week"** CARS will be at Sandford Mill on Saturday 14<sup>th</sup> March 10am-5pm as part of "British Science Week". We'll be in the 2MT Hut with the club's FT-847 along with our RF-Space SDR-IQ receiver offering some visual attractions for visitors.

Demonstrations will include showing different signals on the frequency spectrum, decoding Morse Code visually plus there'll be a chance to play Charlie, M0PZT's "Morse Mouse" game - this appeals to not only the youngsters but also those who may have let their CW speed lapse, it's a game of skill and there'll be a prize for the highest score of the day!

Members are welcome to attend, assist and operate - This is an ideal opportunity to operate a "big" station in a clean RF environment. Those with Foundation/Intermediate call signs will be able to run full-power using the GX0MWT club call sign and are especially welcome. Assistance with logging and operating will be available if needed. Visitors, of course, are welcome.

**"Science Sunday"** CARS will be at the Museum of Power for Science Sunday on Sunday 22<sup>nd</sup> March as part of Science Week. Demonstrations and technical goodies will include a tablet, SDR, and items from Skills-Nights. We also plan to have radios set up for HF (CW+SSB) and VHF operation.

Location: Hatfield Road (B1019), Langford, Maldon, Essex CM9 6QA [Map](#)

We hope to see you at these events. **CARS Coordinator for both these events: James 2E1GUA**

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

**February Meeting**  
**Tue 3-Feb-2015, 7.30-10pm**  
**Oaklands Museum, Moulsham Street**

**"Probing the Northern Lights"**

By Dr Brendan Goodbody



Ever worked aurora, but don't know what it really is/does? Our February talk covered how observations and science of the aurora have developed over time. Brendan who now works at BAE Systems Great Baddow recently completed his PhD related to this at Southampton University, including some 'cool' on site visits. Brendan gave a colourfully illustrated talk of slides and movie clips of auroras, the processes that create and control them, and how that affects us on earth.



Above picture courtesy of Richard Page (son of Colin, G0TRM)

**Coronal Mass Ejections (CME)**

from instruments on the SOHO satellite

At sunspot minimum:  
1 CME every 4 days  
1 CME hits Earth every 2 weeks

At sunspot maximum:  
2 CMEs per day  
4 CMEs per week hit Earth

Surges in the solar wind such as Coronal Mass Ejections (CMEs) can interact with and be accelerated by the Earth's magnetic field lines around the Polar Regions. This can ionise the rarefied nitrogen and oxygen at high altitudes and cause the auroral light emission, as well as magnetic and ionospheric disturbances.

Solar CMEs are a major cause of auroras and vary with the sunspot cycle. Aurora occur above 70km but can be far higher - and also disturb the Earth's field at ground level.

Lots more detail and photos are available on the [CARS website](#).

**Dr Geoff Bowles Retirement Presentation**

Sandford Mill Curator, Dr Geoff Bowles has been a great friend of CARS. His retirement on 2nd February 2015 was marked by both cakes and presentations, including some gardening vouchers from CARS.

A detailed article and lots of photographs are available on a dedicated CARS website page. ([Click for link](#))



**SOS Radio Weekend, Sat-24 & Sun-25th January 2015 at Marconi Sailing Club.**



The CARS Team.

**SOS Radio Week:** Having first participated in 2014, CARS was again one of the registered stations and operated GX0MWT on the January 24/25th weekend in support of SOS Radio Week at [Marconi Sailing Club](#), by the River Blackwater - Locator JO01JR, WAB Square TL90

SOS Radio week raises awareness and support of the [RNLI](#). For more details on the full SOS Radio Week including a list of other event stations, [Click Here](#).

More detail on the [website](#).

**If you wish to get up-to-date information quickly then the [CARS website](#) is the place to visit! These articles are extractions from the large amounts of information and news available there.**

## Essex Partial Solar Eclipse

On Friday 20th March there will be a large partial solar eclipse visible from Essex (clouds permitting) between 08:25 and 10:41 GMT. Over land the eclipse is only total in the Faroe Islands and Svalbard while about 90% of the Sun will be obscured by the Moon from here. This will be our largest partial since 11th August 1999 (I was under cloudy skies in Cornwall!) and we have to wait until 12th August 2026 for another so large.

Since the eclipse is not total here, we will not be able to see the elusive outer atmosphere of the Sun (the corona) but the sky will be noticeably darker and unusual shadows will be cast on the ground. For viewing the Sun itself during the eclipse, special solar filters will be required even when **not using** any optical equipment such as binoculars or telescopes. An "Eclipse Viewer" for naked eye viewing is safe and cheap at just a few pounds each (definitely worth the money given that using anything else could permanently damage your eyesight). For example they are available from the British Astronomical Association see <http://britastro.org/product/1186>. More specialist filters are required for any optical equipment including cameras.

I have put together a short presentation giving more information about the eclipse and how to observing it safely – see [http://www.petermeadows.com/Essex\\_Partial\\_Solar\\_Eclipse\\_Mar15.pdf](http://www.petermeadows.com/Essex_Partial_Solar_Eclipse_Mar15.pdf).

It will be interesting to see if there will be an impact on propagation due to the eclipse. I will, for example, be checking whether there is any significant difference in the 23.4kHz VLF signal from the DHO38 in Germany used for detect solar flares. A report by the Radiocommunications agency on "Radio and the 1999 UK Total Solar Eclipse" describes the results of various radio experiments carried out at the time. This report can be found at <http://tinyurl.com/nx7ke4z>.

**Peter, M0ZBU**

## CARS Skills Night



Monday the 16th of February saw another popular CARS Skills Night take place at the Danbury Village Hall.

The poor weather and local roadworks didn't deter many from making it to this month's event, with almost 60 people in attendance.

The main attraction for the evening was a demonstration by Tom G0SBW, showing us his large collection of HF Pedestrian Mobile kit, including backpacks and lightweight wearable antennas.



Tom usually operated HF on foot whilst walking along beaches, to use the water as his counterpoise.

Also on offer this month - programming your handset with Charlie M0PZT; soldering and patch leads in Constructors Corner with Peter M0PSD; plus HF antenna advice from Carl G3PEM.



Rob M0KCP, Steve G4ZUL and Oliver M0WAG were busy on the Essex CW Club stand, whilst Murray G6JYB and Clive G1EUC were manning the Essex Repeater Group stand, offering help and advice.

As usual, Jim 2E0JTW was on hand to make callsign badges (including an impressive gold badge), and Nick 2E0DVX was looking after the Essex Ham stand showing a mix of Windows tablets, SDR dongles, a Raspberry Pi, a DMR handheld and the "Send your message in Morse" demo. Chris, G0IPU's brother Andy, G7TKK brought along a surprise bonus material demo, a Raspberry Pi in a laptop.



The quiz was hosted by Clive G1EUC, including some topical questions about the

upcoming World Thinking Day and the RSGB solar eclipse experiment.

Monday is typically a night where CARS member Pete M0PSX runs Essex Ham's Monday Night 2m Net, and for the evening, James 2E1GUA was in the hotseat. To make sure James wasn't too lonely, the attendees sent him a rather special guest message, which you'll be able to hear on the February 2015 Skills Night video.

The RSGB's Regional Manager Steve M1ACB paid us a visit, and shortly afterwards, tweeted the following: "*I really enjoyed visiting the CARS Amateur Radio Skills Night in Danbury tonight. Great to see so many people there*".

Another great evening and a very successful Skills Night. Well done to the CARS Training Team and all those who helped out to make the evening run smoothly.

**Pete M0PSX**

### Yaesu "Special Deal"

For some time, there's been a rebate offer on Yaesu equipment at several of the well-known "emporiums". I recently discovered that Martin Lynch are going one-step-further and offering the Yaesu FT-450D HF+6m transceiver for under £500. It's just £489 after cashback, £549 retail - an absolute steal. At the time of writing, it's still £620 and "out of stock" at W&S, boo!

<http://www.hamradio.co.uk/amateur-radio-main-equipment-base-station-radio-yaesu-base-station-radio/yaesu/yaesu-ft-450d-489-95-with-cash-back-pd-2327.php>

I owned one for about a year before upgrading to its bigger-brother, the FT-950. The 450D is a great 1st HF+6m radio and is small enough to fit into the most restricted of Shacks, but also a big enough radio to offer a good operating experience. Of particular interest is the IF Filtering as standard which operates down to 300Hz on CW and Digital modes.

So, whether you're looking for that 1st HF set or the old FT-101 won't fire-up anymore, this radio deserves serious consideration.

**Charlie, M0PZT**

## CARS Training Updates

Committee and other changes see training and trainers Chris, G0IPU and Clive, G1EUC return, though there is a longer break in order to enable an Intermediate course to re-start. The training web page has several updates.

If you are interested in a course contact Clive G1EUC – as usual, full details are on <http://www.g0mwt.org.uk/training>

### **Foundation**

The 31<sup>st</sup> CARS Foundation course successfully finished on Thursday 19<sup>th</sup> February. The training photo gallery has more smiling faces added! Assuming there is demand, our next Foundation will be Course-32 in September.

### **Intermediate**

By special request, the Intermediate course has been re-instated though with a three week slip in its start date. It will now run from Thursday April 2<sup>nd</sup> to June 18<sup>th</sup>. Those interested should contact Clive G1EUC.

### **Advance**

A quirk of the 2015 calendar means that this years July Exam actually is on Tuesday 30<sup>th</sup> June. CARS has Danbury Hall booked for an exam-only session, which can accommodate those on the distance learning course. We may also be able to accommodate those who wish to re-sit other exams too on the same night. The RSGB deadline for Advance exam reservations is June 9<sup>th</sup> so please contact Clive G1EUC well beforehand so we can confirm arrangements and get the fees/paperwork submitted in time.

**Note:** Those planning to enlist on training courses should note that at present the current licence conditions will remain in place for the syllabus/exams even though Ofcom will re-issue them in April

## Foundation Course Successes

The 31<sup>st</sup> CARS Foundation Course ended on the 19<sup>th</sup> February with nine passes. Well done to the successful candidates who now begin the wait for the RSGB and Ofcom paperwork to be processed. Hopefully they'll all be on the air very soon.



Well done to the CARS training team for another successful course. The Intermediate is provisionally set to start on the 2nd of April 2015

**Pete, M0PSX**

### For Sale (silent Key)

#### Radio Amateur equipment

Item	Maker	Type No.	Price ONO.
Antenna	Moonraker	SJ-70	£20
Antenna base mount			£20
Antenna Mobile		40 M	£20
Antenna Mobile		80 M	£20
Headphones / Mic	Heil	Pro Set Elite	£90
Headphones 2 pair			£10
Microphone Desk type	Vertex	MD 200 A8X	£118
Microphone Dynamic	Vertex	MH-31 B8	£10
Microphone, Mobilite	Linear Amp UK	Kenwood Modular (LA-MK)	£10
Microphone, submersible		CMP 460A	£15
Morse Key		Paddle type	£57
Morse Key	Hi-Mound	HK-706	£10
Morse Key Power Supply / switching type	Hi-Mound	HK-701	£10
Speaker	Mydel	MP8230	£35
Speaker 20W max.	Vertex		£5
Switch Box	bhi	K-PO 1042	£15
SWR ?		SP620 (1.8 - 525 MHz)	
Power meter	WELZ		£10
Transceiver	Kenwood	TM-D710	£223
Transceiver	Yaesu	FT897	£365
Transceiver / Handheld	Yaesu	VX7R	£150
Transceiver / Stn. Monitor	Yaesu	FT DX 5000 + SM 5000	£3,293

Contact John Strange, M0VRS

Email [johnstrange32@btinternet.com](mailto:johnstrange32@btinternet.com)

☎ 01245-381004

### Presidential Jottings

It is with the greatest regret that I have to report that our Chairman has resigned, I wish to express our thanks to him for all the work he has put into CARS and wish him well for the future.

Congratulations to Peter M0PSD on being accepted on to the RSGB planning committee. So if you require any advice on obtaining planning permission for your aerials Peter is the person to see.

Thanks to James 2E1GUA for offering to become CARS QSL manager, he has a bit of catching up to do as we have received a lot of cards since Patrick M0XAP moved and became MWOXAP.

Your committee has arranged a speaker to inform us about the VHF beacon for our March meeting, this should be an extremely interesting talk so please come along and give your support.

Last month's meeting was an extremely interesting talk on Aurora, so we seem to be having a VHF theme to our talks.

Our thanks to Victor G4RAP for a donation of some HF equipment to be used for raffle prizes, two items were on the raffle table last month, so watch the raffle table for the other items. I will supplement our normal prizes with these items.

Finally the committee has arranged some operating days at Sandford Mill and at The Museum of Power, Maldon.

Please come and support these events.

**Carl, G3PEM**

### Southend Raspberry Pi Jam

On Saturday 21st Feb, myself, some CARS members and the "Essex Ham" team made the journey to Prittlewell for the 5th "Southend Raspberry Pi Jam" at the Tickfield Centre. This was the 2nd event for us and it was a great opportunity to show how Amateur Radio is embracing new technology.

Essex Ham have produced a write-up of the event: <http://www.essexham.co.uk/news/essex-hams-at-raspberry-jam-feb-15.html>

**Charlie, M0PZT**

**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).**

### **And Finally**

**Closing date for items in the next Newsletter – Wednesday 25<sup>th</sup> March**