



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 576

Web Address: www.g0mwt.org.uk

March 2014

This Month's Meeting

TUESDAY, 4th March. Doors open 7pm for 7.30pm start, with 10pm finish.

OAKLANDS MUSEUM, MOULSHAM STREET, CHELMSFORD, CM2 9AQ

Digital TV, Radio & Amateurs – What's Next?

Presented by Murray Niman, G6JYB

In his latest update on new developments Murray G6JYB explains the new technologies and the latest digital technologies that are arriving in our lounges and shacks. The preparation for the next Digital Switchovers is quietly underway (for both Freeview and DAB) as frequency space is needed for more changes such as 5G-Mobile.

In parallel, leading amateurs are also adopting new technologies for Digital Voice, Data and TV; some of which have real potential to be 'killer-apps' and show the hobby in a modern light (like digital colour TV in 2m/70cms)

Also, you first heard at CARS that 'no-Freeview-HD tuner = no future TV'. Now hear the next instalment and be the wiser before you go shopping!

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

Dates for your Diary

Tues 11 th , 18 th , 25 th Mar.	CARS - Evening Radio Nets @7.30pm (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
Thu 13-Mar-2014	Start of CARS Intermediate Course - Contact Clive G1EUC to join
Mon 17 th March	CARS Skills Workshop, Danbury Village Hall
Tuesday 1 st April 2014	Marine Radio by Carl Thompson, G3PEM
Mon 21 st April	CARS Skills Workshop, Danbury Village Hall
Saturday 26 th April	IMD at Sandford Mill

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 2nd class stamp.

Please inform Brian, G3CVI by email at 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** (2nd) GB3DA, (3rd) GB3ER, (4th) 1.947MHz, (5th) 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 March is Carl, G3PEM. Thanks to Geoff, G3EDM for February

A Net controller is needed for April

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

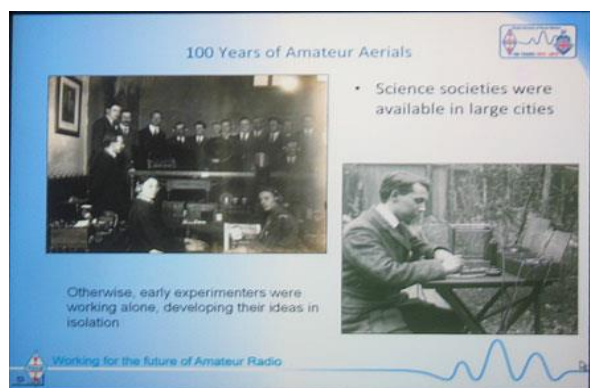
Last Month's Meeting - Tuesday, 4th February 2014.

100 Years of Amateur Aerials



Chairman John Yates, G1UZD opening the Meeting, material courtesy of Elaine Richards, G4LFM (RadCom Editor) who manages the RSGB archives, with an original presentational spin by our very own aerial guru, Tony G4YTG.

Photo, John, G8DET



One of the many slides showing Radio Amateurs and their Aerials over the past 100 years.

Many of the Aerial were upwards of 75 feet high and at least 60 feet long - the sort of Aerial which would cause a modern Council Planning Officer to have a fit! In those days they really believed in large aerials. A point reinforced by Tony, G4YTG as he read the script.

Tony described in simple terms how an Aerial could be made to tune more than one Band with the addition of "Tuned Stubs" or "Tuned Circuits".

By clever selection of tuned frequency circuits one could arrange for the Aerial to behave like two separate Aerials without any mechanical means.



On the left, Tony is holding part of the late G3GNQs TriBander Aerial - the bulges being the Coils. Geoff Mills, G3EDM then described the two band Aerial which was designed by his late brother and built by Fred Leach, G2HNF, Tony and Geoff.

The clever point was that the Inductance is constructed by a long length of rod inside a joint in the beam each side of the fixing point. This provides a lower wind resistance and provides a high "Q" - the proof - it has been in use since 1987 without any maintenance and is used in daily contact with Australia.

Tony then produced a 1/2 Wave Dipole on 2Metres - he said this has been on his previous 4 cars - it tunes 2Metres and because it has a 1/4 Wave Open Circuit Matching Stub mounted above the half way up point - looks like a 1/2 Wave Dipole on 70cm.

Tony also said that it could be looked like another 1/4 Wave Aerial mounted above the lower one, thus increasing its effective gain.

Initially this was made out of bicycle spokes and as such submitted to the RSGB RadCom as a High Gain Magnetic Mounted Aerial - after a tremendous wait they returned the script and suggested he submit it to Cycling Weekly!



Photo taken by Colin, G0TRM

Murray, G6JYB supplied the computer with Colin, G0TRM operating it.

David, G3SVI and his Wife Myra, M0MYR provided the large audience with lovely cups of tea, coffee or chocolate and biscuits during the Break Period.

Another good evening in our nice new venue of Oaklands Museum - thanks to the Museum Staff who look after us by putting out chairs and tables etc.

Material extracted from the CARS website
<http://www.g0mwt.org.uk/>
(Editor)

Understanding your transceiver's Bar-graph or S-meter

Most modern rigs have a bar-graph rather than an S-meter as used in older rigs; the reason being that S-meters use a moving coil (mechanical meter) and these are expensive. Nonetheless they do very similar jobs. The cost of the bar-graph is almost zero as it is part of the front panel design, programmed when the transceiver is being built.

Both do similar jobs. The deflection of the S-meter needle and the number of segments of the bar-graph are determined by the magnitude of the voltage on the AGC line of the receiver portion of the rig. The AGC (Automatic Gain Control) voltage increases as the strength of the incoming signal increases.

In real life other signals, that is to say QRM (interference) from close-by signals, can increase the voltage on the AGC line and therefore the S-meter reading is not a true value of the incoming signal that you have tuned to.

Each bar of the bar-graph or each division of the S-meter scale should represent a 6dB increase of incoming signal that is to say a doubling of the incoming signal strength(S). S9 will mean 9 bars and similarly S9 means 9 divisions on the S-meter scale. S9 is usually calibrated to mean 50 microvolts at the receiver input.

Digital S Meters can differ from radio to radio as illustrated below



Elecraft KX3



Kenwood TS-590

dB	Power / W
0	1
3	2
6	4
9	8
10	10
13	20
17	50
20	100

When the transceiver is in transmit mode the readings can often represent the transmitted power. Again 6dB per bar or division.

You will be aware that your amateur licence limits power output and this is often expressed in dBW. This simply means dB relative to 1 W (one Watt).

The meanings of common values of dBs can be easily recalled if one remembers that 0 dB is 1W, together with the easily remembered values highlighted in red in the table.

Geoff G3EDM

Canvey Rally

One of the highlights of the Essex Amateur Radio calendar, the Canvey Rally, took place on Sunday the 2nd of February.

This year's event was very well attended, with lots of traders and representation from local clubs. Well done to David, G3SVI; Myra, M0MYR; Jim, M6BPK; Glynis, 2E0CUQ and Pete, M0PSX for manning the CARS stand. Clive, G1EUC and Murray, G6JYB represented the CARS training team and the Essex Repeater Group. Read the full report with video and pictures of the event at www.essexham.co.uk/canvey2014

Trevor M5AKA

Plasma tv

Check this link for examples of Plasma TV interference.

<http://www.ukqrm.org.uk/plasma.php>

Originally from Dave ZL1BJQ via Geoff G3EDM

MORSE CLASSES

Thinking of either coming back to CW or would like to learn CW? Morse classes will be starting again on Wednesday, 5th March, 7pm, at The Bell public house Danbury.

Due to popular demand there are now two classes: Andrew, G0IBN, tutors the complete beginner up to the RSGB 10wpm test and the correct way to use the straight and twin- paddle key.

Colin, M1OCN, helps those that wish to improve their CW speed to boost confidence on the use of the morse key and to carry out CW QSOs with confidence on the bands.

If you have an interest in CW come and join us on the first evening and see if we can help you in any way.

Details can be found on the Chelmsford ARS web page or contact Andrew, G0IBN, at g0ibn@kersey1.freemove.co.uk or telephone 01621 868347.

Offered Free. A Sharman X510N dual band vertical. This had rain entry but has been dried and with a little cleaning of slight corrosion on the internal connections will work fine.

Collection from Basildon.

Contact alan.g0rth@gmail.com to arrange free collection.

Skills Training

The second in the series of Skills Workshops took place on Monday the 17th of February. An impressive 43 people came along to this new CARS initiative, which is all about meeting others, sharing information and trying something new. The theme for the evening was 'data', with Charlie, M0PZT putting on a popular PSK31 demo; Chris, M6EDF showing how to track high altitude balloons (which send telemetry as bursts of RTTY) and Pete, M0PSX showing QSOs in the weak-signal JT65 data mode. Carl, G3PEM was on hand for a very helpful antenna Q&A session sketching out some ideas for home HF antennas, and Jim, 2E0RMI was back with his live Echolink demonstration.

Other show-and-tell items includes the RSGB Centenary PSK31 receiver, a home-made budget Morse key, a 2 meter Slim Jim antenna and a microphone made from parts salvaged at the Canvey Rally. There were also a series of licence questions on display, to test people's knowledge of band plans and callsigns. A copy of the quiz is online, if you're feeling brave! Sign up for email updates at www.hamskills.co.uk

For photos, and the quiz, go to www.essexham.co.uk/news/cars-skills-workshop-feb-2014.html

Foundation Success

The 29th CARS Foundation training course finished on the 13th of February - Congratulations to Denis, Lloyd, Sam, Wayne, Dorothy and Chris who all passed, and at the time of writing, are waiting for the official documentation so that they can get their new M6 callsigns.



If you hear them on-air, please give them a big CARS welcome.

Zero to M0 in 57 days

Congratulations to Cathy Colless, M0RTW for getting her Full licence with CARS just before

Christmas. Cathy is a Senior Systems Architect at Anglia Ruskin University and, keen to get her Full licence as quickly as possible, travelled from Cambridge to Danbury each week for the Foundation and Full courses. Timing meant that Cathy had to take her Intermediate with Bromley and District ARS, but she was back with CARS for the Full. Thanks to Cathy for the following kind words:

"The training team at CARS were consistently generous, patient, friendly and knowledgeable. The training was well planned and paced and very carefully prepared, and the team was very supportive. The Advanced exam in December was tough and I was shocked when I passed it (with merit to boot). It just goes to show what a good job the CARS training team did."

Well done Cathy for going through all three levels in less than 60 days – is this a CARS record?

Emporium Interview

Pete Waters, one half of Hockley-based Waters and Stanton was interviewed on community radio station Phoenix FM in February. Pete was interviewed by CARS graduate John 2E0ESX, who's radio name is Scott Ross.

You can hear the interview at www.essexham.co.uk/news/phoenix-fm-pete-waters-interview.html

Pete, M0PSX

CARS Intermediate Course

Our next round of training will be CARS Intermediate Course-13.

This is a once-a-year opportunity to upgrade from your Foundation Licence. The course will be held at Danbury Village Hall on Thursday evenings between 7 and 9pm from March 13 until May 22, followed by the exam on Thursday May 29.



The course fee of £80 includes room hire, Project Materials, Intermediate Licence manual and RSGB Exam Fee.

Those interested in attending should contact Clive, G1EUC on:

- Tel: 01245-224577,
- Mob: 07860-418835
- email: training2014@g0mwt.org.uk
- Web: www.g0mwt.org.uk/training

For Sale. Professionally built 4 Element 70 MHz Aerial. This was used by late Anthony Martin, M1FDE. Any bids? Proceeds towards Club Funds. Tunes sharp and well, fitted with N Type connector. Collect from Danbury. John, G8DET g8det.essex@gmail.com.

CARS Active for SOS Radio Week

SOS Radio Week is a fund raising event by radio amateurs in aid of the Royal National Lifeboat Institution (RNLI).

The Chelmsford Amateur Radio Society (CARS) participated by operating from the Marconi Sailing Club at Standsgate near Steeple on the River Blackwater over the weekend of January 25-26.

Chelmsford has a well known connection with Marconi and there is also a connection with the RNLI. The organisations founder, Sir William Hillary, lived at what is now called Danbury Palace just outside Chelmsford. When he moved to the Isle of Man in 1808 he realised that sailors were dying due to there being no one to save them and in 1824 he formed the National Institution for the Preservation of Life from Shipwreck which 30 years later was renamed the RNLI.

CARS committee member James Beatwell, 2E1GUA suggested the club take part in this year's event and it proved to be a great success.



*Marconi Sailing Club with CARS Chairman, John Yates, G1UZD and Peter Bridgeman, G3SUY standing by the Comet 250B Aerial with the 40 Metre Dipole in the background.
Photo by James Beatwell, 2E1GUA.*

In total five stations using the callsign GX0MWT were operated during the weekend from the Marconi Sailing Club.

The stations CARS operated were

1. Icom IC-756 Pro 3 with linear and 40m dipole supported by the Marconi Sailing Club's flag pole
2. Icom IC-7000 with Comet CHA-250B vertical for 20m, 17m, 15m, 12m and 10m
3. Icom IC-706 mk.2G with Buddipole
4. Kenwood TS-50 mobile station with 4CX250B linear amp in the boot (trunk) connected to a 150 foot long wire attached to an 8 ft delta kite for 160m and 80m
5. Echolink

Propagation was assisted by being close to the sea and many countries around the world were contacted and informed of the work of the RNLI.

Watch CARS RNLI SOS Week 2014 via <http://www.youtube.com/watch?v=7U5Z1gBUqHc>

GX0MWT was one of the 40 or so UK stations taking part in this annual event, which aims to raise money and awareness for the Royal National Lifeboat Institution.

To make a donation, go to <http://www.justgiving.com/sosradioweek2014>

The photograph below shows Kris, 2E0SSX working 40m



Above, Organizer James Beatwell, 2E1GUA operating the club's IC756 Pro III with Vice Chairman Geoff Mills, G3EDM operating the Buddipole and David Bolwell, G3JCM standing.



Above, Peter, G3SUY operating his TX from his car and using a kite at 150ft on Top Band.

Photos by John G8DET.

Trevor M5AKA

TX Factor - The UK's First TV Show Dedicated Entirely to Amateur Radio

Petrol heads have their *Top Gear*, fans of antiques and cookery shows are spoilt for choice, but for far too long there has been nothing on TV for radio enthusiasts.

That all changed on Friday February 21st 2014 with the launch of *TX Factor* - a half-hour show produced by broadcast professionals who are themselves radio amateurs.

Hosted by Bob McCreadie, G0FGX; Mike Marsh, G1IAR and Nick Bennett, 2E0FGQ, the show will explore all aspects of the diverse and fascinating hobby which is amateur radio.

Nick Bennett has been employed in broadcast media all his working life and now brings that wealth of professional experience to the *TX Factor*: "I'm passionate about amateur radio and have always wished there was a high quality TV show about my favourite subject, and as the main broadcasters haven't yet produced one we decided to make our own!"

The programme is free to view via www.txfactor.co.uk and will stream to a smart TV, PC, tablet or phone, adapting the quality to the speed of the connection. If the broadband is fast enough viewers can watch in full HD, but it also looks great on portable devices via 3G.

The show is sponsored by *ML&S Martin Lynch and Sons Ltd*, and *Yaesu Musen Co, Japan*.

Presidential Jottings

Last month I had prepared my newsletter input before our first skills workshop which was a very well attended event, congratulations and thanks to all those involved with the organisation of this event.

The talk last month was based upon the RSGB archive of early aerial systems and was presented by Tony G4YTG. Today we would never obtain planning permission for some of the designs shown. Tony also added his own experience on the design of aerial systems. Sincere thanks to Tony for an interesting talk and also to Geoff who helped with the questions.

On Thursday the 13th of this month I was together with Martyn G1EFL the invigilator for the latest Foundation course examination. Congratulations to all those that passed and thanks to the Danbury training team for all their efforts.

Just a reminder to all club members who helped in one way or another when we operated the RSGB centenary station G100RSGB. Any member who belongs to the RSGB can download

a certificate from the RSGB web site which commemorates their help in this activity. <http://rsgb.org/main/operating/centenary-station/order-g100rsgb-commemorative-certificate/>

Follow the login instructions to download and print your certificate.

Hope to meet you all at our next meeting when Murray is going to present the latest news on the digital TV and broadcast scene, well worth coming along and listening to him, it may save you money if you are thinking of upgrading to HD or making a TV purchase in the near future.

Carl, G3PEM

And Finally:-

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.



**Net
Controllers
are needed
for April and
August 2014.
Volunteers
please.**

THE NEW "OLD GEEZER" HAM LICENCE

- No testing required. The person is nominated by fellow hams.
- No call sign needed. The old geezer cannot remember it anyway.
- No cw; arthritis will hamper key use. Cannot remember the code anyway.
- Voice communication; AM not SSB. The old geezer still has his equipment from the 40's and 50's. Limited to 1 crystal controlled frequency on 80 metres. No limit on power output.
- Two way contacts are not needed. Just get on the air and start a monologue of complaints. Infirmities and the weather are favourite topics.
- When are you an "**OLD GEEZER**"? Your friends [if still have some] and fellow hams will let you know.

(Courtesy of N9JO)

**Closing date for items in the next Newsletter –
Friday 21st March.**