



Chelmsford Amateur Radio Society

Established 1936

Affiliated to the RSGB Club Call Sign: G0MWT
President: Harry Heap G5HF Chairman: John Bowen G8DET
Treasurer: Brian Thwaites G3CVI Vice Chairman Martyn Medcalf G1EFL



Newsletter No 516

Web Address: www.g0mwt.org.uk

March 2009

This Month's Meeting – Tuesday, 3rd March. 7.30pm at the Marconi Club.

“What has the RSGB done for Me?” By Colin Thomas, G3PSM. President of the RSGB.

The talk itself will centre on the work of the Society, what Members (and non-Members) thought they knew and what they don't know. The talk will be based around a PowerPoint Presentation and a Q&A session.

He is also Spectrum Director and a former HF manager of the Society. In November 2008 he also became Chair of the IARU Region-1 External Relations Committee which coordinates efforts for World Radio Conferences.

Prior to his RSGB post his earlier career included time in the Services and SMC Communications. Colin says he realises that he may be preaching to the converted as far as Chelmsford is concerned but the resulting discussion usually proves to be popular.

As this is a prestigious Meeting all local Clubs are invited to attend.

CARS will also have its now famous raffle where typically 12 (plus) prizes are given away.

International Marconi Day - 25th April 2009, 10am to 5pm – Sandford Mill.

To commemorate Marconi's Birthday, Radio Amateurs throughout the World with an association with Marconi will transmit, generally, using a Special Event Call-Sign. CARS will have a VHF/UHF Station in the Caravan by The Barn, HF CW in the “upstairs Office” and a HF SSB Station in the Marconi Hut. Operators, Loggers & Hosts are required – please see Brian, G3CVI at the March & April Meetings.

Dates for your Diary

Tues. 10 th March	CARS VHF Net on 145.375MHz at 8.30pm, Local
Wed. 11 th March	CARS Committee Meeting in Danbury Village Hall at 7.30pm – All Members welcome
Tues. 7 th April	CARS Meeting. “An Introduction to Military Communications” - by Michael O'Beirne, G8MOB.
Sat, 25 th April	Sandford Mill – International Marconi Day – Open to the Public 10am to 5pm.

October was the start of the CARS Membership year – Subscription is the same as last year £12.00.

To become a Member of CARS, send a Cheque for £12 – 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.

Thanks to Geoff, G7KLV for sending the postal Newsletters – 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 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 February is Ron, M3CAM. Thanks to Geoff, G3EDM for doing it in February.

Last Months Meeting:- "Whys and Wherefores of Amateur Radio Aerials" by Tony Gilbey, G4YTG.

This talk had to be rescheduled a week later due to snow & ice – a rare event in the history of CARS.

On Tuesday, 10th February Martyn Medcalf, G1EFL, Vice Chairman took control of the Meeting due to the illness of Chairman, John G8DET.

Tony started by saying that he intended to kill a few sacred cows, with the truth on various aspects of aerials, which everyone took for granted, but were not true.

The first, which was one of his favourites, was about Aerial Gain. He said "you don't get anything for nothing and you must provide some energy of some sort to get more out from an item than you put in. Aerials do however give directivity by reducing the energy in some directions to favour others. If you stand a candle so that the light is spread all around, the one candlepower of light is seen in every direction. If you now put a large mirror close to the candle on one side those on the mirror side can see two candle power of light, apparent gain but those poor folk on the back of the mirror have no light at all, as we only have one candlepower of light to deal with".

Amateur aerials, because we don't usually have enough height or space have to compromise by combining bands, shortening tuned lengths, fitting traps and other fiddles all of which lose efficiency and gain, oops sorry, directivity.

Tony then reminded us of the relationship between Frequency, Wavelength and the speed of radio waves in relation to the ripples in a pond pointing out that the best length of a floating paddle to extract the wave energy was one of half the length of the wave to be received. For radio waves the basic element to best extract or radiate energy is to be **half wavelength long**.

Tony then described the "Quarter wave line" which could be used to match impedances and act as an insulator (trap) or remote converter from C to L or L to C.

Describing spaced elements with lengths of **Half wave, Half wave plus a bit, and Half wave minus a bit**, and how by their re-radiation and acceptance acted as **Reflector, Director and Acceptor**, respectively.

He next showed how the many bands covered by the **Windom** flat top wire, had a magic spot where all bands presented the same impedance (in the

original design this point was connected to the transmitter by a single wire) this point can be fed with a 300 ohm ribbon, a 4-1 transformer or a pair of transformers to use a coax down lead.

The highlight of the evening was to describe the "Worlds Amateur, most popular and very misunderstood Aerial, the **G5RV**". An extract from a recording by **Louis Varney, G5RV** was played describing that he needed an aerial; to fit into a typical domestic garden, work well on 14Mhz and not interfere with the neighbours TVs. Tony went through the kind of radiation patterns you would get on the various bands and the poor VSWR results on all except 14Mhz an extract of Lois talk was read out

Showing that for amateur use with reasonable feeder length (less than 100ft) none of the losses would exceed 1dB for the worst case.

Louis's tape then described the "**Half size G5RV**" with all measurements exactly halved (25-25 top with 17ft.openwire match line) and gave its performance figures for matching on all the bands it covered, 7Mhz to 28 to be better than 2 to 1.

Tony read the extract as the quality of the ancient tape did not reproduce well on the PA.

Thanks Tony for a superb presentation.

Sandford Mill – CQD - Jack Binns – 1909.

To commemorate the 100th Anniversary of the first use of CQD at sea, Sandford Mill was open on Friday, 23rd, 9am to 5pm, & Saturday 24th January from 10am to 5pm for the transmission of Morse only using GB0MWT with Gwyn Williams, G4FKH in-charge.

Saturday, 24th was also to celebrate SOS and was organised Nationally by the RNLI, however no CW Stations were contacted associated with this event.

On Sunday, 25th January, Sandford Mill was also open for SSB from 10am to 5pm.

A number of visitors came to the event including Mr & Mrs Ian Channing, Editor of the Radio Officers Association magazine and Peter Turrall, MBE, Chairman of the Marconi Veterans Association. Adrian, M0ABY & Mavis, G0XBC from Wheathampstead spent the day there – 65 mile trip.

Look at the CARS Web Site for photographs taken of the many Operators, Loggers & Visitors.

Peter Hales, G4OAD attended all 3 days – well done & thanks. The page is presented under: - "Sandford Mill – Jack Binns Event".

John G8DET

Continuing the Aerial Content of this Newsletter: -

Ham Shack Dos and Don'ts

For the safety of yourself and your expensive rig here is a discipline which I have come to recognise over the 62 years since my first Licence in 1946. The list is not exhaustive probably because modern rigs differ as to how the settings are achieved. Some use knobs and others require the menu to be on before you can demand settings.

Before you "fire up" the rig it is essential to perform a sort of "cockpit drill" such as the following:-

- (1) Ensure the Transmitter "**Drive**" control or "**Power**" knob (varies according to manufacturer) is set to the **minimum**.
- (2) **Discharge** any static built up on the aerial system. CAUTION!!! Read the manual because some rigs must not have a grounded connection via the antenna centre conductor. Also it could save you a "bit of a jolt" if the earthy lead you use is insulated where you grasp it.
- (3) Turn "**Audio level**" (volume) control to **minimum**.
- (4) If your rig is of the "older" type with Pi coupler plate tuning circuits; connect the "Dummy load". Coaxial switches are very useful but some of those older rigs use 75 ohm outputs and not 52 ohms. So the mismatch is obvious already. Then tune the system.
- (5) If your antenna presents 50 ohms coax directly to the low-pass filter (every shack should have one) straight through to the rig then it should be safe to switch on and tune the receiver to explore the bands. Hopefully the previous user did not leave the rig in "**Transmit on**" mode!!!!
- (6) Get a "**Carrier**" by selecting say "**FM**" or "**AM**" or "**Tune mode**" on some rigs and advance the "**Power**" setting - carefully watching the output rise to the required level. Do not hold the condition longer than the manual permits or you could notice expensive smells!!!!.
- (7) If your aerial system uses tuned open wire feed with standing waves on it - ensure that any jumper required by the manual is in place and follow the procedures demanded to secure the minimum SWR. It is wrong to rotate the inductor tapping switch with a lot of power on. It is important to drop the power control to minimum while tap-changing. Failure to do this results in switch contact burn.
- (8) Why item (1)? If the rig has been left in transmit mode (not possible on some modern rigs) you could send out a blast of high power

causing QRM or have a nasty expensive repair needed if the antenna is not yet tuned properly.....or even not yet attached.

- (9) Why item (2)? Very high voltages can build up especially during dry and thundery weather.
- (10) Why item (3)? If the "Volume" is left high then you would get an ear-shattering blast of noise which might give Granny a fit.
- (11) Why item (4)? The match of the usual coax fittings is not 1:1 by any means so if you have several in series through to the antenna the mismatch can be considerable.
- (12) CARE...If you use counterpoises indoors or out then the remote ends must be well taped because there can be large voltages at those ends. I was able to strike a neon tester behind the book-shelf in my shack!!!
- (13) CARE...If you use open wire feed as a tuned line it is quite possible to have very high voltages at the terminal posts. They must be adequately guarded for safety...especially when members of the public can come into contact with the posts.
- (14) After a while all the above becomes second nature....so have fun and if you hear me balling for a CQ with the usual zero reply, please give me a call
- (15) I nearly forgot this one!!!!
If you use coax to the centre of an antenna with or without a Balun, then no amount of "fiddling" with a Tuner will correct the mismatch at the top. Adjusting the Tuner to present the rig with 52 ohms will give the best transference of power but at the cost of standing waves on the coax....not good!!!

73 and good DX to you, de Brian, G3CVI.

Silent Key - Kenneth Bremerman, G0PZG

It is with regret CARS have been informed that Kenneth became a Silent Key on Wednesday, 28th January while in Basildon Hospital, he was in his mid 70s.

The Funeral was on a very snowy & icy Wednesday, 11th February at Chelmsford Crematorium and afterwards in the Ivy Rooms, Basildon.

CARS send condolences to his Wife, Audrey & Family.

Thanks to Ron Keefe for the information.

Continuing the Aerial Content of this Newsletter: -

“HF Long Wire Aerials & Advice”

For Operator Safety and absolutely essential when using “Long Wire Aerials” – always have a good “RF Earth”.

The following are comments from MFJ regarding “False Faults” reported to them regarding their Tuners which are really “Bad Operating Practices”.

1) Never Centre Feed a Half-Wave Multi Band aerial with a High Impedance feed-line that is close to an Odd multiple of a Quarter-Wave long.

2) Never Centre Feed a Full-Wave aerial with any feed-line close to a multiple of a Half-Wave long. If the Tuner will not “tune” a Multi-Band antenna, add or subtract a 1/8th Wave of feed-line for the Band that will not tune – try again.

3) Never try to load a G5RV or Centre-fed Dipole on a Band BELOW the Half-Wave design frequency.

For example, if you wish to operate an 80 Metre aerial on 160 Metres, feed either or both conductors as a Long-wire or a “T” aerial against the Station RF Earth.

To avoid problems matching of feeding any Dipole aerial with High Impedance Open Wire Lines, keep the lines to these lengths.

Note, the lengths you should NEVER put up are also quoted – copy & check YOUR aerials.

Band	Length in Feet	NEVER use these lengths
160 Metres	35-60; 170-195 210-235	130; 260 Feet
80 Metres	34-40; 90-102 160-172	66; 135; 190
40 Metres	42-52; 73-83; 112-123; 145-155	32; 64; 96 128 Feet.

Some slight trimming or adding of feed-line may be necessary to accommodate the higher Bands.

John G8DET

March Radio Sport (Contests).

RSGB March 144/432Mhz (24 Hour)

7/8 March

Starts 14:00 UTC Saturday

Finish 14:00 UTC Sunday

Please refer to the RSGB website www.vhfcc.org for full details of all VHF contests.

ARRL International DX / SSB

7/8 March, 48HRS

Exchange: RS + transmitter power.

Categories: Single op. = all band, single band, high power, Low power, QRP.

Multi op. = single TX, two TX, multi TX.

Scoring: 3 points per QSO.

Multiplier: sum of states/provinces worked.

Final score: QSO points x multipliers.

further information & rules from

www.arri.org/contests

RSGB Commonwealth / CW

14/15 March, 10:00 - 10:00 UTC, 24HRS

Bands: 3.5, 7, 14, 21, 28Mhz

Exchange: RST + serial number

Sections: Open, 24HRS; Restricted: 12Hrs

Scoring: Contacts with commonwealth prefixes 5 points and a bonus of 20 points for each of the first 3 contacts with each commonwealth call area on each band.

Further information and rules from

www.rsgbhfcc.org

CQ WW WPX / SSB

28/29 March, 48HRS

Exchange: RS + serial number

Categories: Single operator (single band & all band);

Multi operator (single TX, Multi two, Multi TX)

Scoring: 3 points on 28, 21, & 14Mhz - 6 points on 7, 3.5, 1.8Mhz; If on different continent and if same continent then 1 point & 2 points resp.

Prefix multipliers: The number of valid prefixes worked.

Full details please refer to February issue of CQ Magazine or www.cq-amateur-radio.com

RSGB Club Championship (80 metres)

Dates for March as follows:

DATA 02 March. 20:00 - 21:30 Local

CW 11 March 20:00 - 21:30 Local

SSB 19 March 20:00 - 21:30 Local

For any further information please email Steve G4ZUL contests2009@g0mwt.org.uk

Steve G4ZUL

World Amateur Radio Day

Each year on 18 April, Radio Amateurs celebrate World Amateur Radio Day. On that day in 1925 the International Amateur Radio Union (IARU) was founded. In 2009, the theme of the event is Amateur Radio: Your Resource in Disaster and Emergency Communication.

It is not by coincidence that last year's meeting of the IARU Administrative Council chose this subject at this time. While the Amateur Radio Service has

traditionally made its contributions to emergency and disaster response ever since its very beginnings almost 100 years ago, this role has gained a lot of importance just in the recent past for the following reasons. The number and dimension of natural as well as man-made disasters is unfortunately on the increase, and the modern communication technologies are increasingly complex, infrastructure-dependent and therefore also increasingly vulnerable.

The Amateur Radio Services puts two equally valuable assets at its disposal for emergency and disaster prevention, preparedness and response:

1. A large number of very flexible and mostly infrastructure-independent, local, national, regional and global networks, and
2. A large number of skilled operators, who know how to communicate with often very limited means and to establish communications even under the most difficult circumstances.

Activities on the occasion of World Amateur Radio Day 2009 can be a great opportunity to spread the word about what the "Radio Amateurs" are doing.

Hans Zimmermann, F5VKP / HB9AQS
IARU International Coordinator for Emergency Communications

HF Broadband & Power Line Interference.

IARU WP1A PLT Document

Peter Chadwick, G3RZP is representing the RSGB at the conference on PLT at the end of February in Turkey and is submitting a Paper. An extract from this is produced below for information.

In the Amateur Radio service, the permitted transmitter powers are relatively low and in long-distance communications the remaining fade margin above the minimum required field strength of a long-distance signal is around 0 to 1 dB. Given the form of the signal strength versus time curve of a narrow-band HF signal with fading, this means that in some long-distance communication links, parts of the transmissions will be missed due to fading, necessitating repeat transmissions. Increasing the ambient noise floor by only a few dB would have a tremendous impact on the long distance communication capability of an amateur station. For this reason, the maximum allowable increase in the total noise floor due to PLT emissions should be 0.5 dB. For the increase not to exceed 0.5 dB, the average noise field strength radiated by the power network at 10 m distance must be 9.14 dB below the pre-existing noise level.

Norman, M0FZW reports:-

I have followed up PLA QRM and UKQRM on Youtube. There are some very informative videos and a report available. As this QRM will ultimately affect all HF users I thought you may be interested in them.

Main Site: <http://www.ukqrm.org/>

UKQRM 1:
<http://www.youtube.com/watch?v=6teyGvdrs5Y&feature=related>

UKQRM 2:
<http://www.youtube.com/watch?v=MAzUtN29h1A&feature=related>

UKQRM 3:
<http://www.youtube.com/watch?v=F1f0KZZZbws&feature=related>

UKQRM Welbrook Loop Demo:
http://www.youtube.com/watch?v=S_UBDaL-aE&feature=related

UKQRM BT Vision:
<http://www.youtube.com/watch?v=6teyGvdrs5Y&feature=related>

Joe, G4PMY PLA Demo:
http://www.youtube.com/watch?gl=GB&v=jGINOo_8J_eU

QRZ QRM Forum:
<http://forums.qrz.com/showthread.php?t=191532>

UKQRM Meet OFCOM:
http://www.mikeandsniffy.co.uk/UKQRM/UKQRM_meets_Ofcom.htm

UKQRM Report:
http://www.mikeandsniffy.co.uk/UKQRM...eets_Ofcom.htm

Norman, M0FZW

Slow Morse Transmissions

Andrew, G0IBN has kindly said he will (work & others things allowing, e.g. TV) operate Slow Morse transmissions on 3,555 – 3560kHz + or - QRM at a nominal time of 2015 on each Wednesday and 2015 on every Sunday. Please "look out" for him. He will also be running Morse Classes in the Danbury Village Hall - Hawkins Room – Contact Clive Ward, G1EUC – see below.

Andrew, G0IBN.

America has delayed Digital TV Transfer.
Instead of February 2009 it will now be June 2009 as 3.9 million sets were NOT modified.

Training

We have just completed our Foundation Course at the King Edward VI Grammar School in Chelmsford. 13 out of the 15 Candidates were successful – congratulations to all concerned.

All those who have given up their time over the years to provide on-air contacts for our Foundation courses such as Brian G3CVI and James 2E0GUA deserve thanks. Bob, M0DTA from Danbury has been our main 2m contact on Foundation Training nights - he is always there, has been doing it for some years and hasn't ever let us down. The candidates couldn't get their licences without them.

New Foundation Course

We are running another 6 week evening Foundation Training Course at Danbury Village Hall starting Thursday 26th February and we still have a number of spare places.

Members can help us by telling people about the Course and by putting up posters in public places. A poster for display can be downloaded from: -

<http://www.g0mwt.org.uk/training/poster2.pdf>

For details of all CARS Training Courses contact Clive Ward G1EUC

Tel: 01245-224577 Mob: 07860-418835

E-mail: training2008@g0mwt.org.uk

The CARS training page is at

<http://www.g0mwt.org.uk/training/>

How to put an Attenuator in a Dish Aerial.

This Video has been posted on Face Book regarding Dish Aerials. Click on this link: -

<http://www.youtube.com/watch?v=Mdm12KONMBA>

Dick Brocks, G3WHR

Nice to hear from you Dick in Devon.

Record QSL Card?

CARS QSL Manager, Patrick, M0XAP has just received a nice QSL Card for a contact with GX0MWT from F5GGL near Bordeaux in France. Nothing unusual about that one may think – trouble is it was for a Contact in 1996! It is stamped by the RSGB Bureau 11 November 2008.

Is this a record?

Canvey Island Radio Rally.

Geoff, Colin, Peter Watkins and I appeared nearly together at Canvey at around 8-30 am. I brought my trusty sack barrow, which I think is a must at this event otherwise one's arms would be 2 feet longer at the end of the day! In fact, my sack barrow is a modified one, as the frame work of the barrow has some ally screwed to it so nothing can fall through when using it. This modification was carried out by none other than our Chris G0IPU some time ago, which I much appreciated.

I was also given a large box of items some time ago from an amateur who had given up making things and he contacted me to see if we could sell all the components etc and all the money should be given to Essex Air Ambulance, which is CARS charity. Colin & Geoff gave me a space on their table. Business was good and by the end of the day I made £90.00 for Essex Air Ambulance. I took the remainder home and took it to the next Club Meeting and made another £60.

As usual on such occasions there was some very profitable horse trading with the traders before the doors opened at 10-30.

Anyway back to Geoff and Colin, what a great job they did. Their efforts are much appreciated. They tell me that this is the last time they are taking an active part. They are looking forward to being punters next year!

We took £600.00, most of the stuff being Anthony's for his Widow, Cathy. Not bad for a day out, whilst having fun!

Finally, a round of thanks!

First to our hosts, the South East Essex Club who are always so helpful and make us so welcome. Next to Dave Penny who helped us out during the morning. And finally to everyone who gave us stuff and, of course, to everyone who helped us go home with nearly empty cars!

It was a great day which we all enjoyed

Martyn. G1EFL. Vice Chairman

With contributions from Colin, G0TRM & Geoff, G7KLV.

And Finally.....

John G8DET edited this edition. Material by; Murray G6JYB, Trevor M5AKA, Steve G4ZUL, Andrew, G0IBN, Tony, G4YTG, Peter, G3RPZ, Norman, M0FZW, Martyn, G1EFL, Colin, G0TRM & Geoff, G7KLV.

Items for the next Newsletter should be sent to the editor@g0mwt.org.uk by Sunday, 15th March.