



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 492

Web Address: www.g0mwt.org.uk

February 2007

This Month's Meeting – 6th February. 7.30pm at the MASC.

FT5XO Kerguelen DXpedition by Mark Haynes M0DXR

The meeting was to be about the new Yaesu FT-2000, unfortunately, Paul Bigwood G3WYW of Yaesu UK has had his work schedule changed such that he cannot attend.

Fortunately Harlow Amateur Mark Haynes M0DXR will instead be giving a talk on the FT5XO Kerguelen DXpedition.

Deep in the heart of the southern ocean, inside the Antarctic Convergence, lies a belt of far swept islands. One of the more remote is an island named Kerguelen. The Microlite Penguins DXpedition Team visited the island in 2005 with the aim of making thousands of radio contacts with other hams around the world. Mark, M0DXR, one of the team members, will present a slide presentation telling the story of the FT5XO Kerguelen DXpedition followed by a professionally made DVD of the trip.

Come along to learn of this amazing remote place, and hear the pile-ups from this extremely rare DXCC entity. There will be the usual good Raffle.

Dates for Your Diary

February	Net Controller: Geoff G3EDM
Sun Feb 4th	CARS at the Canvey Rally, The Paddocks, Long Rd., CANVEY ISLAND.
Thursday Feb 8 th	Evening at Danbury - Invite by RPI. 7pm to 10pm Light Refreshments
Wed Feb 14th	CARS Committee Meeting - Danbury Village Hall at 7.30pm - All welcome
Tuesday March 6th	CARS Meeting – Telecomms Over the Years. Alan M0DDT

CARS at the Canvey Rally Sunday 4th February 2007

We urgently need all you unwanted electrical, electronic, wireless, radio, HiFi, LoFi and surplus amateur gear for sale on our tables at the Rally. In the past this has been a little goldmine for Club funds. Please root out all that old clobber and give the Organisers Colin G0TRM (01245 223835) or Geoff G7KLV (01245 473822) a ring and they will be only too pleased to arrange collection at your (and their) convenience. Don't forget, there are brownie points to be won from the loved ones but you might regret parting with all those goodies!

RSGB RadCom Editor Alexander Kearns M3LSZ who came to speak to CARS in September 2006, has resigned to take up a commercial appointment. We wish him well.

Please keep our Membership Secretary, informed of any changes to your callsign or E-Mail addresses, etc. Further details contact our Programme Secretary: Martyn M3VAM on 01245-469008 or look on the CARS Web Site.
Club Nets: Tuesdays 8-30pm: (2nd) 145.375 : (3rd) 1.947 : (4th) 1.947 : (5th) 145.375. All +/- QRM.

Last Month's Meeting : A CARS Triple Decker - Part 1 Contests by Steve, G4ZUL

Steve introduced himself as G4ZUL and CARS Contest Manager. He said that he appreciated that CARS was not really a Contest Club but thought that Field Day could be resurrected. He asked the audience for their opinion - the response was a guarded "Yes".

RSGB National Field Days are in June (CW) & September (SSB). Dr Geoff Bowles has given permission for the aerial farm to be on the field used as a car park during Sandford Mill Open Days.

Steve had a small list of volunteers and equipment needed and suggested leaving a list near the door so that Members could add their names as they signed-in for a Club Meeting.

Steve said he would Register for the restricted section of the contests which would limit operating to 12 hours for the CW contest in June and 24 hours for the SSB contest in September.

He said he would like to do a follow-up presentation nearer the day - this was agreed.

CARS Triple Decker, Part 2 Electric Power Supply by Brian G3CVI

Brian said he had a controversial subject to discuss - however he hoped the message would be taken seriously as has been seen in a report by Ofgen recently.

In 1987, 11 nuclear power stations provided 11% of the countries total capacity of 46,000 MWatts. During the past 2 years a number of Magnox Nuclear Stations, including Berekley (Glos), Bradwell (Essex) both commissioned in 1962 & 250 MWatts each, and several coal-fired stations have been shut-down. Dungeness A (Kent) commissioned in 1964 & 550 MWatts & Sizewell A (Suffolk) commissioned in 1965 & 580MWatts, both Magnox, have just joined the list. Brian does not believe we have any spare electricity generation capacity!!! At present 9% of UK energy comes from the French Nuclear power stations but they too will be shutting down some in the next few years. Our average power requirement is now 35,000MWatts.

George added a comment - he agreed with Brian about Magnox Power Stations - he felt that the UK had a Power Gap of about 25years before the next generation of power stations come on stream.

If we suffered a hard Winter in the future we shall have power cuts.

Government has suggested that Windfarms (175 wind turbines in the Thames Array) are the answer and will be constructed to cover 15% of the total requirement. Brian wonders where the remainder will come from.

The output of the Windfarms is notoriously erratic due to the variable wind speeds and has been found to be, on average barely one third of their rated power and during "Highs" such as we had a few weeks back, the wind was zero for about nine days continuously....."nuff said?"

Brian's friends in Denmark have reported that the "Windmills" are badly affected by lightening strikes. It ruins the electronics at the base (inverter) and also the DC generator at the top such that they are not repairing theirs, but leaving them to remain unused.

They are not in anyway cost-effective. Brian said there are many other severe problems such as servicing them in gale conditions at sea.

Brian then described some positive methods of obtaining energy from alternative sources, the Sun being the most powerful energy source.

By showing on the screen a very simple line diagram Brian outlined a basic system for getting hot water from solar panels on the roofs of houses and stated that, under the right conditions of sunlight orientation and angle of the panel a temperature of 80 to 90 C was quite possible. (G8DET had such a system during the mid 1970s & had so much hot water in a summers evening one had to flush the loo with it!). Initial cost could be from £3500 to £10,000 depending upon the size and output required. During the long winter days with very weak sunlight the output can be very poor as one would expect. The Primary Heating System was susceptible to freezing. (G8DETs froze up completely one October).

He said a better method is to use a closed (secondary) circuit system where glycol type anti-freeze is used to convey the heat from the pipe grid on the roof to the hot-tank where internal transfer coil heats the actual consumable water. A mains driven pump pulls the heated water down to the tank when a thermostat operates.

Another system outlined used photovoltaic cells which, when illuminated by light give about 0.5 V DC irrespective of type. By constructing arrays of series and parallel cells almost any voltage and current combination can be achieved. Each square metre of cells can deliver 150Watt, so to run a kettle of 2.2kW would require more than 10 square metres of panels. The DC has to be converted to 230V AC to be paralleled into the house mains circuit by means of an inverter which is

a power oscillator running synchronously with the public supply and at the same voltage, nominally, 230V AC at 50 Hz. When ones demand is low (in summer for example), the system actually puts energy back into the mains and the meter runs backwards!!!!!!

Patrick, MOXAP has such a system and confirmed this does happen. The bill shows the saving.

Can we use gas from Norway????? She buys it from Russia and sells it on to us and not at a loss - but what if friend (ras) Putin decides to turn off the "tap"???

Brian considered we should have been constructing new power stations ten years ago....but we did not do so. It takes seven to ten years to build and commission a nuclear station and three to four for a "conventional coal fired station".

Brian concluded his talk by saying "I rest my case". Please now think about these matters and after a few months to find more details shall we have an evening when others may continue the discussion and bring to light more facts and solutions to the problems facing us?

Ken, G7RFT said that he could add a glimmer of hope - by concentrating on switching off everything not needed he had reduced his consumption by 30% - his bill for the past year being lower than the previous year even though there had been tariff increases.

Write up by Brian, G3CVI & John G8DET.

CARS Triple Decker - Part 3. CHELMSFORD CALLING

Jim introduced himself as M3RMI and Co-Director of Chelmsford Calling. Together with his Wife Ann the other Co-Director they are providing a Community Radio Station on 104.4MHz.

Jim said that they had always had a desire to provide a Community Radio Station & with this in mind had run a number of RSLs since 2001. They were for a few weeks, 15 Watts on 87.7 MHz. A RSL costs over £4,500 for a 28 day Licence.

Ofcom had relaxed the rules and so they applied, complete with a £600 non-refundable fee!. 194 other Stations had also applied for a Community Radio Licence. After 19 months they were awarded the 105th Licence out of 107 issued. The rules were for a maximum of 25 Watts ERP on 104.4 MHz. The station had to be up & running in 2 years and the Licence would run for 5 years from that time.

They started test transmission before Christmas and on 8th December Ofcom technical team turned

up and checked the installation out - they were given the "All Clear".

During testing reports were invited and it was surprising where Chelmsford Calling could be heard.

The station opened up on 23rd December 2006 on time & provide a coverage around about Chelmsford of music for the mature listener from 7am to 7pm each day of the week.

Jim showed a range of pictures from SCARF digital projector which included the station aerial, studio, mixer desk, Garrard SP25 record deck and computer which can operate the station unattended for 90 days. Ofcom require a copy of all transmissions for 42 days & this is obtained using a 4-hour tape on a LP Video Recorder.

Jim also showed photos of his amateur radio aerial & equipment.

Thanks Jim & Ann and we wish you well with this exciting venture.

John G8DET.

Amateur Power Generation

Brian's talk to the club at the beginning of January on sun and wind energy prompted me to mention the article in QST (November 2006 p 45) which describes how a Californian, USA, repeater group built a power unit for their mountain top repeater.

The demand was about 100 watts continuous day & night which equates to roughly 75 kWh per month. They achieved this for a budget of around £500 using a 500 Watt wind turbine plus a single 80w 12v solar panel. A 200 Ah wet cell lead acid deep discharge battery was used to store energy.

The system is explained in detail in the article but the interesting point is that the microprocessor control disconnects the generator when the voltage of the battery exceeds 13.4V. If the wind is too strong or the power is not needed it throws a short across the generator and the blades will hardly turn in a 90 mph blow, so preventing self destruction! (Remember the old telephone generators that were stiff to turn when you put a short across them?)

Have we any one in the club who could design a control-unit say around a car alternator to which a suitable set of blades had been attached? Is there a source for the blades or a design that one could build?

Geoff G3EDM. Vice President

Voice of the Listener and Viewer

I am a member of Voice of the Listener and Viewer, (VLV), a public broadcasting watchdog headed by Ms Jocelyn Hay CBE and founded in 1983. See <http://www.vlv.org.uk>

The new BBC Charter, in force from 1.1.2007 obliges the BBC to fund 95% of the costs of Digital UK, especially the cost of the new TX's etc. Also financial and practical assistance to vulnerable and/or disabled viewers. A ball-park total of £400 million has been put forward. This, in the presence of a fee that won't rise in pace with inflation/rpi looks like pie-in-the-sky. Fees from the sale of the analogue spectrum thus freed up - please note this item - may not defray such expense.

VLV feels that setting the BBC Licence Fee too low constitutes a real danger to programming standards. I wanted to be sure that the World Service won't be affected which I gather is funded via a Foreign Office grant but things can go wrong. For example, 6 short-wave transmissions were curtailed in order to provide 2 TV stations, one - I think - in Arabic and the other in Persian.

That's fine by me! I however doubt the wisdom of cutting voice-only transmissions which can, for example, be listened to clandestinely far more easily.

Patrick M0XAP

Send your Name/Callsign to the Moon

The Japan Aerospace Exploration Agency (JAXA) is scheduled to launch the SELENE lunar orbiter by an H-IIA Launch Vehicle in the summer of 2007.

The major objective of the SELENE mission is to acquire scientific data to answer key questions on the Moon's origin and evolution. It is the first fully-fledged lunar exploration project since the Apollo program.

JAXA is collecting names and will have them etched on a sheet which is attached to the spacecraft. This is a world-wide campaign sponsored by JAXA in cooperation with The Planetary Society of Japan and The Planetary Society of the U.S.A.

Please send your name, callsign and message within the following letter limits before Jan 31, 2007:

In English: Name should be within 10 letters, and the message should be within 40 letters. More information is available in English at: http://www.jaxa.jp/pr/event/selene/index_e.html

Trevor, M5AKA.

Louis Varney G5RV by Geoff G7KLV

There have been two articles about Louis appearing in *Radio Bygones* recently. This is a two monthly publication which is not sold at bookstalls so Club Members may not have seen the articles. For the benefit of newer Members Louis was one of the very early Members of CARS. He moved away from Chelmsford many years ago and lived at Haywards Heath until he died in 2000. He was an Honorary Member of CARS. He was a friend of Harry G5HF and, while he was in good health, came on a yearly pilgrimage to stay with him in Chelmsford. The visit usually coincided with a Club night and Louis was always the guest speaker.

Louis' main claim to fame was his multiband aerial, the G5RV in use all over the world. Older (in the tooth) Members will remember his multiband transmitter 'The Elizabethan', commemorating the Queen's coronation. He also claimed distinction in working /M on a horse in South America!

The first article is by Brian Austin G0GSF / ZS6BKW entitled "Louis Varney's Aerial". He describes the well known G5RV and discusses its performance. Originally it was not considered necessary to use an ATU with valve output stages but later on to accommodate the less tolerant transistor output stages he advocated the use of an ATU, or ASTU as he always prefers to call them.

The G5RV was used not only by amateurs the world over but by professional operators who wanted a wide band aerial for general use on non amateur bands. The Rhodesian Army used it. There were other aerials similar to the G5RV, some American. One from the Johnson firm, which they called the "Q Antenna", and another from Collins Radio called "The Collins Multiband Antenna". The author also had his own modified version of the G5RV. The G5RV was conceived in its original form in 1946 and in spite of some of its critics and detractors it is still popular, well known and available in the shops in kit form. Not bad after fifty years!

The second article is "Louis Varney and TVI" by Alan Davies who, I think, was a Club Member in the

50's. His article describes the problem of TVI and leads up to the Elizabethan transmitter. The London TV transmitter broadcast on 41.5 – 45 MHz. and it was soon found that the 3rd harmonic of the 20m band caused havoc to TV reception. To overcome the problem pre war amateurs were limited in their operating times but this wasn't too bad since TV broadcasting was limited to a few hours a day.

After the war both amateur radio licences and TV viewing increased enormously. Restrictions on amateur operating times were lifted but it was soon found that a significant proportion of the interference complaints were due to amateurs. The GPO interference investigators were not unsympathetic to the amateur fraternity and helped them as much as they could to overcome the problem. The RSGB was doing all it could with technical advice. Meanwhile Louis and many other amateurs were wrestling with the problems of harmonic interference, which was largely the result of Class C amplification. Incidentally, the post-war provincial TV transmitters worked on higher frequencies with SSB which eased TVI.

An entirely new approach to transmitter design was required, which took account of interference problems and Louis started experimenting on a methodical basis. He installed a TV receiver in his shack and was thus able to monitor his progress! By 1950 he published a design for a "TVI Proof 50 Watt Transmitter" for 20m in the Bulletin. Development continued which led to a 75 Watt transmitter and eventually in 1953 his crowning effort was "The Elizabethan". This was an all band job, except Top Band, selectable by switching. At the time it was criticised for being 'too conservative' but the bonus was that it was a reproducible design, within the skill range of many amateurs and many were built to his design. It did what it was designed to do! There is an Elizabethan on the Varney display at Sandford Mill built by a Danbury Amateur, Dave Bolwell, ex G3JCM.

With the introduction and increasing use of SSB in the early sixties, requiring linear amplification, TVI problems were considerably reduced. In retrospect the problems of TVI in the 40's and 50's now appear to be a bit of a storm in a teacup but they were, nevertheless, very real at the time and must have taken much joy out of the hobby!

Geoff, G7KLV

February Contests from Steve G4ZUL

RSGB VHF Contests

04 February. 432 Mhz AFS Contest
Starts 09:00 UTC
Finish 13:00 UTC
Sections: SF, O. (special rules S3).
Please refer to the RSGB website
<http://www.vhfcc.org> for full details of all VHF contests.

RSGB Club Championship (80 metres)

This contest runs from February to July each year and is a series of short

evening contests.

Dates for February as follows:

SSB 05 February. 20:00 - 21:30 LOCAL

DATA 14 February 20:00 - 21:30 LOCAL

CW 22 February 20:00 - 21:30 LOCAL

Please try to support these short contests and send your log by email to

HFCC using the excellent free SD contest logger by EI5DI, download

from <http://www.ei5di.com>

CQ WW WPX / RTTY

10/11 February, 48HRS

Exchange: RST + 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 respectively.

Prefix multipliers: The number of valid prefixes worked.

for full details please refer to CQ Magazine or

<http://www.cq-amateur-radio.com>

ARRL International DX / CW

17/18 February, 48HRS

Exchange: RST + 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

<http://www.arrl.org/contests>

CQ WW 160 Metre / SSB

24/25 February, 48HRS.

Exchange: RS + prefix or country abbreviation.

Categories: single op, multi op.

High power, low power, QRP.

Scoring: own country 2 points, other countries same continent 5 points.

other continents 10 points.

maritime mobile 5 points.

Multiplier: sum of states/provinces/DXCC countries worked.

Final score: QSO points x the sum of all multipliers.

further information from

<http://www.cq-amateur-radio.com>

For any further information please email Steve

G4ZUL - contests2007@g0mwt.org.uk

Active DX

A couple of stations that will be active from Antarctica at the end of the month.
Times - simply look for the Pile-ups!

28 Jan 2007 ANTARCTICA - KC4/K2ARB - AN-016
from Patriot Hills Base.

31 Jan 2007 ANTARCTICA - EM1UC from
Akademik Vernadsky Base station by UR8UC
on CW/SSB/Digital.

73 Trevor M5AKA

For Sale

Yaesu FT1000 MP HF Transceiver

TX 160 – 10m Amateur Bands only.
RX 100 kHz – 30MHz.
Modes LSB, USB, CW, FSK, AM, FM.
100 Watt output. Auto ATU.
240 Volts & 12Volts.
Fitted with extra Yaesu YF-114SN & YF-110SN
Filters. Has not been modified in other way.
Hand Mike & Icom SM20 Desk Mike (Boxed).

Excellent condition (Boxed) with Manual.
£675.00

Contact Ron G4JIE
Ipswich 01473 657997 After 6.30pm

CARS Foundation Course

The next CARS Evening Foundation Course at
Danbury Village Hall starts Thursday 22nd
February.

There are still a number of places free so if you
know anyone who may be interested please tell
them to contact Clive G1EUC.

Tel: 01245-224577 Mob: 07860-418835 E-mail:

training2007@g0mwt.org.uk

RPF Communications

RPF Communications are pleased to invite you to
their Systems Improvement & Best Practice Event
on Thursday 8th February 2007.
Doors open 7pm for 7.30pm start. Finish at 10pm

Special Offers available to attendees on the night.

Details:

7.30pm Welcome
7.35pm Talk by Waters & Stanton
8.15pm Talk by BHI on Noise Cancelling
8.45pm Talk by RPF on Reflected Power &
Gizzmo™
9.15pm Product Demonstrations/ Stand Visits

Free buffet and light refreshments available.
Licensed Bar on premises.

Location:

Danbury Sports & Social Centre,
Dawson Fields, Eves Corner,
Main Road, Danbury, Essex, CM3 4NQ.
Disabled access. Tel: 01245 224515.
Free car park

Contacts:

Phil Osborne (G4RPF) – 07905 587743

phil.osborne@rpf-comms.com

Gail Osborne (M3XRF) – 07952 014245

gail.osborne@rpf-comms.com

Blog: <http://rpf-communications.blogspot.com>

Talk in via GB3DA (145.725) with G4RPF (Phil)

<p>Please complete registration form on website or email Gail on above address to confirm attendance. WE LOOK FORWARD TO MEETING YOU!</p>
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G8DET Edited this Newsletter with assistance of
Colin, G0TRM, Trevor M5AKA & Murray, G6JYB.

Cut-off date for entries in March NL - 20th Feb.