



Chelmsford Amateur Radio Society

Affiliated to the RSGB
President: Harry Heap G5HF
Secretary: David Bradley M0BQC

Club Call Sign: G0MWT
Chairman: John Bowen G8DET
Treasurer: Brian Thwaites G3CVI

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December 2002

The December Meeting.

**Q & A by Brian G4CTS, Logging Software by Carl G3PEM & Freeview TV by Murray G6JYB.
Tuesday 3rd. December, 7-30pm at the MASC.**

The difficulties of becoming a licensed amateur if one is blind would seem to be almost insurmountable. Even if one's sight fails in later life, when one is already licensed, presents enough problems. With ingenuity, determination and an extra good helping of perseverance the problems can be overcome! Tom G4INM continues to host the daily '21 Net' just as he always has done for many years. **Brian G4CTS** has been blind since birth but that did not deter him. Just how he managed to overcome the problems is the subject of the 'first half' of the December meeting. Rather than present a formal talk Brian prefers to host a question and answer session. So, to find out how he managed to make it, have plenty of questions ready for him. Harry G5HF will set the ball rolling with the first question.

Following this, **Carl G3PEM** will be telling us all about logging software.

To round off the evening, **Murray G6JYB** will tell us something about Freeview TV. Freeview TV is the name for the new free-to-air digital terrestrial television service that you can receive through your tv aerial. Approximately 30 tv channels, plus digital radio and text channels are available if you buy an adapter to decode the new signals. This all sounds too good to be true? He will explain why it is important to install a really good aerial!

**We will be holding our usual raffle. This month it will be in the capable hands of that busy pair,
Chris G0IPU and Martyn G1EFL**



***A Happy Christmas and Prosperous New Year
to all our Readers.***



Dates For Your Diary.

Oh dear, oh dear! A monumental clanger! The Editor has a red face! Two AGM's is a bit much for one year!

December 3	CARS Meeting. MASC 7-30pm, as above
December 11	CARS Committee Mtg. Danbury Village Hall 7-30pm.
December 13	CARS Christmas Party, The Anchor Runsell Green, 7-30 for 8pm.
December 20	Last day to pay subscriptions.

Subscriptions Now Due.

**Brian would like to thank all of you who have paid up so promptly, no reductions but plenty of
Brownie points all round!**

If you haven't already paid, don't forget to do so at the next meeting.

Brian will accept cash but he really prefers a cheque, which should be made out to either;
'Chelmsford Amateur Radio Society' or to 'C.A.R.S.' (don't forget the full stops or it will bounce).

You can see him at the next Club meeting or send it by post to:-

Brian Thwaites, 118 Baddow Hall Crescent, Gt. Baddow, CHELMSFORD CM2 7BU.

His phone number is 01245-471919.

It will be assumed that unless payment is received by Friday 20th. December your subscription has lapsed. After this date no further Newsletters will be sent either by Post or by Email.

The CARS Christmas Party.

Hurry, hurry, hurry! There are just five places left for our Christmas Party. If you haven't booked your place yet there's still time. See Ken G7RFT at the next meeting or, better still, ring him on 01245-257088.

Last Month's Meeting. Homebrew Amateur Television Antennas 13 - 23cm –10GHz By Paul Prior G8IXC.

Paul, an active member of the Kent TV Group, was originally G6ANS-T. The KTV Group operate a TV repeater on the Isle of Sheppey. Paul brought an impressive "array" of equipment, including his car (parked outside!), which is fully equipped for mobile TV operation, sporting a plethora of antennas. There was a mixture of vertically polarized omni-directional vertical slots and rotatable directional box antennas. (Enough to deter even the most belligerent tailgater!) In fact, it transmitted a colour bar test signal throughout the whole of the evening for use in demonstrations to our gathering.

Although some transmissions are still made in the 70cms band, most are made in the 13cms, 23cms and even in the 10GHz bands. This means that antennas can be relatively small. A cheap satellite receiver may be used for reception of signals that are to the full CCIR spec, which incorporates stereo sound. Results may be judged by the fact that there are regular 'across the water' contacts to Holland.

Paul then demonstrated the true spirit of amateurism by showing that anything may be used to produce results. No complex maths here! Prototype experimental antennas can easily be made up with readily available cheap materials. A reference dipole (gain of 1) is a must so that results may be calibrated. It is also handy to have a good 'known' attenuator.

The dipole, receiver and TV monitor were set up to receive the test signal. A reflector, in the form of a discarded CD, was held behind the dipole. It was demonstrated that this provided about 3 to 4 db improvement to the signal. (Or rather, dbds) We later saw more CDs built into antennas.

Next up was a yagi made of balsa wood. The directive elements and reflector were balsa wood wrapped in tinfoil and pinned to the main spar with thumbtacks. Stacking 2 more reflectors above and below the existing one actually reduced the gain! When results of the model are optimised it can be reproduced in more durable materials. Tests are best done outdoors as moving the antenna about indoors will produce variable results due to reflections adding to and subtracting from the signal. This may account for incorrect claims made by manufacturers for the db they are quoting is for isotropic radiation, dBi not dBd. The difference is that the dBd could be 2 to 3 db less than that quoted. So it is always safer to deduct 2-3 dBs from that quoted.

Directional yagis are not suitable for some applications i.e. mobiles or repeaters. An easy solution is an Orford Slot. This is used on the Isle of Sheppey repeater. It is basically a tube with a vertical

slot down one side, fed at the top. Again models were shown using plastic water pipe and tinfoil. Final versions were made from metal tube, the slot produced by a jigsaw drill attachment. The slot doesn't need to be absolutely straight. Ring sliders, top and bottom, are used to reduce squirt.

13cm helix antennas can be wound on water pipe with a circular pcb reflector with typical gains, for those examples shown, of 9 –13 dBs

Small "bowtie" antennas, typical gain 9 dBs, mounted in plastic boxes for various bands were shown next. These also make good feeds for dish antennas. A construction sheet for bands 2mtr to 10GHz was handed out.

The last thing to be demonstrated was a commercial Video Sender system costing £60-£70. These have an output of about 10milliwatts at a choice of 2411, 2434, 2456, 2470 mHz. i.e. 2 ham band and 2 other. Range is 200-300 yards in open space. This, coupled with a cheap (£10) surveillance camera, a viewfinder from an old camcorder and a microphone provided good pictures within the room.

There is a repeater at Lowestoft, GB3LO on 23cms with an erp of 20watts.

Paul gave us a very interesting presentation of true amateur traditions showing that things can be done by rule of thumb trial and error methods without resorting to complex maths. A far cry from the early days on 70cms with stacks of dipoles in front of a sheet of chicken wire!

Our thanks to Eric G8ADX ex G3MMX-T for this report.

THE RADIO COMMUNICATION AGENCY, "JOINING IN" 2002 ROADSHOW. Report by Carl G3PEM.

On Tuesday 5th of November I had a reminder of what it was like to go to work. Did I really turn out on a cold morning at these unearthly hours? The reason for this was to attend the RA's Roadshow in London's Dockland on behalf of the Society. It was held at ExCel which is a large newly built conference centre located on the North Quay of the Royal Victoria Dock. Not many landmarks are around now to identify the places, but a couple of cargo sheds still remain and traces of the 'smell' of the docks.

The Roadshow is "Glitzy" using the latest presentation techniques which included slides and video clips accompanied by a form of generated music. The audience consisted of a good cross section of radio spectrum users, I met some old

acquaintances from when I was working, plus Peter a member on our latest M3 course, he was wearing his working hat with one of the mobile phone companies and also Bob the current RSGB President.

The Agenda of the Roadshow was; Welcome, A Defining Year, The Wider Perspective, Issues for the Customers, Region and Research.

Welcome; This is self explanatory except for the introduction of electronic voting for questions put by the RA at the end of each session. I just wonder about the frequency of the voting devices.

A Defining Year; This presentation started with some statistics about the RA. For instance, income of £138m, expenditure £66m, they will have to return the unspent portion to the Treasury. There are 210 types of licences which can be issued and users are from Vodafone [36 licenses over 20 years at £6 billion to our humble £15 one year licence.] The main theme was the ever increasing pressure and value of the spectrum. Value of spectrum in the UK estimated at £26 billion in 2000 and despite a tough economic environment continues to grow. Hence the governments interest and the arrival of the Communications Bill which is starting its way through parliament and is the instrument to establish OFCOM by end of 2003. A lot of information was given to their thoughts on ways of spectrum pricing.

The Wider Perspective; This presentation was on UK spectrum strategy and gave details of various UK and European harmonisation plans. On the World Radio Conference to be held in Geneva June/July 2003, a slide was presented showing some key issues for WRC2003 namely; Public safety - a search for long time globally harmonised allocations. Possible mobile allocation for RLANS at 5 GHz. **Amateur-update of regulatory provisions and possible alignment of international at 7 Mhz.** Allocation for terrestrial wireless interactive multimedia systems in UHF broadcasting bands. Pressure for additional 3G allocations below 600 MHz and 4G spectrum around 4 GHz. This was interesting and although our interest is mentioned some horse trading will take place between nations on the above issues to achieve results I hope our aspirations do not get lost in the bargaining.

Issues for the Customer; This was about the drive to make best use of the spectrum, contacting the RA for licenses, ensuring non commercial users i.e. Emergency services, Radio Astronomy, and Radio Amateurs have access to the spectrum. Also under this talk was the subject of the re-planning of the 450 - 470 MHz to harmonise with the European common allocation table. This band has high commercial interest, and it is a personal view that they must have their eye on our 70 cms allocation, use or lose!

Regions and Research; This section was about Strategic Monitoring and Direction Finding, and

technological research and was one of the most interesting presentations. The regional work programmes showed a lot of statistics. For example, they included investigations into 26 products for non compliance with directives and 2286 complaints of TVI. They also inspected 775 Maritime and Aeronautical installations together with 529 leisure radio installations. On the enforcement front they had 50 prosecutions and 50 convictions with £12500 fines. The main enforcement's were against pirate radio in the big cities, a particular problem. In 2001 there was 1438 raids. Changes in the Communication Bill will help the RA in enforcement. Strategic monitoring and direction finding is based around Baldock assisted by unattended monitoring and direction finding systems around the UK. They are coming to the end of a five year programme to complete these. Technical Research is directed at and in support of spectrum management duties. The research budget is about £4m .

This article is intended to give a flavour of the meeting. Everyone will have a different viewpoint but on the whole it was very interesting to attend and to listen to the speakers. I will be willing to answer any questions, just see me at a Club night. They supplied a CD titled "STRATEGY FOR THE USE OF THE RADIO SPECTRUM IN THE UK" which can be loaned from the library. Please see a Committee Member.

Club Construction Project. A Proposal by Carl G3PEM.

Would you like to participate in a Club construction project?

It is proposed that if there is enough interest shown, Members could meet and decide upon a single commercial kit which would be simple to construct and be useful to ALL license classes. Remember that in the future it will be necessary to satisfactorily complete a constructional project in order to upgrade from Foundation to Intermediate or Full license

For a Club project, for example, it is thought that we should construct either a piece of test equipment, a small QRP item, a Direct Conversion Receiver or perhaps even the PIC antenna tuner. The final choice would be decided by those taking part. It would be necessary to consider the complexity, cost and exactly how comfortable the Elmers [advisers] feel with the selected item

It would then be the intention to bulk purchase with the participating Members reimbursing the purchaser. Construction would be on an individual basis with as much help as required from the more "technical" Members, Elmers, signing up to the scheme. To get the scheme off the ground for the New Year please give your name to any Committee Member if you are interested.

Foundation Course News.

The next Foundation Evening Course will be held at Danbury Village Hall starting Thursday 9th January. There are still some places available so if you know anyone who'd like to get started in Amateur Radio then tell them to contact:

David Bradley M0BQC Tel: 01245-602838 or
E-mail: cars@g0mwt.org.uk to book a place.

Colchester Club Get Together.

We have received an open invitation to attend the Colchester Club Christmas get together. It will be held on Thursday 19th. December in the Abbeygate Room, Colchester Institute, Block B, Sheepen Rd. Anyone wishing to attend this popular function should RSVP to Frank G3FIJ on 01206-851189

Slow Morse from Trevor M5AKA.

Slow Morse transmissions take place on 144.160 MHz on Fridays, Saturdays, and Sundays by Frank G3FIJ and by Doug G0YAE, on Tuesdays and Wednesdays all at 21.15 local time.

These practice sessions concentrate on the QSO style in preparation for the RSGB 5 WPM Morse test. If you are interested in learning Morse ring Frank on 01206-851189 to confirm the latest schedule.

For Morse sending practice there is a slow Morse net. Here you can send at whatever speed you are comfortable at so long as it is not faster than 5 words per minute. The net usually starts at around 20:30 local time on Tuesday and Wednesday evenings and runs until the formal slow Morse session starts at 21:15. The frequency used is 144.160 MHz.

Foundation Licence 'QSO Party' From Trevor M5AKA.

To celebrate the first year of the Foundation Licence it is proposed to hold a 'QSO Party' to which all M3s and their friends are invited. The event will take place on the 1st of January 2003 on 40 metres at 1000 and 1500 UTC. The suggested frequency is 7070kHz, plus or minus QRM.

Local Scout Wins Govt. Award.

A Chelmsford Scout, Andrew Finch, aged 11, has been given a special RA award for becoming the 5000th new UK radio amateur via the Foundation Licence launched in January this year. His callsign is M3FMA. Even though Andrew is dyslexic, he passed the exam at his first attempt after taking only a weekend training course with his Scout group.

The Radiocommunications Agency (RA) has been so pleased with the numbers taking up the licence, that it decided to commemorate the 5000th amateur with a special award.

Alan Betts of the Agency's Amateur Radio section

commented "The radio amateur community was around 50,000 strong before the new licence was introduced, and so this level of interest is very welcome. The Licence has proved very popular with young people and amateur radio is very much an up-and-coming hobby for them".

Andrew had told his parents he would start saving his pocket money to buy a radio, but he is now the proud recipient of an FT-817 transceiver which has been donated by Yaesu. The presentation of Andrew's prize took place at a ceremony held at the RA's monitoring station in Baldock, Hertfordshire on the 22nd of October. Andrew was also presented with membership of the RSGB by President, Bob Whelan G3PJT, who also presented him with a host of radio amateur goodies and books.

Andrew's day was not over after the ceremony - he was given a tour of the RA monitoring station. 'Heartbeat FM' from Hertfordshire then conducted an interview with him before he was whisked off for another interview with 'Dream FM' of Chelmsford.

Congratulations are also due to Chris IPU, Martyn EFL and Nigel Hull G6ZVV for their dedication, and indeed all those amateurs who have devoted so much time to running and assisting with the Foundation courses

Christmas Present Ideas from Eric G8ADX.

Do the ladies in your life, not to mention the children, ask what you would like for Christmas. Obviously the lady in Eric's life has been enquiring! Here are two suggestions from Eric who has been perusing the Maplin catalogue.

The first is a Gas Torch Kit (YT73Q) knocked down from £29.99 to £14.99. Butane Gas (N59AN) is extra. The other one is a Digital Multimeter (QT18U). It measures everything! The price, would you believe, is £4.99. Order two and get the second one free! There is a catch, the batteries are extra!!

CARS Newsletter Entered in PW Competition.

No, we didn't win the competition! If we had it would have been on our front page! One of the comments was "A good all round read". There was, however, one serious criticism which we will rectify now!

The Club Secretary is David M0BQC on 01245-602838 and we meet on the first Tuesday at the MASC, Beehive Lane, Chelmsford at 7-30pm!

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Deadline for the January N/L is Wed.11th. Dec.