

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

Newsletter No. 423

Web Address www.g0mwt.free-online.co.uk

April 2001

Next Month's Meeting - Novice Training for Scouts by Chris G0IPU and HF Contesting by Carl G3PEM.

Recruitment of younger members to our favourite hobby is not a problem exclusive to amateur radio. At the recent AGM of a thriving railway club it was very noticeable that there was only one member present under the age of thirty! Your CARS Committee discusses this problem from time to time and a number of suggestions have been agreed; to publicise our activities in the local press and in schools.

As in many walks of life there are the talkers and the doers! One of our Members in the latter category is Chris G0IPU. He has done more than anyone in the Club to encourage youngsters to take up our hobby. He has agreed to tell us something about his activities in encouraging Scouts to study for and take the Novice exam. He has already a number of successful candidates to his credit and is eagerly awaiting the results of the latest entries. So, he should know what he's talking about!

This month we have a double bill. Our second speaker is Carl G3PEM and he is going to tell us something about HF contesting. Again, we have an expert on the chosen subject as witness his many successes!

There are two interesting talks to be heard at our next meeting on **Tuesday 3rd. April at the MASC Beehive Lane**. As usual our **Chairman John G8DET will open the meeting at 7-30 pm**. Please support the raffle which will be drawn before the tea break, and will be organised this month by Bob M0CSV and Ken G7RFT. Ela has decided to retire after eighteen very successful years. Thank you Ela. See Last Month's Meeting for further details. .

Dates For Your Diary.

April 3 Club Meeting . MASC. 7-30pm

April 10 IMD Sub Comm. Mtg. Sandford Mill 10am.

April 11 CARS Comm.Mtg. Danbury Village Hall. 7-30pm.

April 17 IMD Aerial Intallation Sandford Mill 9-30am.

Apl.21/22 London AR & Computer Show. Alexandra Palace.

The Net Controller for April is Harry G5HF.

Proposed Visit To Bletchley Park.

John G8DET is hoping to organise a Club visit to this attraction. At the moment the venture is tentative. Of the two dates suggested, Saturday the 12th. May seems to be the most popular. Members friends and families would be welcome.

International Marconi Day.

We are still looking for new operators as well as experienced operators for Saturday April 21st. Operators and loggers are urgently required to man the two stations at Sandford Mill over this 24 hour annual world wide event organised by the Poldhu Club. Both SSB and CW will be used. We also urgently require Club hosts

Please contact Brian G3CVI at the next meeting or ring him on 01245-471919.

NASA Space Flights.

At the time of writing a 12 day space flight is just coming to an end and the next one is targeted for April 19th. A crew of seven will travel in the Orbiter Endeavor. It will be an 11 day mission this time and primary payloads will be parts for the International Space Station (ISS). It is possible under certain conditions for Amateurs to listen to and, maybe, contact crew members during the flight. Obviously the craft has to be overhead and, as this maybe for as little as ten minutes, it is essential to know the orbit times exactly. Too much information is required to be printed here, so reference must be made to web sites given below:

www.heavens-above.com

<http://ariss.gsfc.nasa.gov>

<http://www-pao.ksc.nasa.gov/kscpao/schedule/schedule.htm>

<http://spaceflight.nasa.gov/station/reference/radio/>

<http://garc.gsfc.nasa.gov/www/retransmission/shuttle-faq.html>

Report by Colin G0TRM from a suggestion by Bob M0CSV, with a little help from Trevor M5AKA as well!

Last Months Meeting. Operator Training and Demonstration Evening.

The Chairman, John G8DET, opened the meeting by announcing that the Raffle would be drawn at 9pm - before the tea break and requested Members to purchase a ticket in lieu of an entrance fee.

Geoff G3EDM gave an introduction to the evening which was a precursor to the Club involvement with International Marconi Day on Saturday, 21st April 2001 at the Science and Industry Museum at Sandford Mill.

Geoff ran through typical call signs which will be used for IMD by the Special Event Stations. He said that the main aim was for distant stations to work any 12 of the special IMD stations. Then by submitting a copy of their log they can claim a distinctive IMD Certificate. A certificate previously claimed by Geoff was shown printed on a 1912 Share Certificate background - very impressive.

The bands and their allocation were stated by Geoff - single frequency working being preferred - and guidance given to calling techniques. Reports should be as realistic as possible - not the legendary "You are 5 by 9, please repeat your call-sign and QTH as I could not hear it". Geoff gave some interesting examples of situations he had been involved with during his many hours in contact with Australia and indeed the world.

John thanked Geoff for his introduction to the evening and then invited the audience to disperse and go to any of the many static displays assembled around the room.

These included Fred G2HNF who had a large following as he demonstrated how to correctly terminate a PL259 Plug. He also answered many questions posed by an attentive audience.

Dave G3PEN had a table with books for sale ranging from woodworking to Ham Radio. He went home somewhat less loaded

than on his arrival!

Seated at the new Club Committee Table to answer questions were David M0BQC and Carl G3PEM our QSL Manager, who had samples of QSL Cards received as a result of previous IMD activity.

Trevor M5AKA demonstrated a portable rig, Yaesu FT 817 which covers 1.8Mhz to 70cm, all modes at 2.5 watts using internal batteries and 5 watts using a mains PSU. He had a 10m whip connected.

Charles G0GJS demonstrated his super Dell laptop computer with a 15inch screen running a logging program called SwissLog, a program he uses to record all his contacts.

Chris G0IPU was assisted by Lorna (remember her - she used to help her Mum Jean with the tea at Marconi College). They were demonstrating a number of working home built projects as part of the forthcoming Novice Licence Exam. This is coming up very soon and we wish all Chris's candidates every success

Colin G0TRM was selling off odds and ends over from the Canvey Rally and Ken G3PMW and Geoff G7KLV logged in Members and collected outstanding Subs. Murray G6JYB gave advice on computer topics.

Bob M0CSV demonstrated his Yaesu FT849 which runs 100 watts on all H.F. Bands, 50 Watts at 2m and 30 watts at 70cms using all modes. It has a large blue LCD display, which makes operating quite easy. It had enough facilities and buttons to keep anyone busy for weeks.

Tony G4YTG had a stack of equipment and answered questions posed on aerials and their feeders. A topical subject being the construction of tuned traps, using bifilar windings and resonated using the MFJ Analyser.

John, G8DET had a Kenwood TW4000 on 2m connected to a Slim Jim provided by Harry G5HF but only made one contact, this was when Ken, G7RFT and Ralph G3NAA had arrived back in the car park having returned from Galleywood Common complaining that no one from the Club had answered their CQ Calls! They had worked stations all over the county, aroused the suspicions of a roving Police car and got wet through. The best laid plans etc.!

The Raffle was drawn and with a spot of rather crafty collusion Ela G6HKM's ticket was called out. When she approached the front to collect her prize the Club President, Harry G5HF, presented her with a Service Award Certificate for masterminding the Raffle for 18 years. She was also given a nice pot plant. In future the Raffle will be manned by Committee Members allowing her to circulate and talk to Members in a more relaxed way. Thank you Ela for all your time and effort in the past.

Report By John G8DET, Colin G0TRM and Geoff G7KLV.

Marconi Self Tuned 30kW Transmitter.

In last month's Newsletter we reported the gift by Marconi's of a 30kW HF transmitter to the Sandford Mill Museum. This will be on show for the first time on the Open Day, coinciding with International Marconi Day. All the interesting innards are normally covered with metal front panels and very little can be seen. As there was so much of interest it was decided to replace the metal covers with clear plastic. It is eventually hoped to arrange some internal lighting to avoid reflections. The circuitry on view consists of the three phase power transformer, a huge bank of silicon rectifiers and the grounded grid output valve, the high power tuned circuits and the valve lifting hoist. Unfortunately, display of the lower power stages is not considered practical at present. The transmitter was one of a range of self tuning transmitters and was the result of a number of design studies.

During the late fifties Marconi engineers started to take a long, hard, look at existing communications transmitters and the

associated transmitter stations. Considerable thought was given to ways of minimising operating and maintenance personnel, while at the same time improving electrical and, particularly, mechanical reliability. Meanwhile, new techniques had been developed and it was intended to incorporate these into a co-ordinated range of communications transmission equipment. The equipment was designed from the outset for independent sideband operation.

Optimum HF communication has always required the use of different frequencies (requiring individual crystals) throughout the day and seasons and for other reasons. The choice of a suitable aerial is required according to the destination. Hitherto, the retuning of transmitters was a time consuming and skilful task. There had been some attempts at mechanising the retuning of the many low power stages in existing designs but reliable operation had always been dogged by mechanical unreliability.

Synthesisers were the answer to frequency selection. A stable master crystal oscillator formed the reference frequency and this can feed a number of synthesisers. The early designs used analogue synthesis as opposed to the later, more economical, digital synthesis but even so they were a great advance on individually cut crystals.

Methods of achieving wide band amplification covering the HF band at powers up to 1kW had been developed. Two designs were available. One was a 3watt amplifier design designed to feed a 1kW wide band amplifier. These two units could form a complete 1kW low power transmitter. With the addition of lowpass filters and aerial matching circuits this basic arrangement satisfied many applications.

Higher powers up to 30 kW made use of the Marconi Self Tuning System. A grounded grid triode was used for the final stage. By the ingenious use of servo circuits the input circuit, the anode circuit and the aerial matching circuits, consisting of vacuum capacitors and tapped inductors, could be self tuned in under a minute. Automatic level monitoring adjusted the drive levels for safe operation throughout the whole tuning process. An aerial exchange coupled the transmitter to the appropriate aerial. Provision was made for remote operation.

Report by Geoff G7KLV - To be concluded.

Bargain Corner.

1. Yaesu 2m Multimode FT 290R complete with 10 watt amplifier. £125. Contact Dick Baker on 01245-256416
2. Black Cartridge for printer, Epson 480. £7. Contact Tom G4INM on 01245-259194.
3. Silent Key Sale. Alan Mills EA7BA / EH7BA. Heathkit SB200 1000w SSB Linear £260. Drake TR7 Transceiver with PSU Two at £250 each. Similar to above with cables at £300. Drake SP5 Speech Processor. £30. Drake RV Remote VFO. £40. Drake Speaker £5 ; Drake Mic. £10. Maplin PSU XM 12v, 7A. £20. APC UPS 280 No break PSU. HB but needs new batts.. £40. Creative MTX 10m TX/RX 25w CW/SSB plus full range of accessories. £50. Contact Geoff G3EDM on 01245-223494.
4. Qty. of Elektor Electronics mags. Also steam railway mags. Free to good home. Contact Geoff G7KLV on 01245-473822.

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Deadline for the next N/L is Wednesday 11th. April.