



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.430

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

November 2001

The November Meeting - Over The Horizon Radar by Ken Perry.

Members will recall the interesting and entertaining talks given to us in the past by Stanley Wood on conventional radar and the Chain Home series of installations of WWII. Conventional radar is essentially 'line of sight' and employs radio frequencies in the VHF to SHF spectrum.

Over the Horizon radar on the other hand uses the HF bands and has a far greater range and is not limited to line of sight. For instance three stations strategically sited in Australia give total air surveillance cover to the north of the continent. As in HF communication there are many and varied signals paths for the go and return signals. The position and speed of objects is determined by the Doppler shift and time delay between the transmitted and reflected signals. The Doppler processing is extremely complicated and is determined by computerised analysis. That is my understanding of the process. Be sure to attend our meeting for a more detailed and coherent account of this interesting development in radar which will be given by our visiting speaker **Ken Perry**, who has been involved in it's development.

As usual we will be meeting on **Tuesday 6th November at the MASC Beehive Lane**. Our Chairman is **John G8DET** and he will be getting us started at **7-30pm**.

Our raffle will be organised this month by that indomitable team, David BQC assisted by Harry HF or is it Harry HF assisted by David BQC? Anyway which ever it is, give them your unstinting support and help to keep us in the black.

Dates For Your Diary.

- Nov 6 CARS Meeting. MASC 7-30pm**
- Nov 10/11 Martlesham Microwave Round Table**
- Nov 14 CARS Comm.Mtg. Dby. Vill. Hall 7-30pm.**
- Nov 24/25 London Am. Rad. Rally Picketts Lock**

CARS Christmas Dinner.

David M0BQC is taking bookings for the CARS Christmas Dinner at the White Horse Pleshey. The date is Thursday 13th. December and the time is 7-30 for 8-00pm. This year there is a choice of two or three courses. Contact David on 01245-602838 to make sure of your place.

Subscriptions Due.

Sorry, but it's subs. time once again!

See Brian Thwaites G3CVI at the next meeting or send them to him at 118 Baddow Hall Crescent, Gt. Baddow, CHELMSFORD CM2 7BO. Please give him cheques made payable to 'Chelmsford Amateur Radio Society'. He prefers this method of payment to cash for security reasons. His phone is 01245-471919. Subs. are £9 and concessions £8.

The New Committee.

The new Committee for the year 2001/2002 as elected by your voting at the October Annual General Meeting consists of the following:-

- Carl Thomson G3PEM, Vice Chairman & QSL Manager.
- Colin Page G0TRM, Asst. Secy. & Dep. N/L Editor.
- Geoff Lovegrove G7KLV, N/L Editor & Librarian.
- Chris Chapman G0IPU, Tony Gilbey G4YTG,
- Trevor Hawkins M5AKA, Anthony Martin SWL,
- Martyn Medcalf G1EFL, Murray Niman G6JYB
- and Ken Whittle G7RFT.

The Chief Officers and President are as on the heading and Charles Shelton GGJS is our Vice President.

Marconi Celebrations.

Readers of the Chelmsford Borough publication 'Life' will have learnt that at last the town is doing the honourable thing and commemorating the Marchese Guglielmo Marconi. (not to be confused with a somewhat notorious industrial company of the same name).

A bronze memorial of the great man is being created for the Borough by Stephen Hickling. A range of community events has been arranged for December 8th. to commemorate the reception of the famous three dots received in far off Newfoundland from Poldhu a hundred years ago.

The Society has been invited to partake in these events but in quite what form has yet to be decided. We will keep you informed but it is anticipated that a number of operating volunteers and Club hosts will probably be required.

What is certain is that the Club intends to operate from Sandford Mill on December 12th., the actual anniversary of that famous transmission. The intention is to be on the air from 10am. 'till 4pm. Operating volunteers are urgently required and visitors will be welcome. Brian G3CVI is the organiser.

Last Month's Meeting - The AGM.

The Society AGM took place at the Marconi Athletic and Social Club on 2nd October. The Chairman John G8DET began with references to that evening's sunset and the truth or otherwise of the 'red sky at night, shepherds delight' saying. John was then pleased to carry out the pleasant task of making Dr Geoff Bowles an Honorary Member of CARS and then our President Harry G5HF presented him with the 'Amateur of the Year Award' for his services to the Club over the years. Geoff thanked the Club and said how he had always appreciated the radio amateurs interest in speaking to people. The President then told the audience that the Roy Martyr Trophy had been awarded to John Palmer M0CQK for his contribution as a Morse examiner. The audience listened to the Chairman's report in which John discussed the downloading of

the Newsletter. John stated that the Club has had an excellent year. A letter had been received warning that the Marconi Club may not always be available to CARS as the owners BAe may sell the land for housing. John thanked the Club for the flowers sent to his wife Pauline when she came out of hospital. The President thanked Bob M0CSV for his work on the Committee and told him we understood the reason for resigning. John ran through the various strengths of the Committee Members.

The Secretary David M0BQC read his report covering the Club meetings through the past year, the excellent quality of the Newsletter prepared by Geoff and Colin, the great day at Sandford Mill for International Marconi Day, the Christmas Dinner at White Horse Pleshey and the various nets run by Members. The successful year was due to the interest, support and hard work of the Club Members and finally he thanked John for his hard work on the CARS web page.

Brian G3CVI opened with the membership status. As usual Brian told a story. This year's tale was about Brian's power gliding exploits while taking a navigation test. The accounts showed a healthy financial state but with the increase in costs of the meeting room and the fact they we have to hire a room for the Committee meetings it was suggested by Brian that the subs. be increased by £1 on each class, to £8 for concessions and £9 for full Members. After brief discussion the proposed increase was passed by a large majority.

Harry G5HF, our President, addressed the meeting. Harry's concern is for the future retention of our amateur frequencies. In earlier times Morse and our ability to communicate worldwide provided our special status, but things have changed and there are many commercial interests which want to buy our frequencies. How can we justify our special status? Harry focused on power supplies. How can we carry on communicating when the mains are out? The challenge was thrown down to experiment with alternative methods of power generation for emergency use. (It has been decided to have a separate section in the Contractors Contest next year entitled "Alternative Power Supplies")

The President then retired the Committee. Bob M0CSV did not wish to serve but the others were willing to continue. The President asked that those Members wishing to continue serving should be re-elected en bloc. Fred G6FXM proposed this motion and Arthur G3KPJ seconded and it was passed unanimously. Trevor M5AKA was proposed as a new Committee member by Carl G3PEM, seconded by John G8DET and accepted by the floor.

A light hearted quiz was run by John and a revealing description from the Committee Members of their hobbies other than radio, brought a pleasant evening to a conclusion.

Report by David M0BQC.

The Tale of a Marconi CR150 Receiver by Geoff G7KLV.

I was on holiday in Scotland at Fochabers during the first week of September. It was rather breezy up there on the Moray coast but we only had one real pig of a day. To my regret I missed Colin's successful table top sale for the second year running. A pity because I do enjoy that sort of event. You never know what's going to turn up.

Amongst the various items for sale was a Marconi communications receiver Type CR150, quite a good receiver in its heyday 55 years ago. It didn't sell and John DET told the vendor that I might be interested in it and gave him my phone

number. I had acquired one of these rather large receivers in a Silent Key sale a few years ago and eventually donated it to the Sandford Mill collection. They've got somewhat more room than I have!

Anyway, it was Donald Imber G0VIS who eventually rang me and told me all about it. I pointed out my space problem and was gently refusing his offer but it transpired that it was a CR150 variant. This one of Donald's was a CR150/4. That did it! I was now well and truly hooked! Why, you may ask?

It was back in 1945 and I had recently joined the Receiver Development Group or D&D 2A as it was known in those days. This was the group which had designed and developed the CR series of receivers; the CR100 which needs no introduction, the CR200 which was a long wave receiver, the CR300 for marine use and the CR150 which was the HF receiver with a separate power unit. There was a strong family likeness. They all used the same slow motion drive and tuning scale and they were all solidly constructed of 16SWG sheet steel and were all quite heavy!

The CR150 was produced in a number of versions. The CR150/2 was modified for DF use. CR150/6 used loctal valves in place of IO types. I can't remember details of /3 and /5. The CR150/4 was a version used for diversity reception. The first and second frequency change oscillators and the BFO were changed into amplifiers and fed from high stability oscillators. The /4 covered a slightly wider frequency range than the standard model.

The CR150/4 was my first real development job working for Dr. George Grisdale G5GZ. I was a Technical Assistant, a grand title for a dogsbody. Under his supervision I did all the necessary calculations, designed the coils and transformers, prepared the testing specifications, supplied information to the drawing office and checked all the electrical drawings as well as overseeing the mechanics. I also made the first development model and checked and adjusted the performance to meet the overall specification.

The receivers were mounted in six foot racks. There would be three receivers in diversity for telephone reception and two for telegraph reception with a common oscillator supplying the receivers. A combining unit combined the diversity outputs. There was a 'brick built' PSU.

So when I had the offer of a CR150/4 it was really a nostalgic journey back in time! Donald said that he hadn't powered up the receiver but the previous owner assured him that it 'worked but not very well'! All three frequency change amplifiers had been turned into oscillators and were working. On applying power the receiver made some noises but was rather sluggish! Luckily the purchase price included a technical handbook. After replacing a few suspect capacitors and missing valves and completely re-aligning the RF and IF amplifier stages, performance was back to spec. with a microvolt signal producing the statutory 10dB signal to noise ratio.

So, I seem to be back where I started, with the problem of finding a home for a rather bulky receiver! Any offers?

Joint Editors

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Deadline for the December N/L is Wed 14th.November.