



NEXT MEETING - Essex Water, Present and Future

What commodity do we all use every day without thinking about it . . . until there is a shortage ? The answer is WATER, one of the most important resources for the survival of man.

This month, our guest speaker will be Roy Radford, Distribution Engineer for the Essex Water Company, who will provide some inside information on how our supply is maintained.

The meeting will open at 7.30pm on Tuesday 6th April in the Marconi College, Arbour Lane, Chelmsford.

We are sure that this will be an interesting and informative evening for all our members. Please note that there will be the draw for the Bumper Raffle Prize during the evening (see details below).

DATES FOR YOUR DIARY

- 6 Apr. CLUB MEETING - The Essex Water Company.
- 7 Apr. CARS CW CONTEST - 10m, 8.30pm.
- 18 Apr. CAMBRIDGESHIRE AR RALLY - Chesterton.
- 24 Apr. INTERNATIONAL MARCONI DAY (all bands).
- 4 May CLUB MEETING - Maritime Aerials, G4YTG.
- 16 May RSGB'93 EXHIBITION - NEC Birmingham.
- 30 May EAST SUFFOLK WIRELESS REVIVAL - Ipswich.

CQ ALL CONSTRUCTORS

While we are on the subject of dates, may we remind you of Tuesday 1st June, which is the occasion when members show their talents in construction. . . . How is your entry coming along?

CARS CW CONTEST - Charles, G0GJS

With the aim of improving the skills of members who wish to participate in NFD, a CW contest will be held on Wednesday 7th April at 8.30pm (local time). The frequencies will be 28.040 - 28.050MHz and the duration of the competition will be a maximum of thirty minutes dependent upon the number of contestants. In order to maximise the number of QSOs, the contacts with any one station can be unlimited in number, but QSOs must have taken place with a minimum of two other stations in between (by either station effecting the contact) before each repetition is made. RST plus serial number commencing 001 is required to be exchanged and scoring is 5 points for each valid QSO with 10 points deducted for any QSO in default of the repetition rule. Copies of logs please to Gwyn G4FKH by 16th of April.

We would request all Club members who are keen on CW, whether or not they intend to operate for NFD, to join in and thereby help to create a realistic contesting scenario. Please advise your intention to participate to Gwyn G4FKH or Charles G0GJS soonest.

FIELD DAY 1993

As well as arranging the CARS CW CONTEST the Field Day Committee are preparing new aerials for the event, for which £27 has been allocated from club funds to purchase some insulators and heavy gauge stranded copper wire, that will not stretch under load!

At the strategy meeting held recently by Charles, G0GJS it was proposed that we recruit at least 15 volunteers to be at the site by 8.00am on Saturday 5th June to prepare the station to go on air in the afternoon.

BITS AND PIECES - Ela G6HKM

The Jackpot raffle will be drawn at the April meeting and the prize is a Clock for your shack, it is an "Acctim" with LCD display, 12/24 hour setting, Europe/USA calendar facilities, plus weekday/week-end alarm settings and dial light.

Computer Supplies. Last year I organised an order to CLP in Dorset, the price break that we had to achieve was £150 (ex. VAT). I have now received their latest Consortium Pack, the price break this time is £75 (ex. VAT). If anybody wishes to make a purchase and we can reach the target of £75, I am happy to place a Consortium Order. If interested please see me at the next meeting, I will have Catalogues and order forms, you may pay by cheque or Credit Card. The advantage of these purchases is that we can take the lowest prices quoted, provided that all items are sent to one address.

SHOW REPORT - Colin Page

The Annual LONDON AMATEUR RADIO SHOW was held again this year at the Picketts Lock Leisure Centre in Edmonton. This show, the fourth to be held, was again very well attended by both enthusiasts and dealers alike. As before the many stands were distributed throughout two very large halls, with many other smaller stands and special interest groups and the Bring and Buy sale in smaller rooms and balconies.

Most of the big names were showing their standard ranges plus in some cases a few newish goodies. AKD have a series of 5/25 watt mobiles to cover 144MHz, 70MHz and to come, I believe, a 432MHz version. The range is British designed and built and seemed to be of excellent quality. Each version costs just under £194 and comes with a two year guarantee. These are fairly basic units but adequate for most purposes.

The kit manufacturers were there in force pretty well covering the whole range of amateur and SWL requirements. The cheapest kit seen started at the bottom end of range with an RIT board by JANDEK at £2.30 to about the top end, a complete CW transceiver kit by LAKE for about £90. There were many others and the writer has some information that may be of interest to members.

Computer freaks were not neglected nor were satellite TV addicts, antenna constructors or a host of other allied interests.

There was of course a great deal to see and wonder at, but my main interest in going to Picketts on this occasion not to buy but to take a Morse test, but that as they say is another story.

DF NEWS - Dick, G3WHR

The new DF season has begun, and Chelmsford has one qualifier in the National Final already - the winner of last years final, Andy Collett. The rest of us will be trying to join him at Banbury via the Qualifying events. This year we have to run one RSGB Qualifying event in addition to our usual programme of local events.

The 1993 Calendar of events is:

- 2 April, Colchester
- 18 April, RSGB Slade
- 23 April, Chelmsford
- 9 May, (RSGB) Mid-Thames
- 14 May, Colchester
- 23 May, (RSGB) S. Manchester
- 28 May, Chelmsford
- 4 June, Colchester
- 13 June, (RSGB) Northampton
- 25 June, Chelmsford
- 4 July, (RSGB) Torbay
- 16 July, Colchester
- 25 July, (RSGB) Dartford Heath
- 6 August, Colchester

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LAST MONTHS MEETING - Charles, G0GJS RADAR AND THE BATTLE OF BRITAIN

With his impish sense of humour, particular turn of phrase and an incredible nose for detail, Stan Woods the Honorary Historian of The Marconi Company once more fascinated a Club audience as he unfolded a further chapter of his research into the history of radar. This time he covered the period pre-WW2 and led up to the Battle of Britain. He started with a reminder of the work done by Henry Hertz in 1888 in producing an antenna which was the basis for the parabolic reflectors which have been used in primary radar systems for many decades and he mentioned the further exploitation of the design for communications link purposes when Marconi helped out the Pope with a system for the Vatican in 1931. The parabolic antenna progressed and from 1942 had many 10cm applications such as AI and shipborne radars. The design was also utilised for troposcatter communications which began in the fifties.

But it was the vision of a small number of very farsighted engineers in the thirties who not only knew how to communicate with each other, but also how to work the system to influence the Defence Staff and politicians of the day which provided the fundamental reason for German not becoming our national language. Watson-Watt's work into a death ray which spun off very soon into revelations of radio location were prompted by A.P.Roe, then head of Bawdsey Research, barnstorming through endless files of suggestions to 'combat the German bomber'. The ear of Air Marshal 'Stuffy' Dowding (then head of the Ministry of Aircraft Supply) was captured with the help of interface people like Sir Henry Tizard and the result was an initial sum of £10,000 to develop the Chain Home radar cover which by the summer of 1940 when the Luftwaffe began its large scale attacks was continuous from Lands End to the Shetland Islands and enabled the deployment of the outnumbered squadrons of Hurricanes and Spitfires to maximum effect. Time scales were phenomenal. Proof of concept by Watson-Watt occurred in 1935 followed by development work at Orfordness which culminated in production orders in January 1937 to Cossor for receivers, Metropolitan Vickers for transmitters and to Marconi for antennas. By the time of the Munich crisis in September 1938 the first part of the Chain Home early warning radar system was fully operational and demonstrated the ability to plot aircraft out to a range of 120 miles - the stations were at Bawdsey, Colchester, Canewdon, Canterbury and Dover.

Stan explained the technical features of the CH high stations and the concept of the CH low variant which was used as a gap filler for detecting low flying aircraft and ships. He told us of the towers built by the J.L.Eve construction company - one was salvaged for £40 and is still in use at Baddow Research today. Mention was made of the de-mountable valves type 43 used by Metro Vickers and of the silica/quartz valves which Watson Watt took from the Navy and successfully operated them at 20kv/12 amps which was a little more than the recommended 5kv/8 amps!! However, good effective high technology was one thing but the RAF had to develop operational practices and procedures to effectively deploy the early warning radar chain. This work went on at an 'SOC' style station at Biggin Hill which built on an operations room and created the necessary interfaces with the sensors and organisations that contribute to an air defence system viz guns, civil defence, observer corps, squadrons etc.. Biggin Hill was not a radar station but Stan paid tribute to the interpreting skills of the WAAF operators at the CH stations who came to terms with the Cossor 'A' scope displays, particularly during the heavy raids when the tubes were cluttered with dense "grasslike" returns.

In the meantime the Germans were developing radar - 'Freya' a ground early warning of aircraft set, 'Seetakt' for the detection of shipping and in the mid-forties they produced a 50cm radar for the control of AA. They presented radar operators of the Bawdsey chain in May 1939 with their largest ever 'return' when the Graf Zeppelin cruised up the East coast on an ELINT mission endeavouring to establish whether the UK had aircraft detection equipment but as their radar equipment operated on 1.5 metres and above the Teutonic mind missed the lower frequency CH transmissions. German engineers were having a harder time with their service and political masters than did Watson-Watt with the Whitehall hierarchy - Goering just did not believe in technology. General Milch of the Luftwaffe who had visited Mildenhall in 1937 and created consternation in the mess by asking if we had radar under development was not listened to by Goering, particularly when immediately after Dunkirk, Milch presented his plan which showed that German paratroopers could take out the Bawdsey CH chain by capturing the Manston and Hawkinge airfields nay bother! As Stan said, "Goering was worth at least two Divisions to the British!" A slide of a valve made by Telefunken and removed by an RAF technician during the commando raid on the German Radar Station at Bruneval, was very intriguing. Across my mind flashed the phrase, "A war is won by the side which makes the least number of mistakes!"

Our guest speaker also touched on the spin-off from Watson-Watt's original Radio Location work and the way in which the circuits and equipment were developed for other purposes such as mobile systems, AA gun laying, ship borne search and aircraft AI, H2S/ASV radar applications.

Thanks Stan for a most interesting and entertaining evening and we look forward to your visit next year to hear about Coastal Command and the part that radar played in the Battle of the Atlantic. There will be at least two Club members present who are ex-members of the 'Kipper Fleet'!

The DK0WCY Beacon.

The following information was originally provided by Ted, G4UPS and appeared in an issue of the journal FOCUS, to whom we acknowledge with thanks for being able to reproduce the details in our Newsletter.

The DK0WCY Beacon operates on 10.144MHz and is located in JO44VQ, 20km south of the Danish border. The output format is:

DK0WCY Beaconcontinuously repeated

in case of an aurora alert by some amateurs:

DK0WCY Beacon ...Auroracontinuously repeated

DK0WCY Beacon ...Strong Auroracontinuously repeated

At every full 10 minutes (may be changed to 5 minutes) plus some seconds:

INFO 10 MAY 1056Z = WARNING STRONG PROTON EVENT, STRONG POLAR CAP ABSORPTION = R82 = FLUX 124 = AK BOULDER 26 = FORECAST SUN ACTIVITY LOW TO MODERATE = MAGFIELD STRONG STORM = SWF LOW TO MODERATE = HF CONDITIONS MODERATE TO BAD+ (The above data is an example only)

Explanations, (the warning message is optional):

DATE TIME - refers to the last update of the data file from which the transmitted data is extracted.

R - yesterday's relative sunspot number.

FLUX - yesterday's solar flux at 10cm, measured at Penticton, Canada.

AK BOULDER - yesterday's index of earth's magnetic field at Boulder USA.

SUNACT - state of sun activity.

MAGFIELD - state of magnetic field.

SWF - probability of short wave fadeout.

HF CONDS - state of HF conditions.

NA - not available (mostly at weekend).

The Tx is Xtal controlled and o/p is 30W. Antenna is a triangular loop at 6 metres.

Since the World Communication Year in 1983, the beacon DK0WCY, a club station operated by DARC, has served as an aurora indicator. When aurora propagation on VHF is observed in Northern Germany the beacon will send a corresponding message. A limited number of amateurs remotely control this. Now, some data and a forecast will be transmitted additionally.

The 'Forschungsinstitut Fi34' (Research Institute) of the Deutsche Bundespost, Darmstadt is regularly updating a collection of the solar data in the German BTX system (view data system). Data is automatically transferred up to three times a day to the DK0WCY and a selection is then transmitted on CW.

Comments and reports of the beacon should be sent to Ulrich Mueller, DK4VW, Kreuzacker 13, D-3550 Marburg, Germany or via packet to DB0SIF. QSL via DK4LI or the DARC bureau.

DF NEWS (continued)

15 August, (RSGB) Ripon

27 August, Chelmsford

5 September, (RSGB) Chelmsford/Colchester

10 September, Colchester

17 September, Chelmsford

26 September, (RSGB) Final Banbury

9 October, (Double Night Event) Slade

17 October, Mid-Essex Trophy

23 October, (Treble Night Event) Mid-Thames

12 November, Colchester

Colchester and Chelmsford Friday events start at 7.30pm, for more details contact Dick Brocks, G3WHR.

Report on Snowman event in the next issue of the Newsletter.

73 from Roy & Ela Martyr, G3PMX & G6HKM

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MEMBERS ADVERTISEMENTS

FOR SALE (via a club member)

EDDYSTONE 940, HF Receiver in good condition with manual.

Offers over £70 to John Perks on (0245)281538.

EXCHANGE WANTED

Quantity of HD/5¼ Floppy Disks, 3M's and Maxell to exchange for DD/5¼ Disks or DD/3½ Disks.

Eddie Henrard on (0245)268756.