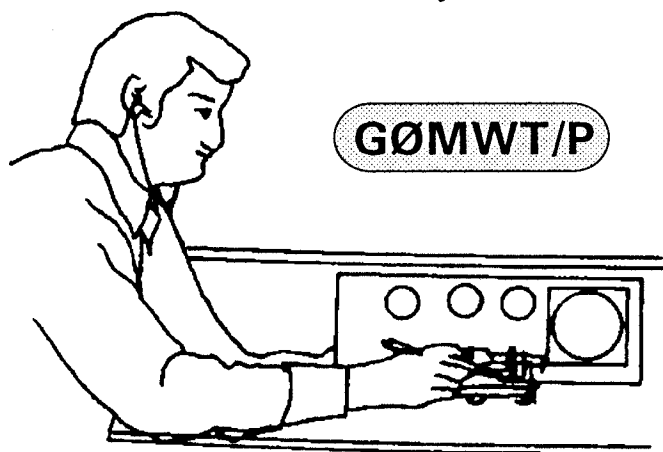




## NATIONAL FIELD DAY 1994

At 8.00am on Saturday 4<sup>th</sup> June, volunteers will gather at Howletts Hall Farm to assemble the station which at 3.00pm will go "on air" to represent the Chelmsford Amateur Radio Society in NFD.



Because we are short in operators this year, we are only entering the Restricted Section of the contest which means a simpler aerial system with an element of experimentation . . . which sounds like a lot of fun for those members who join in!

Please note that the site is the same as last year, the actual spot on the map is TL623015 and although access looks attractive from the Fryerning end of the track, our host farmer has given a word of caution that the residents frown on strangers in their 'executive' territory. Reproducing a detailed map of the area in these columns is difficult, so if you are unsure of the actual location please ask us for directions.

PLEASE SUPPORT THIS EVENT, particularly at the beginning when lots of hands are necessary to erect the mast and aerial.

### FIVE AND NINE PLUS???? - Brian G3CVI

If you live in Chelmsford "basin" or part way up its sloping sides you might be forgiven for thinking that your receiver is a bit deaf!!!!

Listening to the recent feasibility test for alternative N.F.D. sites you no doubt heard me giving signal reports for stations which were virtually inaudible at several of the lower placed shacks.

The reason is not that I have a particularly hot receiver (FT107M) but that my aerial system is 300 feet ASL in the clear on top of the local terrain, 150 feet long and centre fed with open wire feeder. The feeder loss was measured when first built and it showed 0.1db at 28MHz. The MFJ antenna tuner is first class and is never even slightly warm.

There are snags however, such as a large build-up of static under certain conditions and a polar diagram over which one has no easy control except by changes in length.

I assure the doubters there was no mistaking the high signal strengths on that special occasion but whether it proved anything is another matter.

Finally the XYL says..... "NO you may not put your field-day station in MY garden; it resembles a bird cage as it is.....SO there!!!!"

## CONSTRUCTORS' COMPETITION

On Tuesday 7<sup>th</sup> June we meet at the Marconi College, Arbour Lane, to see the latest products from members who are entering in this years competition.

Paying particular attention will be Brian, G3CVI and Dick, G3WHR who have volunteered their services as judges and depending on the number of entries will award the prizes of £10, £7 and £5 to the chosen 1st, 2nd and 3rd winners; as in previous years there is also a prize of £5 for any first time winner.

We like the meeting to be informal, however, the competitors should observe two simple rules:-

1. For the benefit of the judges and the subsequent Newsletter report, please provide a short written description of the entry, together with your name and callsign.

2. To add to the interest, please be prepared to give a short talk on your entry.

The meeting will begin at 7.30pm and we can look forward to an enjoyable and informative evening.

## DATES FOR YOUR DIARY

- 4/5 June NATIONAL HF FIELD DAY - Howletts Hall Farm.
- 7 June CLUB MEETING - Constructors' Competition.
- 12 June Elvaston Castle National Radio Rally.
- 19 June Bury St. Edmonds ARS Car Boot Sale.
- 26 June Longleat Amateur Radio Rally.
- 5 July CLUB MEETING - RSGB RLO, Malcolm Salmon.
- 23 July Waters & Stanton 21<sup>st</sup> Birthday Party.

## WELL DONE BRIAN!

All members who were able to join the two parties on the recent visits to Stansted Airport wish to convey grateful thanks to Brian, G3CVI for the detailed arrangements that he made on their behalf.

## FORWARD PLANNING

For the July Meeting we have invited Malcolm Salmon, G3XVV, the RSGB Liaison Officer for Essex, to describe current activity at Headquarters and to chair an open forum on members opinions of the work of the Society.

In accepting our invitation, Malcolm has requested advanced notice of some questions that members may ask at the meeting so that he can research answers (in some cases with RSGB Headquarters) and provide more interest to the evening.

Our Secretary Charles, G0GJS has agreed to forward the questions to Malcolm by June 12<sup>th</sup>, so will members please arrange to send details to Charles either direct or via any committee member.

## THE CLUB NET

For the benefit of new members, the Club Station G0MWT opens the net at 8.30pm on 28.325MHz, SSB, each Tuesday evening between the Club Meetings.

## COMMITTEE MEETING

The next Committee meeting will be held at 7.30pm, Wednesday 15<sup>th</sup> June, in Telford Lodge, you are welcome to join us.

## LAST MONTHS MEETING - Dick, G3WHR

If you can't hear them, you can't work them. A good receiver is a vital part of any radio station. There's been quite a lot written about HF receivers in Rad Com recently, including last months cover feature, the RX84; so we were pleased to welcome Dick Eassom from GEC-Marconi to describe and to demonstrate the latest in receiver technology.

Dick began by stating some of the requirements for modern military receivers and the reasons for adopting a digital approach. If you want the best performance then you have to tailor the receiver characteristics to suit the modulation being used. Digitally implemented receivers are particularly attractive because of their flexibility in filter bandwidths and demodulation functions.

We were fortunate that Dick was able to demonstrate one of the first models of the Marconi H2550 HF communications receiver, he described the receiver signal path starting at the aerial input.

The rf front end consists of input protection, an attenuator and a pre-selector filter. The first mixer up converts to a 62.5 MHz IF, a high linearity mixer is essential here, Marconi have developed their own circuit to give the necessary performance yet keep the power dissipated to a minimum. There is a helical filter followed by a second mixer to down convert to the second IF at 2.5 MHz.

Then came words not covered in my RAE class lectures, Digital Signal Processor (DSP), A to D conversion, sigma-delta, oversampling, decimation filter, quantising noise. If the terminology was strange, then so were the figures quoted by Dick for the DSP performance, out-of-band rejection of 120dB, in-band ripple of 0.001dB, figures impossible to achieve with analogue components.

Dick gave us a good explanation with many illustrations, but I sensed some relief when we came to the stereo 18 bit D to A converter which recreated the audio signal for the loudspeaker.

The flexibility of the receiver had also posed the problem of how to produce a front panel with sufficient knobs and switches for control. The problem was overcome by using - a Valve! well actually a vacuum fluorescent display. This could be used to show the usual features like frequency and signal strength and also to define the function of 6 'soft keys' placed immediately below the display panel.

The receiver had many other features for channel memory, maintenance, and remote control. As expected, the receiver had a professional appearance with modular construction and plenty of internal screening.

Finally came the opportunity to try the demonstration receiver for ourselves. I suspect that at around £6000 we will not be able to purchase one out of the Equipment fund just yet, so I hope you took your chance.

## MORE OF THE SAME PLEASE

It is with some regret that we have to fill this space with editorial comment but you may have already detected that much of the column space in this Newsletter was generated at Great Waltham.

Ela and I have used up all the excellent material supplied by members over past months.

To remind you of the sort of articles which give pleasure to our readers:-

Letters to the Editor.

Members operating achievements.

Technical topics.

Workshop hints and tips.

Book reviews.

Members comments on new equipment.

Two words of caution . . . . please check any previously published material for copyright limitation, we do not want to run into that sort of problem . . . . and with pictures for scanning, please remember that we only have a Hand Scanner with a width restriction of 10cm. The ideal is a postcard size drawing in the centre of an A4 sheet of paper, drawn with a BLACK PEN of constant width (Ballpoint pens are not very good - too many blobs!).

## VHF NEWS - Ela G6HKM

During May we had a few Sporadic E openings on 50MHz, and I enjoyed a QSO with our Club Member Peter, DK7SP, in locator square JN48, the distance is short skip for this band. Peter and I usually make it once a year, however in the past it has been in August, so lets hope this is a good sign for a good Sporadic E Season.

Whilst browsing through the newsletter for June last year I noticed that I reported working CN8ST on 50MHz, well I can go one better this year. On the 21<sup>st</sup> May I was fortunate to catch the Sporadic E on 144MHz, and guess who I worked? yes, CN8ST. This is the first time that I have ever heard a station in Africa on 144MHz and I have been on the air for 12 years now!

## THE FCC IS LISTENING

By Chod Harris, VP2ML (extract from DXNS 2<sup>nd</sup> February 1994)

*This editorial appeared in The DX Bulletin, although aimed at a US audience the advice should be heeded by all amateurs worldwide:*

Among the subscribers to The DX Bulletin are the FCC engineers responsible for sending out notices of violation. They will be monitoring the Peter 1 Island Dxpediton!; with modern transmitter identification techniques they can identify you even if you don't ID!, especially since the Peter 1 Island crew cannot possibly cut short their operation (no way of getting off the island), there should be no need for a mass feeding frenzy when they first get on the air. Take a few extra seconds and make sure you're on the right VFO, etc. And leave the policing to those so-called DXers who don't mind paying the few thousand dollars for unidentified transmissions. Let's not let this deteriorate into another 3Y5B mess!

## CLUB LIBRARY

Don't forget the club library; Geoff, G7KLV is doing a grand job with a steady turnover of loans to members. There are a number of new titles, if you have not checked recently! Also for hire is the excellent video of the AH1A dxpediton, do you know how the operators managed to leave the island?

## WATERS & STANTON OPEN DAY - Ela G6HKM

Roy and I set off in good time for Open Day on Sunday the 22<sup>nd</sup> May, it was just as well as we got the last parking spot in the Public Car park next to the Library. No parking was available in the emporium car park because this was completely covered with a marquee, this was occupied by a large W & S Second Hand bargains stand, with Bob and his son in charge, a book stall by the R.S.G.B, a display by ICOM, a stand from Practical Wireless & Short Wave Magazine, and a large aerial bay, not forgetting the ladies in charge of all the refreshments available.

In the shop, the ground floor displayed the new equipment and accessories, plus of course the HI-FI etc, and discount was available for purchases made on the day.

The radio shack was operational, complete with a 2M FM talk-in station to guide in the distant visitors.

The Middle floor was crammed packed with goodies, bargain bins and "Sold as seen" items, this was a bit of a tight squeeze, in fact was the survival of the fittest, tallest and longest arms!

We saw a lot of familiar faces and had a most enjoyable morning, if you missed this event perhaps you will be able to make the "Mammoth 21<sup>st</sup> Birthday Party" to be held on Saturday the 23<sup>rd</sup> July, 9.00am to 6.00pm. at the same QTH, hope to see you there.

Our thanks to all concerned.

73 from Roy & Ela Martyr,  
G3PMX & G6HKM

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