

# Chelmsford Amateur Radio Society.

NEWSLETTER No. 257

June 1987

## NEXT MEETING - Constructors' Competition.

Although Amateur Radio has been taken over by a proliferation of 'Black boxes' the art of construction is by no means dead. At this time of the year, our Society has the opportunity to see some of the endeavours of its members when we devote a meeting to judging their recently completed projects.

For the meeting on Tuesday 2nd June the competition judges will be James Watt G6ZC, Geoff Mills G3EDM and Simon Tonks G6ZKG who have kindly agreed to officiate.

The rules are very straightforward, your entry should be accompanied by a card with your name, the title of your entry and a brief description or specification. Please be prepared to give a short talk on your entry for the interest of members and information to the judges.

Depending on the number of entries, the prizes will be £7, £5 & £3 for 1st, 2nd & 3rd respectively, in addition there will be a £3 'Novice' prize for the best entry from a member who has not previously won a prize.

The meeting will commence at 7.30pm at the Marconi College, Arbour Lane, Chelmsford.

## DATES FOR YOUR DIARY

- 2 June - Constructors' Competition.
- 6/7 June - H.F. Field Day.
- 7 June - Southend & District Mobile Rally.
- 7 July - How to work VHF-DX by Meteor Scatter - Ken Willis GBVR.
- 19 July - Anglian Mobile Rally - Colchester.
- 4 August - Television Telecine - Max Pemberton G4ZMQ.

## LAST MONTHS MEETING - Phil G0ELM.

The scheduled talk titled "How to work VHF-DX by Meteor Scatter" by Ken Willis GBVR, was unfortunately postponed due to him being ill. We look forward to this talk which will be given at a future meeting.

At short notice two members of the club agreed to present two interesting short talks.

## FILTERS, by Dick G3WHR

There are two main areas where filters are used in amateur radio:-

- i) Filters on the output of transmitters.
- ii) Filters on commercial receiving equipment, tv, hi-fi etc.

In the first case, the filter is used to reject harmonic and spurious signals from the output PA stage of a transmitter. These are usually Low Pass Filters (LPF). For an HF filter it would pass the signals up to 30MHz (with minimum loss) and reject signals above this, typically up to 16Hz. In order for the filter to operate properly it is necessary for the output of the filter to be matched into 50ohms. Thus the filter is placed between the transmitter and ATU, the ATU matching the antenna in the usual way. These filters can be homemade, there are tables available to aid the design and calculation of the component values. However particular attention must be made to the types of capacitors used since at UHF frequencies they may appear to be inductive, due to their interconnecting leads.

The second type of filters in use are High Pass Filters (HPF). These are used to pass TV/Band 2 signals and reject the HF amateur transmissions. These can also be homemade. A simple example takes the form of a coaxial choke. Coaxial cable wound round a ferrite toroidal core. This rejects HF signals picked up in the braid of the TV downlead coax. Many examples of filters were shown, including their frequency responses. One filter by Mutek being built on Glass Fibre printed circuit board using Microstrip transmission line techniques.

Many thanks to Dick for a most interesting and useful talk.

## THE M25 TUNNELS, by Brian G0RDS.

This talk was illustrated with a wide variety of colour slides. Two tunnels on the M25 were described, Holmesdale and Bell Common. The tunnels require a complex control system to keep them operating safely. Within the tunnels there is a network of cabling, lighting, optic fibre and communication. There are also leaky feeders for antennas to provide the emergency services with communication within the tunnels. In order to maintain the tunnels they are closed four times a year. The best time to cone off the tunnels is on a Saturday night. This used to take four hours but can be done now in one. At the main depot there are more cones than people in Essex!! A vehicle was specifically designed to help with the maintenance of the tunnels, costing £88,000.

Cleaning of the tunnels is done by subcontractors, using water jets with a pressure of 2500 psi.

The lighting within the tunnels is computer controlled and is adjusted to match the ambient conditions outside. There are six levels of lighting which can be used. This gives a total of 14036 lights in the two tunnels. This amounts to an enormous electricity bill of £26,000 /month. The other computer monitoring systems in use are for the gas build up and toxic fumes in the drainage sump under the Holmesdale tunnel, Carbon monoxide is a common gas detected (from car exhaust) and fans in the tunnel are used to circulate the air. In the drainage sump toxic fumes can build up. A special inert gas generator is used and mixed with foam. This foam fills up the air space above the sump, this reduces the risk of an explosion by the exclusion of the air.

This completed a most interesting and well illustrated talk by Brian. Many thanks for the facts about the tunnels which we can appreciate next time we pass through them.

### Footnote to LAST MEETING - Ed.

I have received a long letter of apology from Ken Willis, from part of which I would like to quote, "I am still very keen to give this talk to your Society"...."meanwhile I would be grateful if you will convey to your members by some suitable means that I am very conscious of having let them down, something I would never do lightly and that I look forward to having the opportunity of making amends as soon as possible."

### FIELD DAY 1987

The planning for this event is at an advanced stage and the final details will be discussed at the next club meeting. We are still short of operators and helpers to make this a successful event, so if you would like to join in please let us know.

The site is again at Howletts Hall Farm, Grid Ref: TL61601B and the equipment will arrive at 9.00am on Saturday 6th June. Please note the new operating times - 4.00pm Saturday to 4.00pm on Sunday (all times in B.S.T.)

My apologies to all Field Day participants for giving a wrong telephone number last month, the correct number for Dick G3WHR is 0621-55707.

### D.F. NEWS - Dick G3WHR.

The second Chelmsford event took place on the 8th May, with Mike Hawkins as the hidden station. The bearings from the start were reasonably accurate but the northerly direction meant that competitors were restricted to the Tiptree-Kelvedon-Coggeshall-Earls Colne route. Subsequent bearings crossed with a very narrow angle, consequently the distance errors could be quite large. Everybody finally converged on a disused railway line near Colne Engaine. There was some confusion over which side of a stream to go, however, when some teams were seen smiling but with dry feet, there was no longer any doubt.

### RESULTS

1	Philip Cunningham	8.17	6	Roy Emeny	8.30
2	Paul Clark	8.21	7	Andrew Mead	8.31
3	Ian Butson	8.22	8	Frank Pearson	8.33
4	Dick Brocks	8.29	9	Pat Cranmer	8.34
5	Richard DeLaRue	8.29.5	10	Richard Whitney	8.42

The club has also been represented at the RSGB qualifying rounds. There was no success at Oxford, but more recently at Coventry, Ian Butson and Mike Hawkins qualified for the Final by coming 2nd and 3rd. Unlucky for Paul Clark and team who came 4th at Coventry.

### R.S.G.B. "Databox" NEWS.

A Gazette notice modifying the UK licensing conditions relating to the 50 and 70 MHz bands was published on Friday 22 May.

The 50 MHz and 70 MHz bands will become available to class B licensees on 1 June 1987.

At the same time both the bands will be expanded to become 50 to 52 MHz and 70.0 to 70.5 MHz respectively.

The amateur service in the UK will have primary status between 50 - 51 MHz and secondary status between 51 - 52 MHz and 70 - 70.5 MHz.

### AMATEUR RADIO STATION PA0AA - Bill G4JUW.

Many of you will have listened to the Dutch news service, PA0AA, which now bears the call-sign PI4AA because of new licensing rules for Dutch club stations. This station has been operated by the Dutch amateur society, the VERON, every Friday for the last 26 years.

It's purpose is similar to the RSGB news service, GB2RS. Staffed by three crews the station is located in the attic of an old paint factory in Amsterdam.

The main channel of interest to us in the UK is 3600 KHz, but news is also sent on 14103 KHz, and on 2 metres. There are two 2 metre stations to cover the whole of Holland, joined by a land-line link.

The schedule is as follows (in UTC):

1730	News in Dutch
1745	News in English
1800	CW for beginners
1830	CW for intermediate level.
1900	RTTY News
1915	AMTOR mode "B" news
1930	News in Dutch (Repeat)
1945	News in English (Repeat)

On the last Friday of the month following the News there is a CW proficiency test with speeds of 15 WPM increasing to 40 WPM. (Phew!)

The address is:- PO Box 9, Amsterdam, The Netherlands.

Acknowledgements to "Media Network" on Radio Netherlands International for the Details.

### VISIT TO BRADWELL POWER STATION

Twenty Society members enjoyed this outing on Tuesday 19th May, (including the CARS Two Metre Net on the move) a report on the visit will be published next month.

#### NEW MEMBER

The society extends the welcome return of Fred Leach, G2HNF.

#### INTERFERENCE - Brian G3CVI

Recently I have experienced very severe interference at weekends and especially on wet or unpleasant days. A little thought showed it only occurred when the "kids" were home from school and unable to play outdoors. The noises were obviously from computers and so strong that they were recordable and no doubt listings could have been fed back into computers if the types had been known. The unexpected thing was that the interference was received at 70cm, 2m and 6m as well as HF and the directional antennae identified the houses of origin. Has anyone else had similar problems?

#### FORWARD PLANNING

If you have any QSL cards to send through the RSGB Bureau, it would be advisable to send them soon! The QSL Bureau will be closed from 1 August to 23 August inclusive.

Another snippet of news is that the G7 series of call signs for class B licencees will be upon us very soon, I wonder who will be the first in Chelmsford?

#### MORSE TUTORS

If you have a Morse Tutor on loan and would like to return or extend the loan please arrange this with Ela, G6HKM at the meetings, both Tutors are out at the moment, however, your name can be put on the waiting list.

#### CLUB LIBRARY

Brian, G3CVI, is in charge of this service, see the list of books, which is continually updated, on the notice board at the meetings.

If any member would like to contribute a book to the collection, Brian will be glad to add it to the list.

#### CLUB NETS

Remember that for up-to-date information on the activities of the society between meetings join in the Tuesday club nets.

The 2 Metre FM Net begins at 7.45pm, on 145.225MHz (or nearby if this channel is already occupied) and the 10 Metre SSB Net on 28.325MHz starting at 8.30pm.

#### COMMITTEE MEETING

The June Committee Meeting will be held in the Marconi College Residence at 7:30pm on Wednesday, 10th June. You are most welcome to join us.

73 from Roy & Ela, G3PMX & G6HKM  
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### MEMBERS ADVERTISEMENTS

#### WANTED

Has anyone been able to find a copy of Ham Radio To-day for October 1986. If so please contact Brian G3CVI as I would like to photo-copy some information from the text for an OZ friend.

#### GOOD HOME WANTED

Many years of:- Radcom/RSGB Bulletin, CQ-TV, Practical Wireless, Practical Electronics, Electronics To-day International, Elektor, QST. "Free to a good home", but donations to the "Heart Equipment Fund" at Broomfield Hospital would be appreciated. Will deliver in Chelmsford area if required. Anyone interested please contact Arthur G3KPJ, Tel.No. Chelmsford 460147.

#### FOR SALE

FT290 Transceiver, 8 over 8 Skeleton Slot Antenna, Low-loss Feeder, Base Microphone and a Signal Generator up to 500MHz. Offers, G6JIR, Tel.No. Chelmsford 264049.