

# Chelmsford Amateur Radio Society.

NEWSLETTER No. 316

Call sign GOMWT

May 1992

## NEXT MEETING - Test Equipment

With the advent of the "Black Box" transceiver, many Amateur Radio Shacks now enjoy state-of-art technology. It follows that the station owner/operator should feel that he/she must have elaborate test equipment to keep the station on the air.

During the May Meeting, Roy, G3PMX will attempt to explain why items of equipment such as Spectrum Analysers, Network Analysers, Frequency Counters and even Digital Voltmeters whilst being "nice to have" are not essential in managing a modern station and how basic items such as the Oscilloscope, the Analogue Multi-meter and home-brew networks that rely on first principals can satisfy the licence conditions.

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

## DATES FOR YOUR DIARY

- 5 May CLUB MEETING - Test Equipment - G3PMX.
- 9 May St. JOHNS AMBULANCE GALA - Highlands Park.
- 12 May PRE-NFD PLANNING MEETING - At QTH of G3WHR.
- 24 May EAST SUFFOLK WIRELESS REVIVAL - Ipswich.
- 30/31 May RSGB NATIONAL CONVENTION - Birmingham.
- 2 June CLUB MEETING - Constructors' Competition.
- 6/7 June NATIONAL FIELD DAY - Howletts Hall Farm.
- 7 July CLUB MEETING - Satellite Weather Pictures.

## NATIONAL FIELD DAY 1992

Although some doubts have been expressed regarding Radio Propagation from the Blackmore site, we will continue there until an alternative site (with trees) can be found.

Gwyn, G4FKH and Brian, G0BDS have braved the recent inclement weather to master-mind two Sunday afternoon expeditions to the Howletts Hall Farm for the purpose of measuring the strength of incoming signals on the 7MHz, 14MHz and 21MHz bands, as compared with the home based stations, G2HPP, G4INM, G0GJS, G5HF, GOLSH, G0LSY and G3PMX.

Results of this survey indicate that the received signals at the site that we have used over the past few years are well down compared with the listed locations, however, this does not mean that we will completely abandon the site but instead try our luck on a fresh plot on the same farmland also to pay more attention to the type of antennas we use!

The farm owner understands our problem and has been very cooperative in offering the alternative patch of land. From an initial study of the area map it would appear that we will approach the site by a different route. . . . more details later.

There will be a pre-NFD planning meeting on Tuesday 12th May at the QTH of Dick, G3WHR, when the detailed decisions will be made for this years Club entry to the very prestigious competition.

You will gather from these remarks that the support of Club Members for this years event is more important than ever, so please reserve some time in your very full calendars for the weekend 6th-7th June.

## St. JOHNS AMBULANCE GALA

You will remember the informative lecture given recently by Kevin Matthews of the Chelmsford St. Johns Ambulance Division. At the close of that meeting we offered the customary remuneration, however, the request was tendered that the club could return the compliment by supporting the forthcoming Gala Day at Highlands Park on Saturday 9th May which is being organised for funds to replace their aging ambulance.

On the basis of a genuine cause, we have agreed to represent Amateur Radio at the Gala and to assist with fund raising within the constraints of our licence conditions.

Charles, G0GJS has kindly agreed to coordinate the activities of the day. An HF station will be set up, using the call GOMWT and it has already been suggested that sponsorship by club members for the number of QSO's made on the day would be a painless way to contribute to their fund.

## CONSTRUCTORS' COMPETITION

Tuesday 2nd June is now only five weeks away, so workshop activity must now be reaching furious proportions. How is your entry coming along?

Competitors will be pleased to know that the committee have voted for a substantial increase in prize money although they voiced their opinion that the honour of winning is still the most important factor.

## THE CLUB LIBRARY SERVICE

Our request for a "strong and young" volunteer to take over the administration of the library service has been answered by Geoff Lovegrove, G7KLV.

Geoff has already made an inventory and a revised list of available books will be published soon, in the mean time will any member who has a book on loan please bring it to the meeting so that its whereabouts can be verified. . . . MANY SEEM TO BE MISSING!

While on the subject; if any member has a publication which they would like to donate to the library service for the interest of other members, please let this be known to Geoff so that he can include it in an expanded list.

## MEMBERS NEWS - Ela, G6HKM

The Society extends a welcome to two new members who joined at the last meeting, Graham Leggett, G7JYD and Kenneth Whittle, a SWL.

The Raffle was very well supported last month, I suspect it was the temptation of the 2 bottles of wine on display for the Jackpot Raffle prize, the lucky winner was George Civil, G0LKY. Hope you enjoyed them George, especially that New Zealand Vintage Wine.

A big THANK YOU from me to whoever organised the lovely bouquet of flowers, which John our Chairman presented to me at the last meeting, they were quite the prettiest flowers I have ever received. I am not certain how they were smuggled into the room, on reflection I do remember seeing a certain gentleman arriving with a very large carrier bag, but did not give it a second thought. Thank you all once again.

I had a good response to the bulk computer supplies order that I mentioned at the last meeting and I am pleased to say that we made the \$150 target and I was able to order at the lowest price available.

6M has been very quiet over the past few weeks but at last we have the Sporadic E season, with LA and SM on the 23rd of April and I, OE and YU on the 24th.

## WHAT NEXT?

Last month, under this heading there was a proposal for the next item to be purchased with the equipment fund should be an R.F. 100 watt Test Load; and the request for members reaction to the suggestion.

NO MEMBERS COMMENTS HAVE BEEN RECEIVED!

Another proposal has been put forward that we should invest in a Microphone/Amplifier System for use at club meetings to enable all the audience to hear the speaker on the rostrum.

The ideal system would use a Radio Microphone similar to the type used by Eric, G8ADX for his talk but these are rather expensive. A cable attached unit can be just as effective providing it is fitted with a quick-break socket for users who forget to un-plug before they walk away!

Can we have some members reaction PLEASE.

## COMMITTEE MEETING

The May Committee meeting will be held in the Telford Lodge at 7.30pm on Wednesday 13th May, you are welcome to join us.

## LAST MONTHS MEETING

### RTTY & AMTOR - Harry, G2HPF

At last months meeting there was a good attendance to hear Geoff Mills, G3EDM talking on one of his favourite subjects AMTOR (Amateur Microprocessors Teleprinter over Radio).

First he gave a brief description of the normal RTTY system where each character is a string of 5 pulses which can be either a mark or space. There are only 32 different combinations of these pulses and this does not cover the minimum of 26 letters and 10 numbers required, let alone the need for punctuation and control codes.

So two codes Letters (LTRS) and figures (FIGS) are used to give two separate meanings to the 5 digit code sequence. LTRS covers the alphabetical characters and FIGS selects the numerical, punctuation and control codes. Of course some codes have to be the same in each case in order to keep control. Added to these is a start pulse at the beginning and a stop at the end.

The first use of this system keyed the transmitter on and off, but was subject to interference during the off period due to noise and QRM. So a system using two different frequencies for the mark and space was used. This can be done by frequency shift keying of the transmitter or more usually these days by AF modulation of a SSB transmitter, which both basically provide the same output signal when received at the far end. The AF modulation requires a modulator and demodulator (Modem) to produce two tones differing by 170Hz when fed with the digital pulses at the TX and produce DC pulses from the RX at the far end.

AMTOR is an advance on this system and uses a 7 bit code instead of a 5 bit code. This gives a larger selection of combinations, and if only the codes containing 4 marks and 3 spaces are used, the receive end will reject any other combination and can request a repeat of the faulty one. This is not completely foolproof as here two blacks can make a white!

During the "handshake" mode the TX will send 3 letters and wait for an acknowledgement from the far end before continuing with the message. A failure of the return path is considered as a request for a repeat. So both stations are constantly changing from TX to RX and the switching has to be fast. But more important is the time for the radio signal itself, which in the case of a circuit from the UK to Australia and back again puts a limit to the speed at which the system can operate and is about 100 baud.

Geoff produced printouts of traffic from VK3WR which were impressive. If a two minute message is sent and during half the time there is QRM, the requests for repeats will put the total time required

for the message up to 4 minutes, but the final copy at the far end can still be nearly 100% error free.

A show of hands at the end of the meeting indicated that quite a few members were interested in AMTOR, I am, provided I can find someone willing to swap a PK232 for a PK88, plus adjustment.

Thank you Geoff for another very interesting talk, I know the system works because you got V85GA for me via the mailbox.

## VHF ROUND TABLE - E1a, G6HKM

Roy and I attended this event at Martlesham on the 12th of April, and we had a most enjoyable day.

The venue was the luxurious Restaurant and Coffee Lounge at the BT Research Centre, which provided acres of room for all of us, about 50 in total, all very keen VHF operators including a contingent from Wales, 2 from the Netherlands and a y1 from Germany.

A good range of test equipment was available by courtesy of BT and extensive tests were carried out on a wide range of VHF equipment, pre-amps were being tuned up etc, the equipment available was an amateurs dream come true.

Refreshments were available throughout the event, assorted filled rolls, fruit tarts, biscuits, coffee and tea served by G? (OM) who was on duty all day.

The afternoon was devoted to a Forum in the Coffee Lounge, Chaired by Sam, G4DDK, starting with the demise of the RSGB VHF-UHF DXer Newsletter, a good discussion took place and Dave G8ROU offered to publish 6 further issues this year, if there is sufficient support it is hoped to go monthly in 1993. If you are interested the subscription cost is £5 for six issues and the contact is D.Hardy, Thorntree House, Wensley, Matlock, Derbyshire DE4 2LL.

After coffee, we had a good forum on VHF Contests, Andy, G4PIQ was in the hot seat for this and many views were aired including a few gripes and groans!

The Martlesham Group hold VHF and Microwave Round Tables every year. If you wish to attend you must apply for a ticket in advance to the restricted site.

## DF NEWS - Dick, G3WHR

I was the hidden station for our first Chelmsford event. At this time of year there's not much cover other than darkness. My site near Copford was only 10km from the start so most teams were on site by 8pm.

Despite a long aerial and being teed-in near one end I was soon challenged by a voice from close by; it sounded like Mike Hawkins, so his name went onto the results sheet. My next visitors soon followed and unfortunately broke the aerial feed; this was soon replaced, and the final team arrived.

Later in the pub, I found that my voice recognition needed improvement; it wasn't Mikes voice, but that of Andy Collett, who had been first. The result sheet required hasty amendment, with much general amusement  
Results:-

1	Andy Collett	8.03	5	Roy Emeny	8.15
2	Richard Witney	8.08	6	Mike Hawkins	8.17
3	Peter Graves	8.09	7	Andrew Mead	8.26
4	Peter Larbalestier	8.14			

Future Events:-

8th May	Colchester.	10th May	RSGB, Banbury.
22th May	Chelmsford.	31st May	RSGB, Torbay.

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73 from Roy & Ela Martyr, G3PMX & G6HKM

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