

# Chelmsford Amateur Radio Society

*Affiliated to the RSGB*

*President: Dick Brocks G3WHR  
Secretary: Charles Shelton G0GJS*

*Club Call Sign: G0MWT*

*Chairman: John Bowen G8DET  
Treasurer: Brian Thwaites G3CVI*

**Newsletter No. 402**

**July 1999**

## The July Meeting.

The July meeting will be something quite different in the Club calendar. In fact it will be a 'first' for the Club and should not be confused with our Junk Auction. It is the brain child of Colin G0TRM, always a source of fresh ideas! We refer, of course, to our first ever Table Top Sale which has been the subject of some advance publicity for the last month or so.

Have a look round your shack: is it overflowing? How long since you last used that old power supply? Is that non-working rig still under the bench after all this time? Make a new start: clear out all that surplus gear and bring it to the table top sale and buy something you really need!

All amateur, audio, computer, mechanical, photographic, electronic and all associated items accepted, working or non working! Don't forget your unused and nearly forgotten, worthless bits and pieces. They could be gems to the other man, or his XYL. Not many items to sell? Then share a table with one or two others. Call Colin TRM on 01245-223835 NOW. Tables are free to Members but a modest contribution to Club funds would be appreciated.

So, why not join us at 7-30pm on Tuesday July the 6th at the MASC Beehive Lane. If you've got nothing to sell or are short of the readies, just come along any way and have a good old natter! Spread the word. Bring your friends

**PS. Don't forget the loft and all that stuff at the back of the garage!**

## DATES FOR YOUR DIARY

July 6 CARS Table Top Sale. MASC.  
July 14 CARS Committee Mtg. Ela's QTH 7-30pm.  
July 20 Aerial Installation 9-30, Sandford Mill.  
July 25 Open Day Sandford Mill Museum, 10am - 5pm.  
July 25 Colchester AR&C Rally, Sheepen Rd. Colchester.  
Aug. 1 RSGB Nat. Mobile Rally, Hatfield House. Herts.

## New Members.

Welcome to the following new Members who have joined recently:

Eric Pergande SWL  
Martyn Medcalf G1EFL and  
Clive Ward G1EUC

## Last Month's Meeting.

### The Constructors Competition.

In his opening address our Chairman John G8DET thanked all the twelve entrants - surely an all time record! It was only a few years ago that the competition was being considered for withdrawal from the Club calendar due to lack of support!

Ralph G3NAA opened the proceedings with a replica of a finial that he had made for Harry G5HF's house. A 'photo of the full scale one being shown as well. Also demonstrating his wood turning skills were a couple of holes neatly surrounded by wood.

Chris G0IPU produced a 1" plastic tube reminiscent of game-boy videos and with a little sleight of hand revealed a beautifully constructed 70cms. Slim Jim. Adjustment requires patience but four samples are in everyday use. A 2m version was also constructed but was inevitably rather flimsy.

George G0LKY showed how an ancient BBC Micro modem could be used to house the Remote Imaging Group 137MHz receiver he had constructed, the main problem being component identification. The output is fed into the sound card of a modern computer and copies of the resultant weather pictures were shown.

Harry G5HF, assisted by Philip M0BDY, presented a weather station. Harry pointed out that whilst it was a joint effort it was Philip who did the tricky work, soldering the small components. Using Horlicks spoons attached to CD disks which, in turn, were attached to a miniature electric motor to provide suitable bearings and a source of voltage they produced the basis of an anemometer. Using two more CD disks and a matrix of reed relay inserts together with a voltage divider chain, wind speed and direction are indicated on a bar graph display. Calibration was carried out from a car in an empty car park! Although primarily intended for weather speed and direction it could find applications in providing indication of beam heading.

## The Club Nets.

The Net Controller for July is Colin G0TRM.

A full list of the Club nets will be given in the August News Letter

## Visit To PO Sorting Office.

Chris G0IPU has organised a visit to the Post Office Sorting Office. An evening visit has been arranged for Thursday 23rd September. Places are strictly limited, so see him at the next meeting.

## Sandford Mill Open Day.

Once again the Club has been invited to this event. The Club will, as usual, be operating a station in the Marconi Hut.

Brian G3CVI is the station manager and he will be pleased to offer you an operating slot. See him at the next Club meeting.

The Museum will be open from 10am until 5pm and in addition to the usual exhibits there will be a number of other attractions and sideshows, including live steam rides for children, both young and old! Ice creams and light refreshments will be available.

Unfortunately the date, 25th July clashes with the Colchester Rally so why not go to the Rally in the morning and take the family to Sandford Mill in the afternoon.

This is the one occasion when the Club and some of its activities are on view to the public. It is hoped that a good number of Members will support the operating team and generally inform the public of our activities.

NB. As usual the aerial will be erected on the previous Tuesday, the 20th July at 9-30am. Volunteers are all welcome!

Dennis SWL demonstrated a home designed and built three input seven day time clock in conjunction with his home security system to record events. Basically a mains driven unit, with time pulses derived from the 50Hz supply it also had battery back up from an astable oscillator in case of mains failure.

Colin G0TRM demonstrated how to make a Morse key using bits and pieces from the most unlikely sources. It's easy when you B&Q it using one of their window latches and parts from 13 and 15 amp plug! A slab of slate provided a suitable mounting. The aim was to design a key using readily available parts and without specialist tools.

Fred G2HNF demonstrated his, beautifully constructed, improved version of the MFJ aerial analyser. He described the principles and construction and how a number of innovative ideas had been incorporated. In particular, frequency monitoring was based on the BC221 idea of crystal harmonics and a scale corrector. A folder containing working drawings and a calibration chart was included.

Geoff G7KLV had produced a simple synthesised oscillator source for a MW receiver using the 4046 chip. This chip contains a RC VCO and the present application was thought to be unusual. To avoid the necessity for an offset the RX IF was readjusted to be a harmonic of the MW channel spacing of 9kHz. Using the HC version of the chip it was considered that an 80m RX could be constructed. A practical demonstration was inhibited by shorted tracks on a piece of Veroboard!

Bob M1CMY had built a very neat HF signal generator on three PCB's from a design in Everyday Practical Electronics. It covered the range 1.5 to 30MHz. The case was nicely painted and the dial was calibrated.

Peter 2E1HGG demonstrated a computer controlled Lego 'Brick' which waddled along on a flat surface and reversed itself whenever it encountered an obstacle. It also identified itself in Morse code. It was the basis of an advanced series of robots. It performed impeccably, impressing and intriguing the audience as well as providing some light relief!

Carl G3PEM had been busy and provided two entries. The first was a 'light box' of the UV variety for etching PCB's, made out of odd scraps of wood. His second entry was a Rho Meter which was featured in February '98 RADCOM, devised by G4FHU. As well as reading 'reflection coefficient', the ratio of  $V_f$  and  $V_r$ , it could also measure voltage and current.

Ken G7RFT had built a neatly constructed 2m convert for use with an HF receiver as an IF of 28MHz, the local oscillator being tuned to 116MHz. The front end employed dual gate MOSFET's and it was housed in a die-cast box.

With twelve entries the judges John DET, Dick WHR and Geoff EDM had quite a formidable task! After much careful deliberation they decided as follows:

1st. Prize - Fred G3HNF - Home brew MFJ.

2nd.Prize - Bob M1CMY - Signal Generator..

3rd.Prize - Chris G0IPU - 70cms. Slim Jim.

Novice Prize - Dennis Prothero SWL - Event Recorder.

John DET congratulated the winners, thanked all the entrants, Colin G0TRM for producing the certificates and the other two judges. He then presented the cash prizes. The certificates will be presented at the July meeting.

*Report by John G8DET et al.*

### **Mistaken Identity - Charles G0GJS.**

I recently appeared on Anglican Television in an interview to further the cause of Amateur Radio and particularly the Society's participation in International Marconi Day - Anglican mismanaged the event and gave me another name in their caption. I wish it to be known by all concerned that I have not changed my name to

Major Arthur \*\*\*\*\* and would notify the Chelmsford Amateur Radio Society Membership Secretary, the PNCU, Cayman Island banks, Home Office and Immigration departments, Colombian drug cartels, Salvation Army, Social Security, League of Fallen Women, Jehovah's Witnesses, Readers Digest, RSGB, RAF Apprentices' Association, Radio Officers' Association, the W.I, the "Date a Mate" Agency, the Gay Hussars Veterans' Association, Battersea Dogs Home, CPL, the Confederate Air Force, my great Aunt Ida, 'Humphrey' (disadvantaged sponsored camel in Karachi Zoo), Treasurers of Army Messes and all other persons and organisations with whom either the Major or myself may have had dealings, of the gross error committed by Anglican Television.

### **A Pre WW2 Radio - Geoff G7KLV. Conclusion.**

As I mentioned in last month's instalment, the main feature of interest on this receiver, which set it apart from any other I had ever seen, was the front panel presentation. There were eight bulbs. Two were used for edge lighting the tuning scale glass. There was a separate bulb for each waveband attached to individual moving pointers. A separate lamp indicated GRAM selection. In addition there were two illuminated backscals showing the settings of the volume and tone pot' meters, each one controlled by separate systems of wires and pulleys. The volume control mechanism was, however, missing. The wavechange switch controls the lamps giving entirely logical indications. I'm afraid my description doesn't do real justice to the ingenious arrangement!

The IF valve was faulty and after replacing it there were signs of life! As soon as I started to trim the IF transformers for maximum gain the set started to hoot! The metallising on the replacement valve was not making good contact with the wire connecting it to the valve pin and, not having a valve in better nick, it was necessary to fit a screening can round it. Peace at last!

Prewar receivers were not fitted with ferrite aerials and it was necessary to use an external aerial and earth. It was surprisingly lively on all three bands and had a nice 'warm tone'.

Apart from the smoothing capacitors the only other component replaced was the coupling capacitor from the AF anode to the output valve grid, which always seems to need replacing. I do it now as a matter of course.

Although a circuit diagram is always a help, it is usually fairly easy to trace out the circuit of valve receivers and it is only the switching arrangements of the tuning coils which cause any real difficulty. Switches and pot' meters invariably need a few squirts of switch cleaner.

As I mentioned earlier the power unit was missing and I used a valve rectifier rather than the obvious choice of two silicon diodes. Indirectly heated rectifiers do not conduct immediately so the stress on the capacitors is reduced!

All in all a very interesting and rewarding task. My friend is still working on the cabinet but I think his was the more difficult

### **Newsletter Articles - The Editors.**

We are running short of material for the Newsletter. Please help us out! We would be grateful for any articles, notes, hints and tips in any shape or form, short or long! We prefer articles in Word 6 or TEXT on either size of floppies. If you don't have a computer, a few scribbles on the back of an envelope would be quite acceptable.

#### **Joint Editors**

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**Deadline for the July N/L is Tuesday 20th. July**