

Chelmsford Amateur Radio Society.

NEWSLETTER No. 281

June 1989

NEXT MEETING - Constructors' Competition.

In the Society's calendar of events, June is reserved for members with practical inclinations to display their talents and compete for some valuable prizes.

This year is no exception and on Tuesday 6th June we will be able to view the fruits of their labours and to hear described how and why the items came to be made.

Paying particular attention will be George Cutting, G3GNQ and Bill Cole, G4JUW who have kindly agreed to be our official judges for the competition.

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

The judging will begin at 7.30pm and we look forward to meeting you all at The Marconi College, Arbour Lane, Chelmsford.

DATES FOR YOUR DIARY.

- 3/4 June NATIONAL FIELD DAY.
- 6 June CLUB MEETING - Constructors' Competition.
- 11 June MOBILE RALLY - Elvaston Castle, Derby.
- 4 July CLUB MEETING - VHF Contests, Dave Robinson G4FRE.

NATIONAL FIELD DAY 1989.

It would be good for the prestige of our Society if we could improve our position in NFD this year and we therefore call on all members to give as much support as they are able to make this year's event a great success.

The effort required is divided into three parts:-

- 1) A large gathering at Howletts Hall Farm on Saturday morning around 9.30am to build the station and connect up the equipment. We need a minimum of 10 for safe erection of the Telomast, however the more the merrier is the key to success.

- 2) At the gathering the schedule of operators can be finalised for the period 15.00hrs Sat. to 15.00hrs Sun.

Here again the saying is the more the merrier, not only for working the 'key' but for check logging, making tea, filling the generator, studying the propagation, catching rabbits and generally having a good time.

- 3) Dismantling and packing the station from approx: 14.00hrs on Sunday (as antennas and equipment finish service).

Over the weekend all visitors to the station are welcome also any contributions of homebake cakes, etc. for the operators/helpers will be appreciated.

Directions to Howletts Hall Farm are:- Approx: one mile East of Blackmore, map ref: TL616018, access is via the Blackmore/Highwood road. Turn south off the main road at the farm and follow the track past the farm buildings, turning right at the pond and on for a quarter of a mile.

Any offers of help or queries to our management team:-

Dick G3WHR Tel. (0621)891868 or Gwyn G4FKH Tel. (0245)260831

MEMBERS NEWS - E1a G6HKM.

Congratulations on passing the cw test and graduating to the 'A' licence to :- George Civil ex G1TVY now G0LKY and Donald Morrison ex G7BCZ now G0LLA.

NFD 1988 - Again!

As hoped and expected an apology has been published on page 64 of the May edition of RadCom, "Apologies to Chelmsford Amateur Radio Society, G4CUT/P whose position in the open section should have been 23rd and not 28th as printed. Keying the checked scores into the computer produced a score of 39 on 3.5MHz instead of 309. This obviously affected the total score and the final result."

REGISTER OF SKILLS.

In response to last month's request there were eight names entered on the register, this list will be on display at the club meetings.

We hope you will benefit from this new facility and that the free exchange of ideas will increase between members.

There is still plenty of room on the list so if you are willing to lend an ear to an occasional phone call or discussion at our meetings please add your name and topic of interest.

COMMITTEE MEETING.

The June Committee Meeting will be held in the Telford Lodge (Marconi College Residence) at 7:45pm on Wednesday, 14th June. You are most welcome to join us.

LAST MONTHS MEETING - KW Communications for Ten-Tec, Geoff G3EDM.

Members arriving at the meeting were met with a bewildering array of Ten-Tec equipment brought from Chatham by John & Chris. Apart from power supplies they had brought with them some eight items of ham gear. The ubiquitous E-Z match modified from the original by inclusion of an aerial switch and dummy load capable of 300W dissipation and now represented by the KW207 and retailing at £149.50. At the other end of the Aerial Tuning Unit (ATU) range was the 2.5kW ATU from Ten-Tec complete with SWR bridge which will set you back £309, and possibly lose you up to 0.5dB before the RF gets to the aerial. Far better to spend your money on an aerial system that matches nicely into your rig and which on receive will give you additional benefits especially if it's a beam. An ATU is just another couple of knobs to tune when you want to do a quick change of frequency (QSY). This ATU is a simple L network with variable inductance and capacitance both of which are hefty items in order to handle the high currents in such systems.....difficult to homebrew because the parts are not easy to find unless you make them yourself.

John started with a description of the baby of the Ten-Tec range, The Century 22, a direct conversion transceiver for cw only which runs 20W output; it covers 80, 40, 30, 20, 15 and the bottom 500kHz of 10m. I know that d/c receivers perform very well on the ham bands compared to their expensive counterparts and certainly have none of their birdie problems...it's easy to build your own d/c receiver with just a few field effect or bipolar transistors and you'll hear everything that you'll hear on the mightier rigs. It comes to you for £399 but the power supply will cost you another £99. John recommended using the Ten-Tec power supplies as they are designed to protect the power transistors of all their products. If you are using your own homebrew psu then John recommended one of the DC circuit breakers they market and especially if you are using a battery. Moving up market John described the features of the Argosy II, retailing at slightly more than the Century but for that including all of 10m and a single conversion superhet with 9MHz IF and usb and lsb in addition to cw. It comes with standard 4-pole filter but optional extras are 500 or 250 Hz cw filters. The receiver has a tunable notch filter. As with most Ten-Tec equipment the power supply is separate. A DC circuit breaker is recommended for mobile operation with this, and, in fact, all T-T rigs when mobile. Passband tuning (PBT) is a feature of this transceiver which can work full break-in at 50wpm; it's conservatively rated at 100W RF output and will stand key down for at least a full 20 minutes so will handle Amtor and Packet and digital modes quite easily. It has a speech processor working at audio frequencies. Collector current, of the PA stage, and forward and reflected power can be measured on a conventional analogue meter. An optional extra is a second vfo which enables split frequency working on the same band.

Further up the price range is the Corsair which John described as the finest cw rig on the market. (Beating the Japanese rigs). It does, of course, handle ssb as a bonus! It's analogue vfo keeps phase noise to a minimum compared to the synthesised vfo's such as used in the even higher price Paragon transceiver. The Corsair tunes 18kHz and the Paragon 4kHz per revolution of the tuning knob and double and triple conversion superhets respectively. Both transceivers transmit on all bands from 160 to 10m and in addition the Paragon gives continuous coverage on receive from 100kHz. RF output is ALC stabilised and can be set to suit the output which sounds a good idea so that you don't overdrive your linear.....after all, as John pointed out, if you're running into ALC you are already overdriving! Full QSK and PBT are provided with choices of optional filters. Receive dynamic ranges of 95 and 100 dB are claimed; which figures are exceeded by the claims of other manufacturers. Nonetheless most ratings of T-T equipment are conservative and these figures represent excellent performance. John demonstrated the QSK facility of the Paragon which works with AGC off or on. John says the intermodulation between broadcast stations on 40m is not discernible on the Paragon but just is using the Corsair.

The Titan is a valve linear using a pair of 3CX800A7s. John explained that these valves were protected from overdrive of grid current which seems a good idea when you realise they cost around £300 each. Ten-Tecs circuit philosophy is protection of all devices from human and equipment failure. So as in most commercial equipment it is not possible, unless you override the safety features, to electrocute yourself or damage the components. Certainly the power supply for the Titan is not for mobile use (unless you want to stop the rear wheels of your car from spinning!) John said it was really four separate Ten-Tec supplies in one unit; at just over 2K the Titan + psu is expensive and as I've always maintained this sort of QSK spent on a good aerial system helps you to hear as well as work the stuff you hear without a linear and socially this way is much more friendly. A good directional beam allows perhaps three or four QSOs to go on the same frequency (so there would be less of this "This frequency is in use" business). No need to have a rotary beam these days because a lot can be done with bits of wire and feeder cable to make electronically-switchable beams. If the Pools or Readers' Digest comes up then perhaps I'll get one but certainly if your shack is in the attic you'll have to reinforce the joists otherwise you may find the psu unexpectedly in the basement. On second thought's I think I'll settle for the Hercules, a solid state linear which can run 500W key down for 10 minutes and can typically run a 100% duty cycle. For the cw buffs it can be used without impairing the QSK facility of the transceiver because it switches in 10 milliseconds or less.

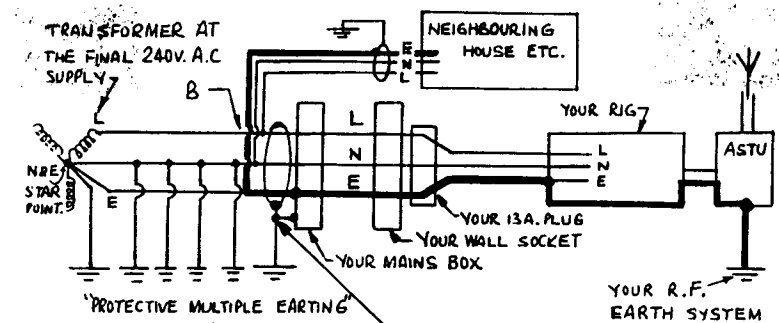
John concluded the talk and demonstration by inviting us to try out the receivers and certainly they performed well on the piece of wire strung out of the window as an aerial. Finally, John said it was KW's intention to start manufacturing some of these items here in the UK but pointed out that labour costs here were higher than in Tennessee. All Ten-Tec equipment has a one year's warranty plus a 4 year's pro rata warranty. Our Chairman, Brian Scroggs, on behalf of the 46 members attending, thanked both Chris and John for an interesting evening and for coming the 60 or so miles from Chatham.

HOUSE EARTHING, YOUR RESPONSIBILITY! - Roy, G3PMX.

There has been an excellent response to my request in April for further information on house earthing. Here is the second of the three articles received:-

SOME OF THE PITFALLS WHEN PROTECTIVE MULTIPLE EARTHING BECOMES NECESSARY - Brian G3CVI.

The Common Market demands that all countries of Europe shall see that their electrical systems provide frequent "earthing" of the neutral line between the supply transformer and the consumers box. With all-metal piping and cable-outers there are always several routes back to the transformer but with the ever increasing use of plastics for underground systems the situation is far from good.



'PROTECTIVE MULTIPLE EARTHING' SPACED OUT ALONG THE MAINS CABLE FROM THE TRANSFORMER. STILL DOES NOT CURE ALL POSSIBLE FAULTS.

COMMON 'EARTH' BONDING POINT IN YOUR HOUSE. BUT UNDERGROUND WATER AND GAS PIPES ARE NOW PLASTIC, POSSIBLY.... SO THE ONLY 'EARTH' FOR HOUSE IS VIA THE MAINS CABLE OUTER COVERING IF IT IS METAL... OTHERWISE BACK TO THE TRANSFORMER STAR POINT SOME DISTANCE AWAY.... OR THE NEXT P.M.E. POINT WHICH COULD BE QUITE A LONG WAY OFF AND IN SOIL OF POOR CONDUCTIVITY.

With water pipes, gas pipes and cable runs in plastic there is an ever present possibility of a nasty shock if a person happens to bridge the gap between, say, a water tap and an electric cooker which is only "earthed" via the company's star point and has suffered a fault which places the neutral/earth line many volts above earth potential.

BUT look at the diagram and follow the return path for your own or your neighbour's installation when a digger, for example, has cut partly through the mains cable at point B severing the neutral and the E wires but leaving the L still connected to your house and your neighbour's. He then has, say, a hefty fault which fails to blow his fuse (it might be 20A or of that order) ... the return is via HIS earth point (which is no better than yours) and thence via YOUR earth point which is not too good either BUT then via YOUR RF earth which is likely to be a good one.

The only way to avoid this disasterous event is to lift the earth wire at your 13A plug and tape it back to the cable and then place a residual current trip device between the wall socket and your rig... (or HI-FI or-what-have-you) requiring an RF earth of its own.

In law you are responsible for the electrical safety in your own house... and this could 'spark off' another whole discussion because how could one expect the "little old lady round the corner" to have any idea that her system had been rendered dangerous by the companies replacing the underground pipes etc?

NOW REFER TO THE LATEST R.S.G.B. CALL BOOK FOR THE REST OF THE CURES.

UP UP AND AWAY FROM STANSTED - Brian G0BDS.

As a result of my XYL, Sally writing to Essex Radio, telling them that I was an Essex County Council Highway Engineer whose many responsibilities include work on the Army & Navy flyover, M11 and M25 Motorways, I received a 'phone call from Paul Hartley the presenter who flies in the 'Jambuster' Traffic Spotting Aircraft around the County over the morning and evening rush hours.

He, having read Sally's letter, said that her request for me to fly as a guest on one of his trips was a brilliant idea, and invited me along at 6.30am on thursday 4th May.

Complete with two cameras and my big brother I duly arrived on the day having encountered on the way to Stansted Airport the thickest fog this year. The fog was only in the south of the county and therefore, after obtaining autographs for my daughter, we taxied and took off without delay at 6.45am. This was the first time I'd ever flown in a light aircraft so I took the precaution of a travel sickness pill beforehand which served me well.

The rough plan was to fly south down the M11 around the M11/M25 junction, down the M25 over the A12, A127 and then to the Dartford Tunnel with the trip up to Chelmsford from the A127. This we attempted but due to the fog across the bottom half of the county, all we saw of the tunnel was a ventilation chimney poking eerily through the cloud below. Our general height was around 1300ft and I was suprised at what detail could be seen from this level.

I have lived and worked in Essex all my life and I found it very easy to identify roads and landmarks which I knew as they passed below with the cars looking like matchbox toys. Then when we approached the Chelmsford area I asked the all important question "could we fly over my house at Galleywood?". "O.K." came the reply. Having indicated the location we buzzed the estate and quite easily identified my house because the large white cross that Sally had laid out on the back lawn stood out magnificently and combined with the three figures waving their arms about next to it, you couldn't miss it (Sally was worried we would see her in a dressing gown as it was so early). Perhaps the photos will prove it!

During the flight Paul Hartley used the transceiver he had brought on board and which plugged into the pre-installed aeralis and headsets, to transmit directly to the Studios at the allotted times. He monitored the studio introduction on the 141MHz uplink and gave his report on the 467MHz downlink. He knows nothing about radio other than where the on/off switch is, and was interested in my comments on his installation and the fact that there could be hundreds of people listening on the link frequencies. SHOCK was his reaction and he promised not to use expletives in future when transmitting, but "off air".

UP UP AND AWAY FROM STANSTED - Continued.

We had not seen any major traffic hold-ups other than the contraflow on the M11 at Loughton and it was after a very enjoyable pleasure trip that we landed back at Stansted at 8.45am.

During all this time, Richard the pilot, had been constantly looking around the skies as it seems at the altitude we had been flying its the pilot's responsibility not to bump into another aircraft, comforting thought isn't it. We did actually see another aircraft at the same height over Dartford which I think was a traffic spotting aircraft for a rival radio station.

It was a trip I won't forget in a hurry and all thanks to my wife's letter, and now whenever a light aircraft flies over my house, my family all ask "is that the Jambuster?".

* * * YOU SHOULD RECEIVE YOUR NEWSLETTER EARLIER THIS MONTH * * *
This is due to the Field Day announcement - see you there.

73 from Roy & Ela Martyr, G3PMX & G6HKM

Telephone, Home (0245) 360545
or Office (0245) 353221 Ex.3815

1, High Houses,
Mashbury Road,
Great Waltham,
CM3 1EL.