



Chelmsford Amateur Radio Society

Established 1936

Affiliated to the RSGB
President: Harry Heap G5HF
Secretary: George Farr G3UTC

Club Call Sign: G0MWT
Chairman: John Bowen G8DET
Treasurer: Brian Thwaites G3CVI

Newsletter No 457

Web Address: www.g0mwt.org.uk

February 2004

This Month's Meeting.

Power Measurement Theory and Demonstration by Dave G3PEN. Tuesday 3rd. February 7-30pm at the MASC Beehive Lane.

One of the very important licensing conditions is transmitted power, so the measurement of power is something that licensed amateurs should be familiar with and have the necessary device to measure it.

Dave G3PEN will cover the basic requirements of RF power measurement and discuss some of the methods available. He will look at the availability of commercial and "surplus" measuring equipment and the scope for home-brewing and calibration. He will conduct measurement demonstrations and conclude with a brief look at the construction of RF attenuators. Dave has been a licensed amateur for over forty years and was involved professionally in many aspects of RF measurement. Not a talk to be missed!

The raffle will be run this month by **George G3UTC**, assisted by **Jean**, or is it the other way round? Whichever, please support them.

Dates for Your Diary.

February 1	The Canvey Rally. The Paddocks, Long Rd., Canvey Island. Doors Open 10.00 am.
February 3	CARS Mtg. Power Measurement Theory with Demo. Dave G3PEN. 7-30pm. MASC.
February 11	CARS Committee Mtg. Danbury Village Hall. 7-30pm.
March 2	CARS Mtg. Antennas by Alan Boswell G3NOQ. 7-30pm. MASC.

The Canvey Rally.

The Canvey Rally is one of the main events in our calendar, and a very important event, because it is our single main money raising event. Your support is vital! Have a look through your shack and see if there's anything you don't need any more and would like to be rid of it. If so bring it along to the Rally or contact me, Geoff, or Colin. our phone numbers are below. Our sales team also includes Jim M3CAH and Martin G1EFL/M3VAM

Canvey is one of the few local rallies and usually very good. Chris G0IPU will be there on behalf of the RSGB recruiting tutors for the courses, Murray G6JYB will be representing the Danbury Repeater Group and Raynet will be represented. Our tables are all together so you can't miss us!

See you there on Sunday 1st. February!

Question and Answer.

There is a vast amount of accumulated technical knowledge within the Club. For a trial period we are holding a Q&A session to round off our meetings. If you have a question our Chairman will be pleased to help you by calling on Members for an answer. If you prefer you can write your question on a slip of paper and leave it on the signing in table.

The Club Library.

Ron M3CAM has now taken over the Club Library and will bring along a sample of our stock to each meeting. He will also have a full list of available titles, any of which can be borrowed on request.

Well Done!

Congratulations to 'Sam' Srinivasan, Alex Dokic M3VAR and James Watson who have passed the very last C&G RAE exam. Congratulations also to Big Jim 2E1GUA who won the Award for the leading Intermediate entry in two 70cm contests last year. Overall he was in the 21st position in the 432 MHz Affiliated Societies contest and 7th position in the 432 MHz Trophy.

CARS meets at 7-30 pm on the first Tuesday of the month at the MASC, Beehive Lane, Chelmsford.

For details contact our Secretary: George G3UTC on 01277-622707.

Club Nets: Tuesdays 8-30pm: (2nd) 145.375 : (3rd) 1.947 : (4th) 1.947 : (5th) 145.375. All +/- QRM.

Newsletter Editor: Geoff G7KLV 01245-473822 or email: geoff@g7klv.free-online.co.uk

Assistant Editor: Colin G0TRM 01245-223835 or email: colinpage@ukgateway.ne

Please advise changes of address to Geoff G7KLV.

Last Month's Meeting. Propagation Predictions by Carl G3PEM

Carl opened his talk by saying he needed to brush up on our long forgotten or not even learned knowledge on how HF radio waves were propagated around the globe. He went on to remind us of the various layers above us that are bending or attenuating our radio signals. The magic F layer which bends our higher frequency DX signals back down to earth and the dreaded D layer that sits at the bottom attenuating them. The forming and condition of these ionised layers, the ionosphere, is the work of our friend and enemy the sun and in particular it spots... 'Don't look now Ethel' - remember the song?

Carl warned about damage to eyesight and demonstrated his method of making his own observations using a pair of binoculars as a projector onto a sheet of white paper. These sunspots are the source of the radiated energy of various sorts, UV, magnetic, X, etc. which form, arrange and re-arrange the ionosphere, our propagating medium.

On now to prediction and the data you need to make your own or to feed to a program that will do it for you. Carl says listen, listen, listen, to find out where the signals are coming from in the world to your QTH and at what times of the day and year. You will soon realise, for instance, that the Australians start to come in at XX30 in the morning and what the value of X is. A table of world wide beacons was shown and the timing of their transmissions explained and also the frequency standard transmissions from WWV. For good DX it is better to work as close to the MUF as possible (Maximum usable frequency, above which the signals are not bent back to earth).

In the past various publications like *Wireless World* and *RadCom* have provided predictions based on historical data and the position on the eleven year cycle. Carl passed around some historical copies to illustrate the kind of presentation and explained the current RSGB presentation attributed to Gwyn G4FKH who used to be Secretary of CARS.

Some computer programs were then reviewed and Carl told us where to get the data needed to operate them.

The earliest program available was in 1969 (ITS 78) and can still be downloaded from the VOA in its updated form, IONCAP 1983. This program was originally developed for the US military and most software produced since uses its base data. This is a very good program which works well but is not user friendly and its output is difficult to interpret, but it is free!

HFX is another program, which costs \$90 and was very difficult to use but giving results, in Carl's experience, which could not be true.

W6EL is a prediction program which is free and is on Trevor's CARS CD. It requires you to

give it the following data on which to work. Your callsign or title, your QTH, Lat and Long, the take off angle of your antenna (say 15 degrees), the country you wish to contact, the time of day, the solar flux and the current K figure. Both the latter are available from WWV or the DX cluster and should be averaged over the previous few days. The program will offer you, bearing, distance, sunrise, sunset, MUF and graphs which show predicted signal to noise ratios above your inputted receiver noise floor. It also gives a very impressive global map showing the world around your QTH, the path requested, the day and night areas of the earth and the point where the sun is directly overhead.

Thanks Carl, a very well researched and presented talk, arousing great interest and as the last slide said, MAY THE FLUX BE WITH YOU.

Report by Tony G4YTG

Christmas Inter-Club Convention.

On Thursday 18th December the Colchester Radio Amateurs club hosted the Christmas Inter-Club Convention. This very popular event provides an opportunity for the members of local clubs to meet up and partake of the free buffet and wine that Colchester generously provide.

This year 6 members of CARS attended led by the Chairman John G8DET. The Deputy Regional Manager Trevor M5AKA attended on behalf of the RSGB and there were members from the Essex Repeater Group and the Clacton, Harwich and Ipswich clubs. In all over 50 people attended the event.

There was a Raffle organised by Jane G4MGO assisted by Ron G3JIE, some tasty food prepared by Brian G0GGM and a large supply of quaffible liquid refreshment overseen by Adrian G0APP and Colin G0LIN. Nearly everyone had a go at the light-hearted quiz - but no-one got it 100% right, a winner and runner-up were decided from all the entries and Brian G7MHK opted to take the 'Mystery prize' (a personal organiser) while Jonathan G0DVJ was left with a bottle of wine.

An excellent evening was had by all and I certainly look forward to next year's event.

Report by Trevor M5AKA.

From Our Email Bag.

Daer Etdior,

Hree si a smlal cnortibtuoin ot het westetn. Ot svae tmie ew hvae funod taht ti si otn ncesseray ot pirnt wrods whit lteres ni teh rhgit oder sa lnog sa lal eth crrocet lteres rae tehre. Ew wnoeder fi raedres wlil ntocie aynhitng wrong!

Ouysr Rulyt,
Rahy 5FGH

Lal onctirbtuoins ragetulfyl ecrivd, Eth Tedrios

80m Antennae; Small Gardens by Patrick 2E0XAP.

My garden is 20m long and for 80m a so-called 2-lead Marconi, described in Joe Carr's book 'Antenna Toolkit' p72. It essentially demands a good RF earth. The antenna itself consists of 20m of 300 ohm twin-feed of the ladder variety. The far end is soundly shorted, with a dog-bone insulator put in first; the soldered joint takes the strain. No resistance, no capacitor just a good solid short. This end is suspended as high as you like, in my case down the far end of the garden to a 7m mast. The other ends are joined soundly soldered one side to the outer of a cheapo PL259 (you'll need an 80watt soldering iron), the other side to the business inner. Tape the whole lot up to stop ingress of water, but not so's it interferes with connections!You can suspend it from the nearer mast (see below) so's the twin-feed droops a bit below its PL259 connector; thus water drains off before it reaches the PL259. The latter screws directly into a lightning arrester, to the other side of which is attached RG213 coax the other side of which goes to the TX.

The lightning arrester is of the type readily available in the Hockley Emporium; it has a 5/8" socket plus a screw underneath. This last is important; I use it to bolt the arrester soundly to one end of a 10mm dia 2' long copper water pipe bashed flat at both ends with a 5/8" hole drilled in the flat bits. The other hole I use to bolt the pipe to an earthing rod which is itself connected to several other earthing rods by the same method.....10mm water pipe with ends bashed flat and drilled. They run 1" or so under the lawn. The end of the 2' pipe with the arrester has two other arresters: one for my half-size G5RV and one (third) for my 2m whip coax; the mast supporting the latter also supports all 3 arresters.

The advantages of this arrangement are:

- [1] The impedance match to the coax is far better than for a simple wire,
- [2] There's therefore no RF bouncing around the shack,
- [3] The earthing arrangement speaks for itself, and is essential.

The antenna works well on 80m, 17m and 12m and will work on all other HF bands with an ATU if you've no (eg) G5RV and will squeeze a quart out of a pint pot to some extent on 160m.

The above note has been transcribed from an Email sent by Patrick to our Contest Manager Chris M5CSM. See his piece.

The G5RV Trophy

The following note is an Email from Justin Snow G4TSH to Chairman John G8DET. Justin is the Chairman of the RSGB HF Contests Committee and it is nice to hear that the trophy which the Club presented to the RSGB has, at last, found a use!

Hello John,

You may remember that Chelmsford ARS was very generous in donating the G5RV Trophy to the RSGB for use as an award in HF Contests.

You may now be aware that after some deliberation we have now decided that it would be an ideal trophy for the new 80 m Club Championship series of contests to be launched in 2004.

The trophy is to be awarded to the club whose members make the highest aggregate score over the series of events.

I have attached a copy of the rules (file named: RSGB Club Championship.rtf) and contest calendar of these events and I hope that we will see members of the Chelmsford ARS actively taking part. Please see the HFCC web site for full details of entering our contests:

www.rsgbhfcc.org

Thank you for your support. Regards for
2004,

Justin, G4TSH

80m AFS Championship

The RSGB have organised a new 80m club contest for 2004. See www.rsgbhfcc.org for more details.

The contest consists of a series of weekday evening contests similar to those which the VHF committee have organised. These contests run from January to July. Here are the first few dates. Note that the days rotate for each mode.

Mon 5th January	80m CW
Wed 14th January	80m SSB
Thu 22nd January	80m Data
Mon 2nd February	80m SSB
etc. to July 22nd.	

Some of you may know that the Chelmsford club have donated the G5RV trophy to the RSGB. The RSGB have decided to use this trophy for the 80m club championships. Would you like to see this trophy back in its rightful place?

All contests run from 20:00 to 21:30 GMT. Exchange is simply RS(T) and serial number. Entries by email only to the addresses below. Make SURE that you put the club that you are representing ie "Chelmsford ARS"!

CW Events: cccw.logs@rsgbhfcc.org

SSB Events: ccsb.logs@rsgbhfcc.org

Data Events: ccdata.logs@rsgbhfcc.org

Don't have email? Fax your log to me on 01268 887258, or post to 4 Curlew Close, Maldon, CM9 4YB. If you cc your emails to me I'll get the results placed on the Club website.

On this contest I am siding with my Leicester club. We have a number of people keen to have the G5RV up on the Leicester club shelf. Good luck in stopping us! I promise not to sabotage any faxed logs that I receive!

This contest should be a lot of fun and promises to be a very friendly and jolly event. Even

if contesting isn't your cup of tea give it a go and claim back your trophy. The lads and I in Leicester have already bought the polish for this trophy!

I have a shareware version of MixW for the data modes. If you have a computer with a soundcard then you are welcome to a copy of this software and any advice on how to connect it to the radio.

Aerials can be another sticking point. Perhaps some of you can come forward with some good suggestions. I have a small garden so I use two 80 mobile whips connected as a horizontal dipole aerial.

Anyway enough said. Good Luck to all those who take part!

Chris McLaughlin M5CSM
Home Tel: 01621 840923
Mobile Tel: 07719 915872
E-mail: contests@g0mwt.org.uk

New Foundation Course

The Club will be running yet another Foundation Course starting Thursday 11th March. We need more local publicity for this course, perhaps YOU could put up a poster at your work place or local community centre?

A Foundation leaflet and poster can be downloaded from the bottom of the CARS website home page or can be found on the CARS CD in the publicity materials folder.

The course costs £25 (£15 for under 18's). Club membership is also a condition and entails a subscription of £10. Further information is available from the Training Officer Clive Ward:

Tel: 01245-224577 Mob: 07860-418835
E-mail: training@g0mwt.org.uk

AUSTRIAN AUTHORITIES PULL PLUG ON BPL PILOT PROJECT

The Austrian Amateur Transmitter Federation ÖVSV <http://www.oevsv.at/index.shtml> reports that Broadband over Power Line (BPL) field test in the city of Linz has been cut short as a result of excessive radio interference. ÖVSV, Austria's International Amateur Radio Union (IARU) <http://www.iaru.org> member-society, said in December that the Government Ministry for Commerce, Innovation and Technology closed down Linz Power Company's BPL pilot project because it was generating interference on the HF bands.

Shortwave broadcaster Radio Austria's FutureZone service <http://futurezone.orf.at> says the case that brought the issue to a head was a Red Cross report that emergency services radio traffic during a disaster response drill last May was the victim of massive BPL interference.

"The Commerce Ministry Order not only means the end of the Linz BPL pilot project," the Radio Austria report said, "but the end of the

deployment of this technology in Austria, especially given the interference to radio communication in places of business." According to the broadcaster, measurements were said to have indicated that radiation from the BPL system exceeded permissible field strength levels by a factor of 10,000.

ÖVSV says radio amateurs in Austria have opposed deployment of all BPL experiments as neither legal nor compatible with "vital, world-wide shortwave radio communication." Among other problems with BPL, ÖVSV has cited its potential to disrupt emergency communications and safety-of-life services as well as military operations on HF and navigation and aeronautical communication.

Last autumn, ÖVSV representatives and Linz amateurs got together with power company representatives in an effort to resolve BPL's incompatibility with HF radio operation. The meetings followed news reports of interference to emergency service communications and QRM complaints from several area hams. "Because of the racket, expensive installations, such as a 20-meter monobander on a high-rise building, become totally worthless," ÖVSV said.

The utility agreed to look into the possibility of a 100-meter protective zone around each amateur's location, notch filters for amateur frequencies, network system filters and the use of 5 GHz wireless local area networks.

Thanks to Trevor M5AKA for this news.

Wanted and For Sale

Wanted. Dave G3PEN is interested in purchasing a decent 70MHz TX/RX for home station use. Mains operation is OK therefore, although a 12V rig would probably do. It could be multimode or FM only, and for the latter limited crystal control may be adequate, but full coverage of the band is much preferred. Contact him on 01376-326487

For Sale. ADI AR-446 70cm Transceiver. 5/10/35w. Boxed, with Mic & Manual. £100 inc carriage.

Tiny2 MK1 with manual £40 inc carriage
Tiny2 MK2 (dual image eprom) with manual £45 inc carriage. Watson 10amp PSU. Only 3month's old. Fan a trifle noisy! £40 inc carriage
Contact Charlie Davy M0PZT at

<http://www.charliedavy.co.uk>

Note that it is only in very exceptional circumstances do we accept For Sale entries from non Members.

'Antenna Toolkit' by Joe Carr.

This book, referred to in Patrick 2E0XAP's interesting article, is available on loan in the Public Library but the companion CD is missing as it was from the first loan issue. We hope to include a short review of the book in the March Newsletter.