



Chelmsford Amateur Radio Society

Established 1936

Affiliated to the RSGB Club Call Sign: G0MWT
President: Harry Heap G5HF Chairman: John Bowen G8DET
Treasurer: Brian Thwaites G3CVI Vice Chairman Martyn Medcalf G1EFL



Newsletter No 525

Web Address: www.g0mwt.org.uk

December 2009

This Month's Meeting – Tuesday, 1st December 7.30pm at the Marconi Club.

"Multi Tx Radio Direction Finding"

Roy Emeny, G4JAC, Colchester Club.

The presentation this month is by Roy who has been a keen Radio Direction Finding enthusiast for some 30 years or so.

DF'ing is orienteering using ordnance survey maps and a compass. Bearings are taken at an appointed start location and random transmissions are made usually during the next two and a half hours. We all meet again for tea and the afternoon's competitiveness is forgotten and we are all friends again! Usually we have teams of three - a driver, a navigator, and a runner.

You don't have to have an athlete's body to take part in Top Band DF (unlike the IARU events you read about in RadCom). In fact, some of the best competitors are the older ones. Roy has been taking part in Top Band events for ages and is well versed in the guile that is needed for success.

He has recently devised a new variant on competitions involving low power unmanned transmitters as well as the main ones. This is now catching on as people struggle with the special rules. Roy is a great ambassador for Top Band DF and a good speaker with a very dry wit. It should be an excellent evening.

Words above by Roy, G4JAC; Bill, G4CUE and Peter, G0KSJ.

For the 9pm Refreshment Break, CARS will supply the now traditional Hot or Cold Mince Pies and this year the option of a slice of Stollen Cake. CARS will have its now famous Raffle with at least 10 prizes with a Special Christmas Prize selected by a CARS Committee Member.

Dates for your Diary

Sat, 5 th December 2009	CARS Christmas Lunch at The Chimes Restaurant, The Bell, Rettendon Common, near Chelmsford. See Menu and Application Form issued with November NL.
Tue, 8 th December	CARS VHF Net on 145.375MHz
Wed, 9 th December	CARS Committee Meeting – Danbury Village Hall – 7.30pm. All welcome.
Thurs 10 th December	Friends of the Museum Christmas Event at Christ Church 7.30-10pm.
Tue, 5 th January 2010	CARS Meeting – "Development of the East London Line" by Mark Sanderson, M0IEO.
Sun 7 th February, 2010.	25 th Canvey Island Rally – 10 to 4pm. Look out for items to sell to bring along. CARS have ordered a Table but only "DIY Selling" this year due to lack of equipment.

To become a Member of CARS, send a Cheque for £12 – Adult Membership (16s and under are FREE) to:- Mr Brian Thwaites, 118 Baddow Hall Crescent, Great Baddow, CHELMSFORD, CM2 7BU. If you would like a receipt, please enclose a stamped addressed envelope with a 2nd class stamp.

Thanks to Geoff, G7KLV for sending the postal Newsletters – could it go by E-Mail? Please inform Geoff, G7KLV by E-Mail of any changes to your call-sign, postal or E-Mail address, etc. E-Mail him on g7klv@g0mwt.org.uk Only by you sending Geoff your E-Mail address, can we ensure **WE** get it right!

Club Nets: Tuesdays 8-30pm: (2nd) 145.375: (3rd) 28.375: (4th) 1.947: (5th) 145.375. All +/- QRM.

Net Controller for December - TBA

Thanks to David & Patrick for doing it in November.

**Last Months Meeting:-
“Flex 5000A and Power SDR”
By Gwyn Williams G4FKH.**

One striking issue about this talk was what it needed to prepare for it – three full car loads to show off a 10” box! The CARS website has a photo gallery of this including the prep work in erecting the Comet 250 HF vertical at the rear of MASC, whilst Gwyn brought all his kit - radio, full size PC etc and CARS also had 3G-netbook, projector etc also on hand. Some deft setting up of the twin-head graphics card output to his LCD screen and the projector, enabled all to see easily.

The Flex 5000 is the big brother of CARS own new Lottery Flex-3000 HF Tx/Rx SDR that was used for GB70GB. Gwyn kept the talk amenable by avoiding much of the internal technology and concentrated on description, connections and operation. As can be seen in the picture the front is a proverbial black box and relies on the PC for its display, whilst the rear has multiple antenna connections that can be re-routed and switched for different bands

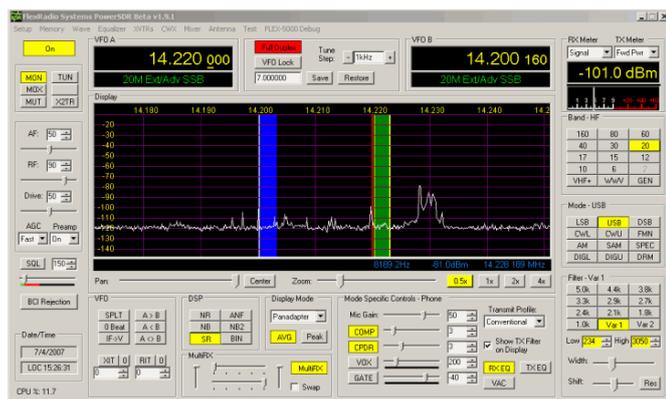


Front

Rear

Being a digital system, there is some latency which you can vary by manipulating the digitising rate (which controls the max instantaneous bandwidth) and the buffer size. The Flex radio range uses a Firewire interface which, as CARS has experienced, needs to be a dedicated (preferably Texas Instruments) chipset to be fully compatible.

Once that is setup the PowerSDR software is the same as used across the Flex range and for the cheap Softrock kits. It offers a range of settings for band selection, filter bandwidths, ATU, noise reduction, signal level meter, mic audio etc



One aspect of SDR is the sheer ease of altering radio parameters without needing a screwdriver and an expensive mod-kit (and in fact some upgrades just get downloaded every so often, free over the internet). Like other SDRs the filters are very powerful – and can be changed at the touch of a mouse and do not suffer from the limitations and ringing that physical ones do. Displays included, spectrum, waterfalls, own-Tx audio monitoring. Even the bandplan can be built in to make it easy to tell when you tune around. Gwyn also showed a comparison of the Flex models as well as a handy utility of his own creation.

No talk would be complete without a live demo. Band conditions on the night were unfortunately rather flat for USA paths but it wasn't long before a live CW QSO was in progress with a station in Serbia.

Following the talk, the logistics team was back in action and a torch-lit de-rigging operation proceeded smoothly at the rear of MASC and all the kit was packed back into the cars.

Thanks Gwyn and all the assistants!

Murray, G6JYB

D-Star Appraisal by Mark, M0IEO.

Following the talk given by Murray, G6JYB and Clive G1EUC at the September meeting where they demonstrated the clubs new D Star radio, I thought it was time I dipped my toe in the D Star revolution to see what all the fuss was about. Little did I know what a difference it would be to the usual 2m and 70cms rigs I have owned in the past and still do. It is a completely different operating method where you have to set the path to the station you want to contact, more akin to using Echolink then to using a 2m/70cms repeater. What I am attempting to set out here is a layman's overview of the system as I am still learning about the system and am no expert.

The Radio.

There are two types of radio available but all from the same manufacturer, Icom. As yet Yaesu and Kenwood have declined to join the DStar party. The choices are either mobile/base station or handheld, being as most of my radio time is spent behind the wheel of the car. I opted to go for the Icom 2820, which is a mobile/base station radio, as at some point I will probably install the radio in the car. One thing to bear in mind when buying is that straight from the box the Icom 2820 will not work on the DStar system, you will have to add the UT123 DStar module which will cost you an extra £204 on top of the price of the radio but do shop around as there are deals to be had out there. The UT123 allows operation on the D Star system and also allows GPS

information to be transmitted either automatically or when you key the microphone.

Installation

Installation of the radio is much the same as for any of the 2m/70cms radios on the market and my initial installation would be indoors as I feel that you need to work the radio for a while and get used to it before you go mobile with it as there is so much to learn. I decided to use my Watson W2000 antenna which is mounted on the chimney of the house as I already know from 5 years of use what the performance is like and any improvement or drop in performance would soon become evident. This is where the main shortcoming of the radio became evident, the microphone plugs into the base of the radio and the face is held in place with two strong magnets. If you want to use the GPS unit with the radio, this plugs into the base unit at the front, behind the face unit and protrudes out far enough to prevent the face unit from being attached to the base, therefore the only option is to remotely mount the face unit away from the base. This is not a major problem if you are using the radio as a base station but for mobile use it could be as the microphone lead is not long enough to mount the base unit say, under the drivers seat and reach the dashboard of the car comfortably with the microphone. The only option is to buy an extension microphone lead for mobile use at a cost of £21.95. Other than the above just add a 20-amp power supply and you are away.

Programming the radio

Now this is where things become interesting, to actually speak to someone on D Star, you need to input information on the repeater you want to use, bear in mind that all D Star repeaters have a call sign of GB7 in the UK whether they are on 2m or 70cms. If you want to work into a repeater and on to one of the reflectors, (like a big radio conference room for D Star users and by far the most active places of contact) then you will need to register your call sign with the repeater operator of a gateway-linked repeater. At the time of writing this, there is only one gateway linked repeater in the area. GB7SS which is located in Hockley at Walters & Stanton, there are other repeaters in the area, GB7ZP is active and located near Chelmsford but as yet is not gateway linked, although I believe this will become gateway linked in the not too distant future. My details have been registered with the controller of GB7IC in Herne Bay at the Icom UK headquarters as this is an easily accessible repeater from Canvey Island and I can work the repeater from home using 5 watts on 70cms, this registration was as simple as sending an e-mail to Icom with my e-mail address, call sign and location, within half an hour I had an e-mail back confirming that I had been registered and that the gateway would now recognise my call sign. As the D Star system is a complex system to understand and get to grips with, I would recommend that when you first buy your radio you ask the

supplier to programme the radio for you. This is a service that W&S can perform and is done by cloning the shop radio with your new radio, believe me it does save a lot of heart ache and reading and lets face it, we buy a radio to use, not to sit and wonder if you are ever going to master the complexities of operating, the latter will come with time but I defy anyone with the exception of Murray, G6JYB to take one from the box and actually understand how it works. I have to admit that I had to ask Murray several times to explain what I was doing wrong before it finally sunk in!

On the air at last

So now I am on the air with a D-Star rig, what is it like? Well the reception quality is not as good as you get on a conventional 2m/70cms radio, this is because you are using a much narrower band width, for those of you who were at the September meeting, you will remember that the contact made by Clive, G1 EUC with Zippy G4ZPE sounded tinny and metallic, this can be improved by using a decent quality extension speaker but it is a sound you soon get used to. In terms of coverage, the distance is slightly better than normal FM, I can reach places using simplex FM on DStar that I can't reach using my Yaesu at the same power and using the same antenna. I would say that my signal travels a good 10 to 15 miles further using D Star than it does using my Yaesu 7800 at the same power output. But the real magic comes when you use a gateway-linked repeater; the world is your oyster so to speak. I know the purists amongst you will say that it is not radio and that using an Internet linked repeater is cheating and that you can do the same thing from a computer terminal, but where this system will win is using it from the car. I did do a temporary installation in the car a couple of weeks ago and took the radio to work with me, I had a crowd of 15 colleagues gathered round the car awestruck that I was talking to VK3PNF in South Australia at 02:30hrs using that little black box on the front seat (I did say it was a temporary installation) and it sounded like he was just round the corner. There is not space here to do the 2820 justice but I hope this has given you a flavour of what D-Star is like, it is my intention to take the D Star rig on most if not all of our field days in 2010 so that more of our members can try D-Star for themselves and see just how easy it is to operate, and if you can't wait that long to try it then just drop me an e-mail to

belinda.sanderson@tiscali.co.uk,

- and you are most welcome to come to the home QTH and give it a try from my shack.

Mark, M0IEO

December Radio Sport (Contests)

04/06 December - ARRL 160m / CW – 42 hrs.

06 December - 144MHz AFS - SSB - 09:00-17:00

12/13 December - ARRL 10m - SSB / CW – 48 hrs.

For further information please email Steve G4ZUL
contests2009@g0mwt.org.uk

Steve, G4ZUL, CARS Contest Manager.

New Radio Path Predictions

Those at the last meeting may remember that I was asked to do some up-to-date predictions for the N/L. Well here is the start, below. Basically, I have done as requested and used the five Continents to split up the World. Therefore, there is one line and one path prediction per continent. It should really be self explanatory, i.e. the location, at what time to expect a path on which frequency, for a percentage of days for the month and at what signal quality.

Coding the program to produce this information took over a solid week, so I hope it is appreciated. The program goes through a total of 38 separate predictions and chooses one in each continent that has a good chance of succeeding. It is designed around a dipole type antenna with 100W output, but when conditions are marginal (poor) a superior set-up may be required. Unfortunately I do not dictate the sunspot numbers but they do seem to have picked up over the last two months. Remember it is sunspots that really drive our ability to communicate over long distances utilizing the ionosphere.

Asia: Dhahran - around 14:00 on 18.1MHz for 86 percent of days, with poor signals.

Oceania: W. Samoa - around 12:00 on 10.1MHz for 72 percent of days, with poor signals.

Africa: Johannesburg - around 20:00 on 10.1MHz for 70 percent of days, with poor signals.

S. America: Rio de Janeiro - around 08:00 on 10.1MHz for 78 percent of days, with poor signals.

N. America: Saskatoon - around 16:00 on 14.0MHz for 79 percent of days, with poor signals.

Comments are welcome. Please E-Mail Gwyn at:
g4fkh@btinternet.com

Gwyn, G4FKH

CARS Radio Nets

After the CARS Meeting on the first Tuesday in the month, CARS has a Radio Net on each of the remainder Tuesdays in the month.

2nd Tuesday is VHF on 145.375MHz.

3rd Tuesday is HF on 28.375MHz

4th Tuesday is HF on 1.947MHz

5th Tuesday (when there is one) back to VHF.

Net Controllers take it in turns – anyone can do it. The Controller for Tuesday, 10th November was David, M0BQC and he had the following participants: John, G8DET; Mark, M0IEO; Harry, G5HF; M0FAA; Ron, M3CAM; Bob, G4MDB; Patrick, M0XAP; Justin, G0KSC/M (who is coming to CARS to present his evening about his new Loop Yagi design); Colin, G0TRM and Vice President Geoff, G3EDM.

Topics included “How do you tune a Rig in to work a Repeater”, “How do you tune in a SSB Rig?”, Insulation in cavity walls, How do you check an electric cooker when newly installed?, problems associated with Miniature Mains Circuit Breakers, the weather, “Have you booked up for the CARS Christmas Lunch?” what I have been doing in my garden this week plus many more.

A very good net with most people able to hear others well. Thank you David for running such a good Net.

Training

CARS run courses for all three levels. A fast-track Revision Course starts on Thursday, Nov-12th for the Advanced exam coming up on Monday, 7th December.

The next Foundation Course (CARS landmark 21st Course!) starts after Xmas on 14th January 2010.

If you would like to attend either, please contact Clive G1EUC below.

More details are on our Training page: -
<http://www.g0mwt.org.uk/training>

Tel: 01245-224577 Mob: 07860-418835
E-mail: training2009@g0mwt.org.uk

Training – Follow-on

CARS Committee are conscious that our Training Group have trained a number of people to pass the various examinations and to obtain a Ofcom Transmitting Licence but that is really only the start of the hobby.

The major part of being a Radio Amateur is that it is a “Self Training” Hobby but having said that it is recognised that a little help is worth a lot.

How would CARS Members like this potential problem be best solved?

One option is to have a few more Optional Evenings at Danbury to cover practical aspects such as

“How do you get on the Air”; “How do you Tune-up a Station”; “What is a good Aerial for my garden”; “What is a good rig?”.

Possibly have a list of experienced Amateurs who are prepared to invite the new M3/M6 into their shack and invite practical questions.

Another option is to circulate various Amateur books.

A few years ago CARS used to have a Top Table with a selection of people prepared to “Answer questions from the floor”. This was partly to pad-out meetings where the subject did not occupy the whole evening. It was scrapped after it was considered many people were too timid to ask a “simple question” for fear of showing themselves up.

Have a section in each copy of the CARS Newsletter dealing with a different subject of your choosing? It is up to you.

What would you like to see/hear/do/etc.? Please contact The Editor or any Committee Member.

John G8DET.

Digital TV – Eric, G3MMX

I agree with the Grumpy Old Men on the TV You want an item to do a job and now it does a dozen others! Prime example is a mobile phone. Yes it does make calls (when in range) but it also takes photos, connects to the Internet and goodness knows what else.

Then there’s SatNav (or *PratNav* as they are called locally because they take you down almost impassable lanes). Not only do they navigate and shout at you if you don’t do as they say or they think you are going too fast but they also play music and slide shows, which you can’t view while driving. Some are even *touch screen* operated, which is almost impossible to do without taking your eyes off the road. Bring back the old *touchy – feely* control knobs!

Which brings me to the subject of *Digital Television*. It can’t be “green” to scrap so much equipment, TVs, Video Recorders etc. at a stroke and for what reason? To provide a hundred or more channels churning out programmes we saw years ago, dating channels, sales channels and what have you. Anyway “Down Devon” here, already garn Digital. What a nightmare that was. First of all a new Hi-gain antenna on the chimney. “Oh and while I’m at it I can fit DAB and FM antennas in the loft” said Peter the Pole (He was Polish)

Then a dual DigiBox was purchased to drive the TV and the Recorders. This worked well until the missus said we ought to go “HD”. There’s another must have ... pity half the population can’t appreciate it

cos their glasses specification is out of date! So a new TV was purchased with a BluRay DVD player. Out went the old Sony monster and recorders. It took two men at Currys to lift the TV into the skip. Good bye old friend!

Great, back home to just “Plug and Play” - NO WAY! First, most of the connections are by new fangled connectors not the old traditional ones of which I have many. So back to the shop for more cables. Right, now connect the audio to the surround sound. Good it happens to be the old phono plugs. Good it works! Problem! The analogue sound has a big delay - must use the digital output. Problem, special optical lead needed. Problem, surround sound amplifier doesn’t accept this. New amplifier and DAB receiver purchased.

Anyway the TV system has been up and running for a few weeks now but every day we learn something new! In common with all things nowadays the TV not only shows TV but can do many other things too. It has a myriad of connectors of various shapes and sizes. It can be connected to the Internet, computers and whatever. It is supported by a fancy stand consisting of two glass shelves. Very pretty, but there’s nowhere to conceal the multitude of cables! (And me a TV Studios Installation Engineer, that was!)

It DOES work very well. The bottom line is did we really need it all since we had our Sky system upgraded to Sky+HD? Mind you it is free whereas Sky makes a big whole in the pension! But it is a superb system with good menus. It can record two programmes at once whilst watching a third. You can even pause a broadcast programme when that infernal salesman cold calls or Auntie Whatsit calls for a chat. Then there are channels with half naked young girls writhing about with a mobile phone inviting you to spend money phoning them and sending them photos of yourself!! If you’re so inclined!

The Sky system is so easy to use ... much easier than Terrestrial Digital.

N.B. In addition to a new unit the SKY+HD upgrade required a new LNB and an additional download (another hole in the wall!)

Well, back to the steep learning curve and the neighbours who have suddenly become very friendly ... “Hallo. Can you have a look at my Digi thing?”

Eric, G3MMX (Living near Plymouth).

***Now read about the next changes. – Ed
- see p6***

Where Did It All Start? Issue 2

Melvyn Bragg on BBC Radio 4 at 9 to 9.45am on Thursday, 12th November had a deep thinking programme all about "Waves" from radio to light. Marconi got more than a mention.

It is possible to listen again using the Internet.

John G8DET.

Friends of Chelmsford Museum Christmas Party.

Time: Thursday, 10th December . 7.30 - 10pm.

Christ Church, New London Road, Chelmsford.
In the Main Hall (Ground Floor)
Free parking at the rear.
Members £5. Non Member £6.
CARS are Members.

Refreshments, Quiz - Raffle.
Entertaining "Turns" including Tony, G4YTG!

RSVP To Marie Polley, 01245 356276.

CARS Christmas Lunch

This year we are repeating the excellent Lunch provided by The Chimes Restaurant at The Bell, Rettendon, CM3 8DY. Martyn Medcalf, G1EFL is co-ordinating Bookings. Last minute orders need to be in asap please!!

We have a room to ourselves and the decorations are nice as is the meal and service. The price of £15 is the same as last year, which is appreciated.

Please join us – it is not run just for the Committee – it is run for all CARS Members.

See CARS Web Site for Booking Form & details.

Martyn, G1EFL

500 kHz - Want a new Amateur Band ?

Ofcom has published a consultation on the issues to be covered during the World Radiocommunication Conference in early 2012.

The purpose of the consultation is to seek views from those with an interest in the issues on the WRC-12 agenda.

Among the questions in the consultation is Q23: Should amateur radio be given an allocation in part of the band 415 to 526.5kHz and if so where?

Several other questions also have a bearing on the Amateur radio Service including new HF and VHF radars.

The consultation can be found at www.ofcom.org.uk/consult/condocs/wrc_12

Freeview HD – A New Service

On Dec-2 2009 global TV history will start being made as Freeview-HD starts its rollout in the Granada region with other areas following suit as switchover proceeds. This is using space on Mux-B resulting in a few lesser-used BBC services closing to make room, inc News Multiscreens.

The HD service is the first ever use of the brand new DVB-T2 modulation scheme (carrying MPEG4 encoded pictures). Beware that nothing on the market today or in your home will decode that T2 modulation so be careful over the Xmas period if you see clearance bargains in the shops. New chipsets and models have been under test for months like the new Humax Foxsat HD-T2 hard drive recorder. For those with strong London reception you may be able HD early, as an extra frequency will be transmitted by Crystal Palace in the Spring in time for the 2010 World Cup. Freeview HD will have BBC-HD, ITV and C4 (and C5 later on)

Alternatively if you have Freesat – watch out for the opportunity to connect your broadband to the Ethernet port at the rear of the Freesat box as an upgrade that adds BBC iPlayer is being rolled out – so you can catch up TV without needing a PC

Freeview HD:
<http://www.freeview.co.uk/freeview/Services/Freeview-HD>

Humax: Freeview HD Recorder:
http://www.reghardware.co.uk/2009/11/20/humax_freeview_hd/

NB: Another sign of the times is that ITV/C4Teletext, formerly known as Oracle is expected to close after Xmas due to falling revenues.

Murray G6JYB

And Finally:-

John G8DET edited this edition.
Material by; Murray G6JYB; Trevor M5AKA; Steve G4ZUL; Clive, G1EUC; Mark, M0IEO; Martyn, G1EFL; Eric, M3MMX & Gwyn, G4FKH.

Items for the next Newsletter, including your experiences with your latest rig or antenna, tips on working DX, or your latest project, to be sent to the editor@g0mwt.org.uk by Saturday, December 19th.