

# CHEPSTOW AND DISTRICT AMATEUR RADIO SOCIETY NEWSLETTER

February 2011

Editor Paul Dekkers 2E0FOD (paul.dekkers@tiscali.co.uk)

**Calling all lurkers out there (I include myself in this category; my excuse is I was a Short Wave Listener for 30 years!)**

**Did you make a new years resolution to get on the amateur bands more? Here is some inspiration for you from Keith, G6HNU, who has declared his intention to make a QSO every day in 2011. His exploits are recorded in his blog - <http://qso365.co.uk/> (News feed courtesy of Tim Kirby in Practical Wireless)**

## Diary dates for 2011

**Sunday 27<sup>th</sup> February – Swansea Rally** more details later in newsletter

**Tuesday 1<sup>st</sup> March Club night** – talk on practical experience of magnetic loops for transmitting by Dan Taylor

**Saturday 3<sup>rd</sup> April Thornbury Rally** CDARS have booked a table at this rally to raise awareness of our club and for members to dispose of any surplus equipment.



## Antennas

Following our theme of loop antennas Rod came across the attached **“Four Candles” (Fork Handles)** loop antenna!

On the subject of antennas see also the separate article on the low frequency array LOFARS, although I suspect Rod is the only one of us with a big enough garden!

Have you come across any interesting or bizarre antenna designs, have you experience of homebrew antennas you'd like to share, what worked and what didn't work, let me know and I will publish them in future newsletters.

## Ideas for future talks:

We have promises of future talks by Nick Gleed on Mobile Phone Forensics and Henry Higgins on Communication and Electronics for Health, dates to be confirmed. However there are still gaps in our schedule, if there is anything you would like to present on or hear about please let one of the committee members know.

## Steve Trott GMDSS talk

At the January club meeting we had a number of “yachting” visitors for Steve Trott’s excellent talk on the Global Maritime Distress and Safety System – GMDSS. The talk covered typical equipment and different types of licences, Digital Selective calling - DSC, and Maritime Mobile Service Identity - MMSI. We programmed the MMSI serial numbers into the ICOM Marine VHF training radios Steve had brought along. See picture below. You apparently have to be careful programming the MMSI first time because if you get it wrong the radio has to go back to the supplier, so there was a lot of checking and double checking before we pressed enter!



ICOM IC-M421 marine VHF radio used for training.

The red guarded switch on the right is the distress switch, which is designed so it cannot be activated inadvertently. When connected to a GPS unit the radio can automatically send position information as well as the MMSI which provides the identity of the vessel.

The talk also covered the Automatic Identification System AIS (similar to the Amateur APRS system) which makes interesting viewing, for example <http://www.marinetraffic.com/ais/default.aspx?level0=100> which shows ships currently at Avonmouth. (For the non sailors if you hover the cursor over the symbol you see the vessel details and you can choose a different port using the drop down menu at the top left.)

Jim Hewitt had provided some examples of personal and vessel Emergency Positioning Indicating Radio Beacons EPIRB which use the COSPAS and SARSAT satellite systems for accurate positioning in an emergency.

*(Apologies for any inaccuracies in my summary of the talk!)*

## Club Shack - an alternative approach

Doug Pingel has made an offer for those interested to visit NARS (Fridays 1900 - 2100) to see their approach to a “shack in a box” which was professionally made by the son of one of the members.

Contact one of our shack team, Rod, Jim or Dan if you are interested in having a look.

## Swansea ARS Rally

The 30th Swansea Amateur Radio Society Rally is to be held on Sunday the 27<sup>th</sup> of February at Neath Sports Centre, Cwrt Herbert, Neath Abbey, SA10 7BE starting at 10.30.

To see where the venue is located and how to get to it follow this link:

<http://www.multimap.com/s/ORnO3axW> (N.B. The Sports Centre is opposite Roman Way, not in it. It is off the A474, easily accessible from the A465.)

Admission £2-50. Free Car Parking, Traders, Bring & Buy, Repeater and Special Interest Groups, Catering, Licensed Bar. RSGB Bookstall.

For details contact Roger, GW4HSH, 01792 404422.

## ***TRAINING UPDATE***

**One of the challenges the Advanced Licence trainees are facing is understanding all the abbreviations used in the formulas, a set of explanation sheets is available for all who need them, let me know if you want a copy.**

**The following website courtesy of the Bredhurst Receiving and Transmitting Society is also useful because there is a link from the formula to the associated explanation:**

[http://www.tc006a8364.pwp.blueyonder.co.uk/brats/radio\\_07/advanced/mathequat.htm](http://www.tc006a8364.pwp.blueyonder.co.uk/brats/radio_07/advanced/mathequat.htm)

## ***Quiz question***

***In studying for the Advanced Licence Exam the topic of intermediate frequencies came up. One of the common IFs in amateur radio is 10.7MHz and we wondered why this frequency was chosen. The stock answer is that it is one of the industry standard IFs but this doesn't answer the question "but why 10.7MHz in the first place and not 10 or 10.5 or 11MHz?"***

***Send your answers to [paul.dekkers@tiscali.co.uk](mailto:paul.dekkers@tiscali.co.uk) and I will publish what I understand is the correct answer in next months newsletter.***

## News from the RSGB...

Look for amateur radio operators in Kuwait using the special prefix 9K50 until 28 February. Activity is to celebrate the 50th anniversary of Kuwait's independence. Also, 9K50NLD will be on the air between 24 and 28 February. Activity will be from the members of the Kuwait Amateur Radio Society.

Join the RSGB in Derby for the 2011 AGM. It will take place on Saturday 16 April at the Menzies Mickleover Court, Etwall Road, Mickleover Derby DE3 0XX. The whole day is geared to bringing the RSGB to you and is an ideal opportunity for local clubs to socialise and meet with each other and meet with senior RSGB officers.

# More radio signals from space



The picture above shows the **LOW** Frequency **AR**ray **LOFAR** site at Chilbolton Observatory near Stockbridge Hampshire. In the foreground are the simple Low Band antennas 30-80MHz (see detailed picture below) and in the distance are the High Band Antennas 120-240MHz.

**LOFAR**, is a radio telescope working at the lowest astronomical frequencies accessible from Earth. Combining many thousands of simple dipole receivers with the latest in high tech computing, LOFAR will be able to survey wide areas of the sky all at once and will open up a new window for astronomers.

When completed, LOFAR will consist of over 5,000 separate antennas spread in "stations" all over Europe. The main project is based in the Netherlands, and most of the array will be there, but outposts are planned in Germany, France, Sweden, Poland and the UK.

The first LOFAR station to be built in the UK is based at the **Chilbolton Observatory** in Hampshire. The first parts were delivered Autumn 2009, and installation took place over summer 2010. The station was officially opened on 20th September 2010.



This picture shows one of the many Low Band dipoles that form part of the array (lady to show scale).

LOFARS is based on low cost antennas, compared with traditional radio telescope dishes e.g Jodrell Bank. The LOFAR system uses the interferometer technique in which widely separated antennas form the segments of a huge virtual dish, their signals combined by software. The array is steered electronically to look at different parts of the sky by the software.

A LOFAR overview video can be found here: <http://www.lofar.org/sites/lofar.org/files/u3/lofar.swf> with a more detailed video of the High Band and Low Band antennas at Chilbolton here: <http://www.youtube.com/watch?v=rTlDd13kyoA&feature=related>